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MILITARY STANDARDIZATION HANDBOOK

GUIDED MISSILE TEST EQUIPMENT  
FUNCTIONAL CATEGORIZATION SYSTEM



FSC 4935

DEPARTMENT OF DEFENSE  
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Guided Missile Test Equipment  
Functional Categorization System  
28 March 1968

1. This standardization handbook was developed by the Department of Defense with the assistance of the Army, Navy and Air Force in accordance with established procedure.

2. This publication was approved on 28 March 1968 for printing and inclusion in the military standardization handbook series.

3. This document provides basic and fundamental information on Guided Missile Test Equipment Functional Categorization System products and manufacturing practices. It will provide valuable information and guidance to personnel concerned with the preparation of specifications and the procurement of Guided Missile Test Equipment Functional Categorization System products. The handbook is not intended to be referenced in purchase specifications except for informational purposes, nor shall it supersede any specification requirements.

4. Every effort has been made to reflect the latest information on Guided Missile Test Equipment Functional Categorization System products and manufacturing practices. It is the intent to review this handbook periodically to insure its completeness and currency. Users of this document are encouraged to report any errors discovered and any recommendations for changes or inclusions to U. S. Army Missile Command, ATTN: AMSMI-IDD, Redstone Arsenal, Alabama 35809.

5. Copies of this handbook may be obtained for other than official use by individuals, firms, and contractors from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20401.

## FOREWORD

Guided missiles and their support equipment draw on the technical resources of the pure and applied sciences for their R & D concepts and their production and maintenance techniques; therefore, the items in the supply classes covering these commodities are subjected to the rapid technological advances being made in these sciences. This situation has presented a serious challenge to the Defense Standardization Program's efforts to reduce the expenditure of engineering talent and Defense dollars on duplicate equipment. To meet this challenge, a new approach has been taken wherein the benefits of the Program are to be realized at the point in the life cycle of an item where savings in time and cost factors can be maximized. This point has been defined as the "point of first decision", i.e., the point at which a system's design engineer recognizes a functional requirement and specifies an item to fulfill this requirement. If at this point the engineer had at his fingertips the resources for determining whether or not a functionally suitable item already existed, he could consider his immediate requirement satisfied and devote his time to those design problems which exhibit characteristics which are unique to the tactical mission of the over-all system.

The Guided Missile Test Equipment Functional Categorization System has been designed to provide engineers with technical data on items possessing an electrical or electronic testing capability and in, or about to enter, the Federal Supply System. The technical data contained in this categorization system has been indexed according to a classification criteria based on the inherent functional capability of the items involved. Furthermore, it provides the person in search of data on these items with the opportunity to interrogate and retrieve documentation from the categorization system through a procedure based on the same criteria. The philosophy which is involved here is that the functional indexing will result in the design engineer controlling the development of the descriptor which he will use for retrieving data on the type of item he has in mind, rather than involving him in a procedure wherein he uses a descriptor developed by someone else and retrieves data on the type of items that person had in mind when developing the descriptor.

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 Category 40: The Adaptive and Supplementary Devices Category



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## GUIDED MISSILE TEST EQUIPMENT FUNCTIONAL CATEGORIZATION SYSTEM

### 1. INTRODUCTION

1.1 Scope. The Guided Missile Test Equipment Functional Categorization System contains technical data on specialized guided missile maintenance, repair, and checkout equipment which possesses the capability of performing an electrical or electronic testing function.

1.1.1 Application. This document was primarily developed for use by engineers at the point of first decision, i.e., the point at which the system's designer recognizes a functional requirement and determines if it is to be met through the design of a new item or the re-use or modification of an existing item. The primary indexing method used in this document provides for the retrieval of technical data through the use of engineering terminology which relates to the design features of the required item. Therefore, the functional categorization system precludes the need for the user to have knowledge of an item's part number, Federal Stock Number, present military application, or any other administrative type data in order to locate information on a particular type of item.

1.2 Purpose. The purpose of this document is to provide the engineer with the capability to quickly determine the existence of an item with the functional capability to meet his present requirement. In those cases where an affirmative decision can be made, the engineer can then apply his technical faculties to the solution of those design problems which exhibit characteristics that are unique to the tactical mission of the overall system rather than unknowingly applying them to the duplication of existing equipment.

### 2. SYSTEM EXPANSION

In those cases where the use of this document does not reveal the existence of an item with the capability to meet the user's present requirement, the cognizant Government agency is to be provided with categorized data on the item used to fulfill the requirement. The procedures and requirements of the categorization process and the cognizant agency to which the resulting documentation is to be submitted are specified in MIL-STD-1249, the Procedures for the Functional Categorization of Guided Missile Test Function Items. The establishment of this mandatory

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process closes the communications feedback loop of the functional categorization system and will provide the Government with the capability to promulgate to engineers, within a contemporary time frame, technical data on missile support equipment that is truly representative of current technology.

### 3. SYSTEM DEVELOPMENT AND DEFINITIONS

The design criteria and development of the Functional Categorization System are fully described in the Final Summary Engineering Report on Standardization Project No. 4935-0012 which is available from Headquarters, MICOM, ATTN: AMSMI-IDD, Redstone Arsenal, Alabama 35809. The definitions of the technical terminology used in this functional categorization system are defined in Section 3 of MIL-STD-1249, referenced in Section 2 above.

### 4. UTILIZATION OF THE FUNCTIONAL CATEGORIZATION SYSTEM

The key to the utilization of the functional categorization system is the initial selection of the proper test function category. Stored within the four test function categories is the technical documentation on the items which possess an electrical or electronic test function capability. Three occupation-oriented indexing methods are available for document selection and are designed to meet the needs of both technical and non-technical personnel. The first two methods are primarily for engineers and their technicians, and the third is primarily for supply and logistics specialists.

### 5. INITIAL RETRIEVAL INSTRUCTIONS

5.1 Capability association method. This is the indexing method wherein the user interprets the functional capability(s) of the type of item needed to meet his requirement in terms of one or more of the four fundamental test functions associated with guided missile test equipment. Once the applicable test function category is identified and located, the specific retrieval instructions described therein are used as the index to the delineations on the type of item required. The definitions of these test functions and their applicable category number are listed below.

5.1.1 Electrical power source. This test function category includes those items which possess the inherent functional capability of being able to provide the unit under test, or associated equipment, with the electrical power necessary for it to function in its normal mode of operation. (See category 10).

5.1.2 Electrical stimulus source. This test function category includes those items which possess the inherent functional capability of being able to provide the unit under test, or associated equipment, with a stimulus, the nature of which either simulates the normal system of operation of the unit or is of some arbitrary value or values which are meaningful to the unit under test from a general operation standpoint. (See category 20).

5.1.3 Electrical measuring equipment. This test function category includes those items which possess the inherent functional capability of accepting a physical quantity and converting it through comparison with an accepted standard into a form which may be interpreted and/or communicated by man or by machine. (See category 30).

5.1.4 Electrical adaptive and supplementary devices. This test function category includes those items which possess the inherent functional capability of adapting power, stimulus, or measuring equipment to a unit under test in order to achieve a desired result or to supplement the test equipment by providing certain special functional capabilities which are not normally built into generic type, guided missile test equipment. (See category 40).

5.2 Number association method. This is the indexing method wherein the user initiates his search for technical data on an item presently included in this document by using an identifying administrative characteristic such as the Federal Stock Number or part number. Table I is a collation of items in FSN sequence, and Table II is a collation of items in part number sequence. The cross-reference tables direct the user to the proper test function category and give him the Categorization Index Number which identifies the delineation applicable to the item in which he is interested.

5.3 Special retrieval notes. In guided missile test equipment there are equipments which have been specifically designed to include more than one predominant test function capability. Within this functional categorization system these items have been classified and delineated in each applicable test function category, and appropriate cross-category reference information has been provided. Upon retrieving the delineation corresponding to this Categorization Index Number, the "Additional Functional Capabilities" section should be referred to for specific cross-category reference data.

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## 6. SYSTEM FORMAT

6.1 Major units. The next four major units of this system are identified by the basic name and number of their respective test function category: (a) Power Source - Category 10; (b) Stimulus Source - Category 20; (c) Measuring Equipment - Category 30; and (d) Adaptive Devices - Category 40.

6.2 Major sections. The four test function categories each have three major sections: (a) the Retrieval Instructions, (b) the Table of Delineations, and (c) the Delineations. Each section is appropriately identified by a test function name, number, and section title.

CATEGORY 10: THE ELECTRICAL POWER SOURCE CATEGORY

## 10.1 RETRIEVAL INSTRUCTIONS

10.1.1 General instructions. There are three simple steps to be followed in retrieving the delineations included in this test function category, and they can be summarized as follows: First, define the FUNCTIONAL CODE NUMBER which identifies the category in which data on the required item is located. Second, refer to the POWER SOURCE-TABLE OF DELINEATIONS section of this document to determine which delineations are applicable to the code number defined in Step 1. Third, locate the applicable delineations which are indexed by CATEGORIZATION INDEX NUMBER in the POWER SOURCE-DELINEATIONS section of this document.

10.1.2 Detailed instructions. Detailed instructions on following this three-step procedure are given below, along with examples of typical functional requirements which can be met by the items for which data is stored in this Functional Categorization System.

STEP 1. Define the Functional Code Number which identifies the category in which data on the required item is located. The Functional Code Number is always a three-digit number and is defined by specifying the functional capability of the required item in terms of:

- a. PERFORMANCE FACTOR-----first digit
- b. CONTROLLED PARAMETER-----second digit
- c. CHARACTERISTIC FACTOR-----third digit

The digits for the Functional Code Number are selected from Figure 1 on the next page.

EXAMPLE: The user has a requirement for a power source which:

- a. Uses AC input power and the static mode of conversion:--first digit=1
  - b. Has a regulated output that is voltage-controlled:-----second digit=1
  - c. Delivers DC output power:-----third digit=1
- The Functional Code Number = 1.1.1

STEP 2. Refer to the Power Source-Table of Delineations and locate the one which is indexed by the Functional Code Number defined in Step 1. The Categorization Index Numbers listed therein identify technical delineations on items with the required functional capabilities. For Functional Code Number 2.1.1, three Categorization Index Numbers will be found: 100010, 100011, and 100012.

- STEP 3. Locate the applicable documentation by searching the Power Source-Delineations section of this document. The Categorization Index Numbers found in Step 2 identify the applicable delineation forms. The Categorization Index Number appears in the upper right hand corner of the delineation form.

10.1.3 Special instructions. The example used in the three-step retrieval procedure outlined above requires that three specific characteristics be defined in order to retrieve documentation applicable to the type of item desired. By referring to Figure 1, it can be seen that it is possible to leave one or two digits of the Functional Code Number undefined by specifying an "open capability" for a particular classification level. As the following examples show, this feature allows for either broadening or narrowing the scope of documentation which can be retrieved.

EXAMPLE 1: The user has a requirement for the source of DC power, but he is not concerned at this point with regulation, input power or mode of conversion; therefore, he would define the Functional Code Number 0.0.1. This would lead to the retrieval of documentation stored in all six Performance Factor Categories, all five Controlled Parameter Categories, and the DC Characteristic Factor Category.

EXAMPLE 2: The user has a requirement for a source of DC power with a regulated output that is voltage-controlled, but he is not concerned with the type of input power or mode of conversion; therefore, he would define the Functional Code Number 0.1.1. This would lead to the retrieval of documentation stored in all six Performance Factor Categories, one of the five Controlled Parameter Categories, and the DC Characteristic Factor Category.

EXAMPLE 3: The user has a requirement for a source of AC power and no preference as to regulation, but he must use input power from a DC distribution system and solid-state conversion; therefore, he would define the Functional Code Number 2.0.2. This would lead to the retrieval of documentation stored in one of the six Performance Factor Categories, three of the five Controlled Parameter Categories, and the AC Characteristic Factor Category.

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Levels of Classification		
Performance Factor Functional Capabilities	Controlled Parameter Functional Capabilities	Characteristic Factor Functional Capabilities
<div>First Digit</div> <p><u>Select:</u></p> <ul style="list-style-type: none"> <li>0. Open Capability</li> <li>1. AC Input Static Conversion</li> <li>2. DC Input Static Conversion</li> <li>3. AC Input Synamic Conversion</li> <li>4. DC Input Dynamic Conversion</li> <li>5. Mechanical Input Dynamic Conversion</li> <li>6. Electrochemical Conversion</li> </ul>	<div>Second Digit</div> <p><u>Select:</u></p> <ul style="list-style-type: none"> <li>0. Open Capability</li> <li>1. Regulated Output Voltage Controlled</li> <li>2. Regulated Output Current Controlled</li> <li>3. Unregulated Output</li> <li>4. Primary Cells (First Digit Always = 6)</li> <li>5. Secondary Cells (First Digit Always = 6)</li> </ul>	<div>Third Digit</div> <p><u>Select:</u></p> <ul style="list-style-type: none"> <li>0. Open Capability</li> <li>1. DC Output</li> <li>2. AC Output</li> </ul>

Figure 1. Digit Choices for Functional Code Numbers in the  
Electrical Power Source Category

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Functional Code Numbers 0.0.1 - 0.0.1

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number	
0.0.1	100001	100022
	100002	100023
	100003	100024
	100004	100025
	100005	100026
	100006	100027
	100007	100028
	100008	100029
	100009	100030
	100010	100031
	100011	100032
	100012	100033
	100013	100034
	100014	100035
	100015	100036
	100016	100037
	100017	100038
	100018	100039
	100019	100040
	100020	100041
	100021	100042



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Functional Code Numbers 0.0.2 - 0.1.0

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number		
0.0.2	100041	100042	
0.1.0	100001	100015	100029
	100002	100016	100030
	100003	100017	100031
	100004	100018	100032
	100005	100019	100033
	100006	100020	100034
	100007	100021	100035
	100008	100022	100036
	100009	100023	100037
	100010	100024	100038
	100011	100025	100039
	100012	100026	100040
	100013	100027	100041
	100014	100028	100042

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Functional Code Numbers 0.1.1 - 0.2.1

TABLE OF DELINEATIONS

Functional Code Numbers	Categorization Index Number			
0.1.1	100001	100015	100029	
	100002	100016	100030	
	100003	100017	100031	
	100004	100018	100032	
	100005	100019	100033	
	100006	100020	100034	
	100007	100021	100035	
	100008	100022	100036	
	100009	100023	100037	
	100010	100024	100038	
	100011	100025	100039	
	100012	100026	100040	
	100013	100027	100041	
	100014	100028	100042	
0.1.2	100041	100042		
0.2.0	100020	100022	100024	100026
	100021	100023	100025	100027
0.2.1	100020	100022	100024	100026
	100021	100023	100025	100027

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Functional Code Numbers 0.2.2 - 0.3.2

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number	
0.2.2	No Items	
0.3.0	100028	100035
	100029	100037
	100030	100038
	100031	100039
	100032	100040
	100033	100094
	100034	
0.3.1	100028	100035
	100029	100036
	100030	100037
	100031	100038
	100032	100039
	100033	100040
	100034	
0.3.2	100041	

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Functional Code Numbers 1.0.0 - 1.0.0

TABLE OF DELINEATIONS

Functional Code Numbers	Categorization Index Number		
1.0.0	100001	100015	100029
	100002	100016	100030
	100003	100017	100031
	100004	100018	100032
	100005	100019	100033
	100006	100020	100034
	100007	100021	100035
	100008	100022	100036
	100009	100023	100037
	100010	100024	100038
	100011	100025	100039
	100012	100026	100040
	100013	100027	100041
	100014	100028	100042

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Functional Code Numbers 1.0.1 - 1.0.2

TABLE OF DELINEATIONS

Functional Code Numbers	Categorization Index Number		
1.0.1	100001	100015	100029
	100002	100016	100030
	100003	100017	100031
	100004	100018	100032
	100005	100019	100033
	100006	100020	100034
	100007	100021	100035
	100008	100022	100036
	100009	100023	100037
	100010	100024	100038
	100011	100025	100039
	100012	100026	100040
	100013	100027	
	100014	100028	
1.0.2	No Items		

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Functional Code Numbers 1.1.0 - 1.1.0

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number	
1.1.0	100001	100017
	100002	100018
	100003	100019
	100004	100020
	100005	100021
	100006	100022
	100007	100023
	100008	100024
	100009	100025
	100010	100026
	100011	100027
	100012	100028
	100013	100029
	100014	100030
	100015	100031
	100016	

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Functional Code Numbers 1.1.1 - 1.2.1

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
1.1.1	100001	100012	100023	
	100002	100013	100024	
	100003	100014	100025	
	100004	100015	100026	
	100005	100016	100027	
	100006	100017	100028	
	100007	100018	100029	
	100008	100019	100030	
	100009	100020	100031	
	100010	100021	100032	
	100011			
1.1.2	No Items			
1.2.0	100020	100022	100024	100026
	100021	100023	100025	100027
1.2.1	100020	100022	100024	100026
	100021	100023	100025	100027

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Functional Code Numbers 1.2.2 - 1.3.2

TABLE OF DELINEATIONS

Functional Code Numbers	Categorization Index Number	
1.2.2	No Items	
1.3.0	100028	100036
	100029	100037
	100030	100038
	100031	100039
	100032	100040
	100033	100041
	100034	100042
	100035	
1.3.1	100028	100035
	100029	100036
	100030	100037
	100031	100038
	100032	100039
	100033	100040
	100034	
1.3.2	No Items	



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Functional Code Numbers 2.0.0 - 2.3.2

TABLE OF DELINEATIONS

Functional Code Numbers	Categorization Index Number
2.0.0	100041
2.0.1	No Items
2.0.2	100041
2.1.0	100041
2.1.1	No Items
2.1.2	100041
2.2.0	No Items
2.2.1	No Items
2.2.2	No Items
2.3.0	100041
2.3.1	No Items
2.3.2	100041

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Functional Code Numbers 3.0.0 - 3.3.2

TABLE OF DELINEATIONS

Functional Code Numbers	Categorization Index Number
3.0.0	No Items
3.0.1	No Items
3.0.2	No Items
3.1.0	No Items
3.1.1	No Items
3.1.2	No Items
3.2.0	No Items
3.2.1	No Items
3.2.2	No Items
3.3.0	No Items
3.3.1	No Items
3.3.2	No Items

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Functional Code Numbers 4.0.0 - 4.3.2

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number
4.0.0	100042
4.0.1	No Items
4.0.2	100042
4.1.0	100042
4.1.1	No Items
4.1.2	100042
4.2.0	No Items
4.2.1	No Items
4.2.2	No Items
4.3.0	No Items
4.3.1	No Items
4.3.2	No Items

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Functional Code Numbers 5.0.0 - 6.5.1

TABLE OF DELINEATIONS

Functional Code Numbers	Categorization Index Number
5.0.0	No Items
5.0.1	No Items
5.0.2	No Items
5.1.0	No Items
5.1.1	No Items
5.1.2	No Items
5.2.0	No Items
5.2.1	No Items
5.2.2	No Items
5.3.0	No Items
5.3.1	No Items
5.3.2	No Items
6.0.0	No Items
6.0.1	No Items
6.4.1	No Items
6.5.1	No Items

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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100001**  
**POWER SOURCE DELTA ATION**

**I. Item Identification**

A. Federal Nomenclature Oscillator, Power Supply  
 B. FSN 4935-475-1194 C. P/N 9988963  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 100001  
 F. Missile System Nike-Hercules, Imp-Hercules  
 G. Next Assembly \_\_\_\_\_

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Power Output
120V AC	60	0	28V DC		NO		
6.3V AC	60	0	Calibrating Signal			IMC	
+300V DC							

C. Functional Description The oscillator power supply generates both a 1 megacycle calibrating signal output and a +28V DC output. The oscillator circuit is composed of an oscillator tube and a cathode follower. The power supply is a 28 volt full-wave DC supply consisting of a transformer, crystal diodes and an LC filter.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_

**IV. Reference Sources**

Department of the Army Technical Manual TM 9-1400-250-35/4/2

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**PSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION. 100002**  
**POWER SOURCE IDENTIFICATION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. FSN 4935-886-1242 C. P/N 10036826  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 10002  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL's J751-2 & J752-2: P/N 10036002

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Pro v. ACDC Output
105-125 Vac	50-65	1 Ø	100-200 Vdc	0-600 ma	Yes		Yes
			6.3 Vac	10 amps	No	50-65	No

**C. Functional Description****D. Additional Functional Capabilities**

Note: Descriptive functional circuit data unidentifiable

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height 10.5; Width 19.0; Depth 13.0  
 B. Configuration: Portable\_\_\_; Rack Mounted X; Built into Next Assembly\_\_\_.

**IV. Reference Sources**

MICOM Dwg. No. 10036826

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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**POWER SOURCE DEDICATION**

100003

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. FSN 4935-730-7411 C. P/N 9981050  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 100003  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL J753-2: P/N 9160746

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
120 Vac	400	1 Ø	46 Vdc		Yes		No
-150 Vdc							
6.3 Vac	400	1 Ø					

**C. Functional Description**

This power supply contains a full-wave bridge, semiconductor rectifier circuit which provides the 46 Vdc output. The d-c output is voltage regulated by a series-type, vacuum tube regulator circuit. The supply's output terminals are floating with respect to ground. The voltage reference circuitry for this supply requires the application of the - 150 Vdc from an external source. This supply also requires an external source of 6.3 Vac, 400 cps filament power for the regulator tubes.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height 5.90; Width 4.50; Depth 9.44  
 B. Configuration: Portable\_\_\_; Rack Mounted\_\_\_; Built into Next Assembly X.

**IV. Reference Sources**

Department of the Army Technical Manual TM 9-4935-252-34/2, -35 and MICOM Dwg. No. 9188050

Functional Code Number: 111

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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100004**  
**POWER SOURCE CATEGORIZATION**

**I. Item Identification**

A. Federal Nomenclature Regulated Power Supply  
 B. FSC 4935-778-0415 C. P/N 9140245  
 D. Item Name and Code Number 00000  
 E. Categorization Index No. 100004  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL J753-2: P/N 9160746

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
120 Vac	400	1 Ø	+150 Vdc		Yes		No
			-100 Vdc		Yes		No
-150 Vdc							
6.3 Vac	400	1 Ø					

**C. Functional Description**

This power supply contains two, full wave bridge rectifier circuits, which provide the +150 and -100 Vdc outputs. Semiconductor rectifiers are used in both supplies. The +150 and -100 Vdc outputs are voltage regulated with series type, vacuum tube regulator circuits. The voltage reference circuitry for this supply requires the application of the -150 Vdc from an external source. This supply also requires an external source of 6.3 Vac, 400 cps filament power for the regulator tubes. The resistor network which develops the control voltage must also be supplied externally.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height \_\_\_\_\_; Width 8.00; Depth 8.06  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X.

**IV. Reference Sources**

Department of the Army Technical Manual TM 9-4935-252-34/2, -35 and MICOM Dwg. No. 9140245



NIL-HDEK-142A

9-4935 ELECTRICAL-ELECTRONIC EQUIPMENT AND PARTS  
POWER SUPPLY

100005

## I. Item Identification

A. General Designation Regulated Power Supply  
 B. Part Number 4935-790-7939 C. P/N 9140503  
 D. Part Name and Code Number 00000  
 E. Categorization Index No. 100005  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL J753-2: P/N 9140746

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS			
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)
120 Vac	400	1 Ø	+ 300 Vdc	300 ma	Yes	No
			+ 300 Vdc	100 ma	Yes	No
			6.3 Vac		No	400

## C. Functional Description

This power supply contains one, full-wave rectifier circuit and one, full-wave bridge rectifier circuit which provide the high and low current, +300 Vdc outputs respectively. The +300 Vdc outputs are voltage regulated with series type, vacuum tube regulator circuits. There are four 6.3 Vac, 400 cps outputs which are obtained from a separate step-down transformer. The resistor network which develops the control voltage must be supplied externally.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height 5.76; Width 9.44; Depth 12.32  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## IV. Reference Sources

Department of the Army Technical Manual TM 9-4935-252-34/2, -35 and MICOM Dwg. No. 9140503

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100006**  
**POWER SOURCE DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. FSN 4935-793-1960 C. P/N 9141288  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 100006  
 F. Missile System Nike-Hercules (Imp.)  
 G. Next Assembly SNL Y172: P/N 9143816

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
120 Vac	400	1 $\phi$	+300 Vdc		Yes		No
			-250 Vdc		Yes		No
			6.3 Vac	10 Amps	No	400	No

**C. Functional Description**

This power supply contains two, full-wave, vacuum tube rectifier circuits which provide the +300 and -250 Vdc outputs. The outputs are voltage regulated with series type, vacuum tube regulator circuits. The 6.3 Vac output is obtained through the use of a separate step-down transformer. The resistor network which develops the control voltage must be supplied externally.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X.

**IV. Reference Sources**

Department of the Army Technical Manual TM 9-1430-250-20/6, -256-20/3 and MICOM  
Dwg. No. 9141288

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100007  
POWER SOURCE DELINEATION

## I. Item Identification

A. Federal Nomenclature Power Supply

B. FSN 4935-895-6536 C. P/N 9156025

D. Mfr. Name and Code Number 00000

E. Categorization Index No. 100007

F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)

G. Next Assembly SNL J784-1: P/N 9980459

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmed Output
120 Vac	400	1 $\phi$	+250 Vdc	1 amp	Yes		No
			+250 Vdc	1 amp	Yes		No
			+150 Vdc	1 amp	Yes		No

## C. Functional Description

This power supply contains three, full-wave bridge, semiconductor rectifier circuits which provide the d-c outputs. Each regulated output is controlled by a separate series type, solid state, voltage regulator circuit. Pre-regulation of the outputs from the three bridge rectifiers is achieved through the use of saturable reactors which control the amount of voltage available to the bridge circuits from the power transformer's secondary windings. The rectifier section and control section of this power supply are separable units with P/N's 9156028 and 9156027.

## D. Additional Functional Capabilities

Note: One of the 250V outputs can be internally connected for either a + or - output.

## III. Mechanical Characteristics (Excluding Handles)

A. Dimensions (Inches): Height 10.4; Width 19; Depth 17.9

B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

## IV. Reference Sources

Department of the Army Technical Manual TM 9-4940-252-34/2, -35/1 and MICOM Dwg. No. 9156025, 9156027, 9156028, 9144288 and 9144289.

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100008**  
**POWER SOURCE DELINEATION**

**I. Item Identification**A. Federal Nomenclature Power Supply, RegulatedB. FSN 4935-790-4768 C. P/N 9188058D. Mfr. Name and Code Number 00000E. Categorization Index No. 100008F. Missile System HawkG. Next Assembly P/N's 9188165 and 9188233**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
240 $\pm$ 24 Vac	400 $\pm$ 20	1 $\emptyset$	24.5 to 28.5 Vdc	18 amps	Yes		Yes

**C. Functional Description**

This power supply contains a full-wave, silicon controlled rectifier circuit which provides the d-c output. Filtering is accomplished by a double L-section, L-C filter network. The control circuitry for the SCR's is composed of a magnetic amplifier gate control circuit which is driven by a solid state, differential control amplifier. The output voltage can be programmed to any value between 24.5 and 28.5 Vdc through the use of external programming resistors. The supply's output terminals are floating with respect to ground. This supply also contains a separate full wave rectifier and filter circuit to provide operating and bias currents to the control circuitry.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

(Includes Handles)

A. Dimensions (Inches): Height 5-1/4; Width 19; Depth 11-3/8B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .**IV. Reference Sources**Department of the Army Technical Manual TM 9-4935-506-35/1, -35/4.

Functional Code Number: 111

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100010  
POWER SOURCE DELIMITATION

## I. Item Identification

A. Federal Nomenclature Power SupplyB. FSN 4935-787-7343C. P/N 9188060D. Mfr. Name and Code Number 00000E. Categorization Index No. 100010F. Missile System HawkG. Next Assembly P/N's 9188165 and 9188233

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Proprietary Output
240±24 Vac	400 ± 20	1 Ø	247 to 315Vdc	250 ma	Yes		Yes

## C. Functional Description

This power supply contains a full wave bridge, semiconductor rectifier circuit which provides the d-c output. The output voltage is controlled by a series type, vacuum tube, regulating circuit and can be programmed to any value between 247 and 315 Vdc through the use of external programming resistors. The supply's output terminals are floating with respect to ground.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

(Includes Handles)

A. Dimensions (Inches): Height 5-1/4; Width 9-15/32; Depth 11-3/8B. Configuration: Portable\_\_\_; Rack Mounted X; Built into Next Assembly\_\_\_

## IV. Reference Sources

Department of the Army Technical Manual TM 9-4935-506-35/1, -35/4 and MICOM Dwg No. 9188060

Functional Code Number: 111

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100009**  
**POWER SOURCE DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. FSN 4935-791-8188 C. P/N 9188059  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 100009  
 F. Missile System Hawk  
 G. Next Assembly P/N 9188233

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
240±24 Vac	400 ± 20	1 Ø	97 to 107 Vdc	150 ma	Yes		Yes

**C. Functional Description**

This power supply contains a full wave bridge, semiconductor rectifier circuit which provides the d-c output. The output voltage is controlled by a series type, vacuum tube, regulating circuit and can be programmed to any value between 97 to 107 Vdc through the use of external programming resistors. The supply's output terminals are floating with respect to ground. For thermal regulation, the control amplifier and voltage reference circuitry are enclosed in a temperature controlled oven.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

(Includes Handles)

A. Dimensions (Inches): Height 5-1/4; Width 9-15/32; Depth 11-3/8  
 B. Configuration: Portable\_\_\_; Rack Mounted X; Built into Next Assembly\_\_\_.

**IV. Reference Sources**

Department of the Army Technical Manual TM 9-4935-506-35/1, -35/4 and MICOM Dwg. No. 9188059

Functional Code Number: 111

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
POWER SOURCE DELINEATION

100011

## I. Item Identification

A. Federal Nomenclature Power Supply  
 B. FSN 4935-790-4771 C. P/N 9188062  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 100011  
 F. Missile System Hawk  
 G. Next Assembly P/N's 9188165 and 9188233

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
240±24 Vac	400 ± 20	1 Ø	6.0 to 6.7 Vdc	15 amp	Yes		Yes

## C. Functional Description

This power supply contains a full-wave, semiconductor circuit which provides the d-c output. The output voltage is controlled by a series type, solid state, voltage regulating circuit and can be programmed to any value between 6.0 and 6.7 Vdc through the use of external programming resistors. The supply's d-c output terminals are floating with respect to ground. This power supply also contains a separate full wave rectifier and filter circuit to provide operating and bias currents to the transistors in the voltage control circuit.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

(Includes Handles)

A. Dimensions (Inches): Height 5-1/8; Width 19; Depth 11-3/8  
 B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

## IV. Reference Sources

Department of the Army Technical Manual TM 9-4935-506-35/1, -35/1, -35/4 and MICOM  
Dwg. No. 9188062

Functional Code Number: 111

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100012**  
**POWER SOURCE DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. FSN 4935-961-6132 C. P/N 1361020  
 D. Mfr. Name and Code Number Interstate Electronics Corp. -07421  
 E. Categorization Index No. 100012  
 F. Missile System \_\_\_\_\_  
 G. Next Assembly P/N 1361000

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
115 Vac	60	1 Ø	275-325 Vdc	400 ma	Yes		No
			6.3 Vac				

**C. Functional Description**

This power supply has an adjustable output. Load regulation is .05% from no load to full load and line regulation is .05% for line changes of  $\pm 10\%$  at 80% rated output. Ripple is 1mv at 80% output.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height 6 1/2; Width 9 3/4; Depth 7  
 B. Configuration: Portable\_\_\_\_; Rack Mounted\_\_\_\_; Built into Next Assembly X.

**IV. Reference Sources**

BuWeps Dwg No. 1301020



MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
POWER SOURCE DELINEATION

100013

## I. Item Identification

A. Federal Nomenclature Power Supply  
 B. FSN 4935-821-3838 C. P/N 0300021  
 D. Mfr. Name and Code Number Interstate Electronics Corp. -07421  
 E. Categorization Index No. 100013  
 F. Missile System \_\_\_\_\_  
 G. Next Assembly P/N 0300000

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
120 Vac	60	1 Ø	10-14 Vdc	0-2.5 A	Yes		No

## C. Functional Description

This power supply is a solid state device with an adjustable output. Voltage regulation is 1% or better, no load to full load and ripple is less than 20 mv. The output terminals are floating.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height 5 1/8; Width 14; Depth 4 1/8  
 B. Configuration: Portable\_\_\_; Rack Mounted\_\_\_; Built into Next Assembly X.

## IV. Reference Sources

BuWeps Dwg. No. 0300021

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100014  
POWER SOURCE DELINEATION

## I. Item Identification

A. Federal Nomenclature Power Supply  
 B. FSN 4935-987-6987 C. P/N 0083026  
 D. Mfr. Name and Code Number Interstate Electronics Corp. -07421  
 E. Categorization Index No. 100014  
 F. Missile System \_\_\_\_\_  
 G. Next Assembly \_\_\_\_\_

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
115 Vac	60	1 Ø	12-13 Vdc	0-4.5 A	Yes		No
			14-14.75 Vdc	0-4.5 A	Yes		No

## C. Functional Description

This unit is a modular, dual range, adjustable, solid state power supply. Its two output ranges are selected by a single switch. Line regulation is  $\pm 2\%$  for line changes from 105-125 Vac and  $\pm 2\%$  for no load to full load. Ripple and noise is less than 2.5 mv rms and less than 10 mv. peak-to-peak.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height 8; Width 6; Depth 6 5/8  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x.

## IV. Reference Sources

BuWeps Dwg No. 0083026

Functional Code Number: 111

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
POWER SOURCE DELINEATION

100015

## I. Item Identification

A. Federal Nomenclature Power SupplyB. FSN 4935-963-7054 C. P/N 0083023D. Mfr. Name and Code Number Interstate Electronics Corp. -07421E. Categorization Index No. 100015

F. Missile System \_\_\_\_\_

G. Next Assembly P/N 0138000

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
115 Vac	60	1 Ø	11-15 Vdc	0-4 A	Yes		No

## C. Functional Description

This power supply supplies 11 to 15 Vdc with .2% regulation for line changes from 105 to 125 Vac and for load changes from no load to full load. Ripple is less than 2.5 mv. rms and less than 10 mv peak-to-peak. The output terminals are floating.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height 6; Width 6.62; Depth 8B. Configuration: Portable\_\_\_\_; Rack Mounted\_\_\_\_; Built into Next Assembly X.

## IV. Reference Sources

BuWeps Dwg. No. 0083023

Functional Code Number: 111

35

MIL-HDBK-142A

TSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100016  
POWER SOURCE DELINEATION

## I. Item Identification

A. Federal Nomenclature Power Supply  
 B. FSN 4935-956-8021 C. P/N 1960980-4  
 D. Mfr. Name and Code Number Bureau of Naval Weapons -10001  
 E. Categorization Index No. 100016  
 F. Missile System \_\_\_\_\_  
 G. Next Assembly \_\_\_\_\_

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
105-125Vac	60	1 Ø	20-30 Vdc	0-200 ma	Yes		No

## C. Functional Description

This solid state power supply provides a dc voltage with  $\pm 0.5\%$  regulation for no load to full load conditions and  $\pm 0.5\%$  for line voltage changes between 105-125 vac. Ripple is less than .05% of the steady state current at any load.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height 4.63; Width 3.06; Depth 2.62  
 B. Configuration: Portable  ; Rack Mounted  ; Built into Next Assembly X.

## IV. Reference Sources

BuWeps Dwg No. 1960980

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100017  
 POWER SOURCE DELINEATION

## I. Item Identification

A. Federal Nomenclature Power Supply  
 B. FSN 4935-986-8899 C. P/N 0083024  
 D. Mfr. Name and Code Number Interstate Electronics Corp. -07421  
 E. Categorization Index No. 100017  
 F. Missile System \_\_\_\_\_  
 G. Next Assembly \_\_\_\_\_

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Proportional Output
115 Vac	60	1 Ø	11.25 to				
			14.75 Vdc	0-4.5 A	Yes		No

## C. Functional Description

This supply is a modular, dual range, adjustable, transistorized D.C. power supply. Line regulation is  $\pm 0.2\%$  for line voltage changes from 105 to 125 Vac. Load regulation is also  $\pm 0.2\%$  from no load to full load. Ripple is less than 2.5 mv. rms. The output terminals are floating.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height 8; Width 6; Depth 6 5/8  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## IV. Reference Sources

BuWeps Dwg. No. 0083024

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100018  
POWER SOURCE DELINEATION

## I. Item Identification

A. Federal Nomenclature Power Supply Assembly  
 B. FSN 4935-060-9847 C. P/N 10-20938-2  
 D. Mfr. Name and Code Number The Boeing Co. - 08903 & 81205  
 E. Categorization Index No. 100018  
 F. Missile System \_\_\_\_\_  
 G. Next Assembly \_\_\_\_\_

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
120/208Vac	60	3 $\phi$	28 Vdc	30A	Yes		No
or 120Vac	60	1 $\phi$	28 Vdc	30A	Yes		No

## C. Functional Description

Line and load regulation is within  $\pm 0.75$  volts and ripple less than 500 mv for both outputs. This unit contains two separate 28V supplies.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height 26.50; Width 28.10; Depth 63  
 B. Configuration: Portable\_\_\_; Rack Mounted\_\_\_; Built into Next Assembly X.

## IV. Reference Sources

Air Force Dwg. No. 10-20938

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100019  
 POWER SOURCE DELINEATION

## I. Item Identification

A. Federal Nomenclature Power Supply  
 B. FSN 4935-034-7088 C. P/N NA5-15203  
 D. Mfr. Name and Code Number Autonetics Div. of North Amer. Aviation -94756  
 E. Categorization Index No. 100019  
 F. Missile System \_\_\_\_\_  
 G. Next Assembly \_\_\_\_\_

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
120-208Vac	60	3 Ø	28 ± 4V	0-20A	Yes		No

## C. Functional Description

This power supply has a maximum ripple of 0.5 volts peak-to-peak. The regulation is such that the output voltage remains between 24 and 32 Vdc for all possible combinations of load and line variations.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height 8; Width 15.375; Depth 7  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## IV. Reference Sources

Air Force Dwg No. NA5-15203

Functional Code Number: 111

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100020**  
**POWER SOURCE DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. FSN 4935-075-5348 C. P/N 11065987  
 D. Mfr. Name and Code Number Ordnance Corps - 00000  
 E. Categorization Index No. 100020  
 F. Missile System Sergeant  
 G. Next Assembly SNL J76-1: P/N 10395306, & 10395307

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
105-125Vac	400	1 $\phi$	0-300 Vdc	0-1A	Yes		Yes

**C. Functional Description**

This power supply is an all solid state dc source which is designed for control of output by means of external control elements. All controls must be added externally. Regulation is held to .01% or 2 mv for line changes of 105 to 125 Vac and for full to no load conditions. Ripple is less than 500 mv. Output is floating. Voltage and current meters are provided.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height 5 $\frac{1}{2}$ ; Width 19; Depth 16  
 B. Configuration: Portable\_\_\_; Rack Mounted X; Built into Next Assembly\_\_\_.

**IV. Reference Sources**

Department of the Army Technical Manual TM 9-4935-305-40/11



MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100021**  
**POWER SOURCE DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. FSN 4935-075-9127 C. P/N 11065988  
 D. Mfr. Name and Code Number Ordnance Corps - 00000  
 E. Categorization Index No. 100021  
 F. Missile System Sergeant  
 G. Next Assembly SNL J760-1: P/N's 10395306, & 10395307

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
105-125Vac	400	1 Ø	0-400 Vdc	0-1A	Yes		Yes

**C. Functional Description**

This power supply is an all solid state dc source which is designed for control of output by means of external control elements. All controls must be added externally. Regulation is held to .01% or 2 mv for line changes of 105 to 125 Vac and for full to no load conditions. Ripple is less than 500 mv. Output is floating. Voltage and current meters are provided.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height 5 1/2; Width 19; Depth 16  
 B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

**IV. Reference Sources**

Department of the Army Technical Manual TM 9-4935-305-40/11

Functional Code Numbers: 111 121

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100022  
POWER SOURCE DELINEATION

## I. Item Identification

A. Federal Nomenclature Power Supply  
 B. FSN 4935-075-5347 C. P/N 11065986  
 D. Mfr. Name and Code Number Ordnance Corps - 00000  
 E. Categorization Index No. 100022  
 F. Missile System Sergeant  
 G. Next Assembly SNL J760-1: P/N's 10395306, & 10395307

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Proportional Output
105-125Vac	400	1 Ø	0-150 Vdc	0-2A	Yes		Yes

## C. Functional Description

This power supply is an all solid state dc source which is designed for control of output by means of external control elements. All controls must be added externally. Regulation is held to .01% or 2 mv for line changes of 105 to 125 Vac and for full to no load conditions. Ripple is less than 500 mv. Output is floating. Voltage and current meters are provided.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height 5 1/2; Width 19; Depth 16  
 B. Configuration: Portable    ; Rack Mounted X; Built into Next Assembly    .

## IV. Reference Sources

Department of the Army Technical Manual TM 9-4935-305-40/11

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100023**  
**POWER SOURCE DELINEATION**

**I. Item Identification**A. Federal Nomenclature Power SupplyB. FSN 4935-075-5346 C. P/N 11065985D. Mfr. Name and Code Number Ordnance Corps - 00000E. Categorization Index No. 100023F. Missile System SergeantG. Next Assembly SNL J760-1: P/N's 10395306 & 10395307**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
105-125Vac	400	1 Ø	0-36 Vdc	0-15A	Yes		Yes

**C. Functional Description**

This power supply is an all solid state dc source which is designed for control of output by means of external control elements. All controls must be added externally. Regulation is held to .01% or 2 mv for line changes of 105 to 125 Vac and for full to no load conditions. Ripple is less than 500 mv. Output is floating. Voltage and current meters are provided.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**A. Dimensions (Inches): Height 7; Width 19; Depth 15 7/8B. Configuration: Portable   ; Rack Mounted x; Built into Next Assembly   .**IV. Reference Sources**Department of the Army Technical Manual TM 9-4935-305-40/11

Functional Code Numbers: 111 121

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION: 100024  
POWER SOURCE DELIBERATION

## I. Item Identification

A. Federal Nomenclature Power Supply  
 B. FSN 4935-075-5345 C. P/N 11065984  
 D. Mfr. Name and Code Number Ordnance Corps - 00000  
 E. Categorization Index No. 100024  
 F. Missile System Sergeant  
 G. Next Assembly SNL J760-1: P/N's 10315306 & 10395307

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Pro. Reg. Output
105-125Vac	400	1 Ø	0-36 Vdc	0-5A	Yes		Yes

## C. Functional Description

This power supply is an all solid state dc source which is designed for control of output by means of external control elements. All controls must be added externally. Regulation is held to .01% or 2 mv. for line changes of 105 to 125 Vac and for full to no load conditions. Ripple is less than 500 mv. Output is floating. Voltage and current meters are provided.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height 3½; Width 19; Depth 15 7/8  
 B. Configuration: Portable\_\_\_; Rack Mounted X; Built into Next Assembly\_\_\_.

## IV. Reference Sources

Department of the Army Technical Manual TM 9-4935-305-40/11

Functional Code Numbers: 111 121

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MIL-HDBK-142A

**MSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100025**  
**POWER SOURCE DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. FSN 4935-075-5344 C. P/N 11065983  
 D. Mfr. Name and Code Number Ordnance Corps. - 00000  
 E. Categorization Index No. 100025  
 F. Missile System Sergeant  
 G. Next Assembly SNL J760-1: P/N's 10395306 & 10395307

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
105-125Vac	400	1 Ø	0-15 Vdc	0-15A	Yes		Yes

**C. Functional Description**

This power supply is an all solid state dc source which is designed for control of output by means of external control elements. All controls must be added externally. Regulation is held to .01% or 2 mv for line changes of 105 to 125 Vac and for full to no load conditions. Ripple is less than 500 mv. Output is floating. Voltage and current meters are provided.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height 7; Width 19; Depth 15 7/8  
 B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

**IV. Reference Sources**

Department of the Army Technical Manual TM 9-4935-305-40/11

MIL-HDBK-142A

**PSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100026**  
**POWER SOURCE DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. P/N 4935-075-5327 C. P/N 11065982  
 D. Mfr. Name and Code Number Ordnance Corps - 00000  
 E. Categorization Index No. 100026  
 F. Missile System Sergeant  
 G. Next Assembly SNL J760-1: P/N's 10395306 & 10395307

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Is it usable for test
105-125Vac	400	1 Ø	0-15 Vdc	0-7A	Yes		Yes

**C. Functional Description**

This power supply is an all solid state dc source which is designed for control of output by means of external control elements. All controls must be added externally. Regulation is held to .01% or 2 mv. for line changes of 105 to 125 Vac and full to no load conditions. Ripple is less than 500 mv. Output is floating. Voltage and current meters are provided.

**D. Additional Functional Capabilities**

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height 7; Width 19; Depth 15 7/8  
 B. Configuration: Portable  ; Rack Mounted x; Built into Next Assembly  .

**IV. Reference Sources**

Department of the Army Technical Manual TM 9-4935-305-40/11

Functional Code Numbers: 111 121

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MIL-HDBK-142A  
FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100027  
POWER SOURCE DELINEATION

## I. Item Identification

A. Federal Nomenclature Power Supply, Dual  
 B. FSN 4935-975-6480 AC C. P/N 5-93411-201  
 D. Mfr. Name and Code Number Arma Div. of Amer. Bosch Arma Corp. - 03848  
 E. Categorization Index No. 100027  
 F. Missile System HGM16E & HGM16F  
 G. Next Assembly P/N 5-00299-000 FSN 4935-860-4913 AC

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
105-125Vac	5-440	1 Ø	40 Vdc	0.5A	Yes		Yes

## C. Functional Description

Load regulation for no load to full load at a constant voltage is .01% or 4 mv whichever is greater, and for constant current it is .05% or 250 ma, whichever is greater. The line regulation is also the same as the above. Maximum ripple and noise is 200 mv. The remote programing resistance is 500 ohms/volt.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height 5 7/32; Width 19; Depth 10 15/32  
 B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

## IV. Reference Sources

Air Force Dwg No. 5-93411  
Air Force To 33AA17-45-1

Functional Code Numbers: 111 121

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100028**  
**POWER SOURCE DELINEATION**

**I. Item Identification**A. Federal Nomenclature Power SupplyB. FSN 4935-790-4767 C. P/N 9188063D. Mfr. Name and Code Number 00000E. Categorization Index No. 100028F. Missile System HawkG. Next Assembly P/N 9188233**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
240±24 Vac	400 ± 20	1 Ø	-220±11 Vdc	300 ma	Yes		No
			+220±11 Vdc	300 ma	Yes		No
			+330 ± 33 Vdc	20 ma	No		No
			6.3±0.6 Vac		No	400 ± 20	No
			6.3±0.6 Vac		No	400 ± 20	No

C. Functional Description - This power supply contains two, full wave bridge rectifier circuits which provide the following d-c outputs: (1) -220 Vdc and (2) +220 and 330 Vdc. Semiconductor rectifiers are used in both supplies. The positive and negative 220 output voltages are controlled by individual, series type, vacuum tube, regulating circuits; but, the voltage reference source is in the negative supply and the two regulating circuits are connected such that variations in the negative output affect the output voltage of the positive supply. However, variations in the output of the positive do not affect the negative supply's output. Front panel screw driver adjustments are provided for setting the output voltage of either supply. The a-c outputs are provided by center-tapped secondary windings on the power transformer. One center tap is referenced to ground and the other to -220 Vdc supply.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**A. Dimensions (Inches): Height 5-1/4; Width 9-15/32; Depth 11-3/8 (Includes Hdndles)B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .**IV. Reference Sources**

Department of the Army Technical Manual TM 9-4935-506-35/1, -35/4 and MICOM Dwg.  
 No. 9188063.



MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
POWER SOURCE DELINEATION

100029

## I. Item Identification

A. Federal Nomenclature Power SupplyB. FSN 4935-787-7342C. P/N 9196218D. Mfr. Name and Code Number 00000E. Categorization Index No. 100029F. Missile System HawkG. Next Assembly SNL J756-24: P/N 10064540 & SNL Y121: P/N 10064690

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
416±41 Vac	400 ± 20	1 Ø	-215 ± 5 Vdc		Yes		No
416±41 Vac	400 ± 20	1 Ø	-215 to -320 Vdc		Yes		Yes
416±41 Vac	400 ± 20	1 Ø	250 Vdc		Yes		No
			200 to 320 Vdc		Yes		Yes
			6.3 ± 0.2 Vdc		No		No
			115 Vac, 1 Ø		No	400	No

## C. Functional Description

This power supply contains three, full wave, vacuum tube rectifier circuits and one, full wave bridge, semiconductor rectifier circuit which provide the following d-c outputs: (1) -215 Vdc, (2) -215 to -320 Vdc, (3) 250 Vdc and 200 to 320 Vdc, and (4) 6.3 Vdc unregulated, respectively. The variable -215 to -320 Vdc output is voltage regulated by a shunt type, gas tube regulator circuit and the other regulated d-c outputs are regulated by individual series type, vacuum tube regulator circuits. A secondary winding of the power transformer for the -215 to -320 Vdc supply provides an external output of 115 Vac, 400 cps power. A voltmeter is provided on the front panel for monitoring the 6.3, 250, and -215 Vdc outputs. An elapsed time meter is also provided on the front panel for the monitoring of "filament on" time.

## D. Additional Functional Capabilities

Note:

## III. Mechanical Characteristics

(Includes Handles)

A. Dimensions (Inches): Height 10-1/2; Width 19; Depth 17-1/8B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

## IV. Reference Sources

Department of the Army Technical Manual TM 9-4935-506-35/1, TM9-4935-506-35/4, and MICOM Dwg. No. 9196218

Functional Code Numbers: 111 131

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MIL-HDBK-142A

**MSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100030**  
**POWER SOURCE DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. NSN 4935-962-8233 C. P/N 9998209  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 100030  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL Y030: 9137625

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Unregulated Output
120 Vac	400	1 $\phi$	+900 Vdc		No		No
			+300 Vdc		Yes		No
			-250 Vdc		Yes		No
			6.3 Vac		No	400	No

**C. Functional Description**

This power supply contains one, full-wave rectifier circuit which provides the +300 Vdc output; one, full-wave bridge rectifier circuit which provides the -250 Vdc output; and one half-wave rectifier circuit which provides the +900 Vdc output. Semiconductor rectifiers are used in all three supplies. The +300 and -250 Vdc outputs are voltage regulated with series-type, vacuum tube, regulator circuits. The unregulated +900 Vdc output has an R-C type filter network. There are three 6.3 Vac outputs which are obtained from a separate step-down transformer. The resistor network which develops the control voltage must be supplied externally.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height 5-3/4; Width 12-9/16; Depth 11-1/4  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

**IV. Reference Sources**

Department of the Army Technical Manual TM 9-4935-253-20 and -34. MICOM Dwg No. 9998209

Functional Code Numbers: 111 131

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100031**  
**POWER SOURCE DESCRIPTION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. FSC 4935-874-3337 C. P/N 9981298  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 100031  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL J753-2; P/N 9140746

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
120 Vac	400	1 Ø	+240 Vdc		Yes		No
			+240 Vdc		No		No
			-150 Vdc		Yes		No

**C. Functional Description**

This power supply contains two, full-wave bridge rectifier circuits which provide the +240 and -150 Vdc outputs, and one half wave rectifier circuit which supplies the unregulated +240 Vdc output. Semiconductor rectifiers are used in all three supplies. The +240 and -150 Vdc outputs are voltage regulated with series-type, vacuum tube regulator circuits. This supply requires an external source of 6.3 Vac, 400 cps, filament power for the regulator tubes. The resistor network which develops the control voltage must also be supplied externally.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height 5.56; Width 6.74; Depth 9.44  
 B. Configuration: Portable\_\_\_; Rack Mounted\_\_\_; Built into Next Assembly X.

**IV. Reference Sources**

Department of the Army Technical Manual TM 9-4935-252-34/2, -35 and MICOM Dwg No. 9981298.

MIL-HDBK-142A

750-4935 ELECTRICAL-ELECTRONIC TRAINING MATERIAL CATALOG/INDEX 100032  
POWER SUPPLY

## I. Item Identification

A. Federal Nomenclature Power SupplyB. P/N 4935-331-2200 C. P/N 8021480D. MFR. Name and Code Number 00000E. Categorization Index No. 100032F. Missile System Nike-AjaxG. Next Assembly SNL Y018: P/N 8021537

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS			
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)
120 Vac		1 Ø	+900 Vdc		No	No
			+300 Vdc		Yes	No
			-250 Vdc		Yes	No
			6.3 Vac		No	No

## C. Functional Description

This power supply contains two, full-wave, vacuum tube rectifier circuits which provide the +300 and -250 Vdc outputs and one, half-wave, semiconductor rectifier circuit which provides the +900 Vdc output. The +300 and -250 Vdc outputs are voltage regulated by series type, vacuum tube regulator circuits. The unregulated +900 Vdc output utilizes an R-C type filter network. There are three 6.3 Vac outputs which are obtained from a separate step-down transformer and one 6.3 Vac output which is obtained from a secondary winding on the main power transformer. The resistor network which develops the control voltage must be supplied externally.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

## IV. Reference Sources

Department of the Army Technical Manual TM 9-9502-1-2, -9503-1-1 and MICOM Dwg No. 8021480 and 8021481

MIL-HDBK-142A

PSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
POWER SOURCE DETERMINATION

100033

## I. Item Identification

A. Federal Nomenclature Power Supply  
 B. FSN 4935-783-6779 C. P/N 9160329  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 100033  
 F. Missile System Nike-Ajax, Hercules, and Hercules (Imp.)  
 G. Next Assembly SNL's J751 and J782: P/N 8514880 and SNL's J752 and J783:  
P/N 8514270

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Regulated Output
120 Vac	400	1 Ø	28 Vdc	2 amps	No		No

## C. Functional Description

This power supply contains a full-wave bridge, semiconductor rectifier circuit which provides the 28 Vdc unregulated output. The output terminals of this supply are floating with respect to ground.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X.

## IV. Reference Sources

Department of the Army Technical Manual TM 9-4940-251-34/3, -35/2 and MICOM Dwg.  
 No. 9160329

MIL-HDBK-142A

MSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100034  
POWER SOURCE DELINEATION

## I. Item Identification

A. Federal Nomenclature Power SupplyB. P/N 4935-786-4062C. P/N 10011346D. Mfr. Name and Code Number 00000E. Categorization Index No. 100034F. Missile System SergeantG. Next Assembly P/N's 10006213 and 10016211

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
208 $\pm$ 4 Vac	400 $\pm$	3 $\emptyset$	30 $\pm$ 4 Vdc	6.18 amp	No		No
			30 $\pm$ 4 Vdc	6.18 amp	No		No

## C. Functional Description

The power supply contains two, three phase, full wave bridge, semiconductor rectifier circuits which supply the d-c outputs. The output terminals of the two supplies are floating with respect to ground.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_

B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X.

## IV. Reference Sources

MICOM Dwg No. 10011346

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100035**  
**POWER SOURCE CATEGORIZATION**

**I. Item Identification**A. Federal Nomenclature Power SupplyB. FSN 4935-858-3346 C. P/N 10062274D. Mfr. Name and Code Number 00000E. Categorization Index No. 100035F. Missile System SergeantG. Next Assembly P/N 10062273**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
208 $\pm$ 4 Vac	400 $\pm$ 20	3 $\emptyset$	44.2 $\pm$ 2.5 Vdc	4.5 amp	No		No
			44.2 $\pm$ 2.5 Vdc	4.5 amp	No		No

**C. Functional Description**

This power supply contains two, three phase, full wave bridge rectifier circuits which provide the d-c outputs. Semiconductor rectifiers are used in both circuits and the output terminals of the supplies are floating with respect to ground. The supplies can provide regulated outputs of 30 Vdc each if the proper control signal is provided to the two series connected, common base transistors contained in the output leg of each supply.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_

B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X.**IV. Reference Sources**MICOM Dwg No. 10062274

MIL-HDBK-142A

WCC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100036  
 POWER SOURCE CATEGORIZATION

## I. Item Identification

A. Federal Nomenclature Power SupplyB. FSN 4935-987-3170 C. P/N 9991714D. Mfr. Name and Code Number 00000E. Categorization Index No. 100036F. Missile System Nike-Ajax, -Hercules, and -Hercules (Imp.)G. Next Assembly SNL Y207: P/N 9988040 and SNL J784-1: P/N 9996699

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
60 Vac	400	1 Ø	+8000 Vdc	4 ma	No		No

## C. Functional Description

This power supply contains a full-wave bridge, semiconductor rectifier with a choke input, L-C type filter network.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height 6.167; Width 6.550; Depth 5.826B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## IV. Reference Sources

MICOM Dwg No. 9991714



MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100037**  
**POWER SOURCE DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. FSN 4935-787-7362 C. P/N 9188025  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 100037  
 F. Missile System Hawk  
 G. Next Assembly P/N's 9188165 and 9188233

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Protector Output
240±24 Vac	400 ± 20	1 Ø	28 ± 5.6 Vdc	18 amp	No		No

**C. Functional Description**

This power supply provides an unregulated, 28 Vdc output from a full wave, semiconductor rectifier circuit with a choke input, L-C filter. The supply's output terminals are floating with respect to ground.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height 5-1/4 ; Width 9-15/32 ; Depth 11-3/8 (Includes Handles)  
 B. Configuration: Protocable    ; Rack Mounted X ; Built into Next Assembly   .

**IV. Reference Sources**

Department of the Army Technical Manual TM 9-4935-506-35/1, -35/4 and MICOM Dwg. No. 9188025

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100038**  
**POWER SOURCE DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. FSN 4935-688-5605 C. P/N GS-59019  
 D. Mfr. Name and Code Number Western Electric Co., Inc. -64959  
 E. Categorization Index No. 100038  
 F. Missile System PGM 437  
 G. Next Assembly P/N G-303471

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
120 Vac	400	1 Ø	28 Vdc		No		No

**C. Functional Description**

The 120 Volt input is reduced by a stepdown transformer and applied to a full-wave bridge network composed of semiconductors. The pulsating DC from the bridge is filtered by an inductance input type filter composed of a single inductor and capacitor.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height 7.94; Width 15.00; Depth 5  
 B. Configuration: Portable\_\_\_; Rack Mounted\_\_\_; Built into Next Assembly X.

**IV. Reference Sources**

Department of the Air Force Technical Order T.O.33D9-6-18-2 & 33D9-6-18-4  
 Air Force Dwg No. G. 293517

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FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
POWER SOURCE DESCRIPTION

100039

## I. Item Identification

A. Federal Nomenclature Power SupplyB. FSC 4935-688-5604 AD C. P/N GS-59017D. Mfr. Name and Code Number Western Electric Co., Inc. - 64959E. Categorization Index No. 100039F. Missile System PGM 437G. Next Assembly P/N G364523 AN/GRM-42B

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Propagated Output
120 Vac	400	1 Ø	6.4 V		No		No

## C. Functional Description

The 120 Volt input is reduced by a step-down transformer and rectified by two semiconductor devices in a full wave configuration. An inductance input filter network furnishes a DC current with a low AC component. The output terminals are floating.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height 5.90; Width 15; Depth 5B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## IV. Reference Sources

Department of the Air Force Technical Order 33D9-116-2-2D &amp; 33D9-116-2-4

Air Force Dwg No. G288029

Functional Code Number: 131

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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100040**  
**POWER SOURCE DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. FSN 4935-806-3012 AD C. P/N GA-10660  
 D. Mfr. Name and Code Number Western Electric Co., Inc. -64959  
 E. Categorization Index No. 100040  
 F. Missile System PGM 437  
 G. Next Assembly P/N G364523 AN/GRM-42B

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
120 Vac	400	1 $\phi$	42 Vdc		No		No

**C. Functional Description**

The input voltage is reduced by a step-down transformer then rectified by a full-wave semiconductor bridge. The output is filtered by an RC network. Ripple voltage will not be in excess of 5 mv peak-to-peak. The output terminals are floating.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height .875; Width 1.062; Depth 1.072  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

**IV. Reference Sources**

Air Force Dwg No. GA10660  
Air Force T.O. 33D9-116-2-2 & 33D9-116-2-4

Functional Code Number: 131

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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100041**  
**POWER SOURCE DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Supply  
 B. FSN 4935-790-7938 C. P/N 9140269  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 100041  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL J753-2: P/N 9140286

**II. Power Source Characteristics**

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
-28 Vdc			120 Vac		Yes	1700	No
-28 Vdc			45 Vac		No	250 + 10	No

**C. Functional Description**

This power supply is a d-c to a-c converter which contains a transistorized multivibrator and saturable reactor d-c to a-c conversion circuit which provides the 120 Vac output. The voltage regulation for the 120 Vac output is provided by a magnetic amplifier regulator circuit in the d-c to a-c conversion portion of the supply. This unit also contains a reed-type multivibrator which provides the unregulated 45 Vac output. The resistor network which develops the control voltage for the 120 Vac output circuit must be supplied externally.

**D. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Mechanical Characteristics**

A. Dimensions (Inches): Height 4.66; Width 7.24; Depth 8.06  
 B. Configuration: Portable\_\_\_; Rack Mounted\_\_\_; Built into Next Assembly X.

**IV. Reference Sources**

Department of the Army Technical Manual TM 9-4935-252-34/2, -35 and MICOM Dwg No. 9140269

Functional Code Number: 212 232

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FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION 100042  
POWER SOURCE DELINEATION

## I. Item Identification

A. Federal Nomenclature Motor-GeneratorB. FSN 4935-858-3321 C. P/N 10062289D. Mfr. Name and Code Number 00000E. Categorization Index No. 100042F. Missile System SergeantG. Next Assembly P/N 10061467 and 10394007

## II. Power Source Characteristics

A. INPUT CHARACTERISTICS			B. OUTPUT CHARACTERISTICS				
Input Voltage	Frequency (cps)	Phase	Prime Parameter	Supporting Parameter	Regulated Output	Frequency (cps)	Programmable Output
28 $\pm$ 4 Vdc			117 $\pm$ 3Vac, 2 $\emptyset$		Yes	400 $\pm$ 3	No
			115 $\pm$ 5Vac, 1 $\emptyset$		Yes	8400 $\pm$ 63	No

## C. Functional Description

This power source contains a d-c to a-c motor generator with voltage and frequency regulating circuits. The regulators are designed to maintain the above output voltage and frequency characteristics over a load range of 125 to 250  $\pm$  5 watts on each phase of the 400 cps output and with a 17  $\pm$  5 volt-ampere load on the 8400 cps output.

## D. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Mechanical Characteristics

A. Dimensions (Inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_

B. Configuration: Portable \_\_\_\_\_; Rack Mounted X; Built into Next Assembly \_\_\_\_\_.

## IV. Reference Sources

MICOM Dwg No. 10062289

Functional Code Number: 412

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CATEGORY 20: THE ELECTRICAL STIMULUS SOURCE CATEGORY

## 20.1 RETRIEVAL INSTRUCTIONS

20.1.1 General instructions. There are three simple steps to be followed in retrieving the delineations contained in this test function category, and they can be summarized as follows: First, define the FUNCTIONAL CODE NUMBER which identifies the category in which data on the required item is located. Second, refer to the STIMULUS SOURCE-TABLE OF DELINEATIONS section of this document to determine which delineations are applicable to the code number defined in Step 1. Third, locate the applicable delineations which are indexed by CATEGORIZATION INDEX NUMBER in the STIMULUS SOURCE-DELINEATIONS section of this document.

20.1.2 Detailed instructions. Detailed instructions on following this three-step procedure are given below, along with examples of typical functional requirements which can be met by the items for which data is stored in this Functional Categorization System.

STEP 1. Define the FUNCTIONAL CODE NUMBER which identifies the category in which data on the required item is located. The FUNCTIONAL CODE NUMBER is always a three-digit number and is defined by specifying the functional capability of the required item in terms of:

- a. PERFORMANCE FACTOR.....FIRST DIGIT
- b. CONTROLLED PARAMETER.....SECOND DIGIT
- c. CHARACTERISTIC FACTOR.....THIRD DIGIT

The digits for the FUNCTIONAL CODE NUMBER are selected from Figure 2 on the next page.

EXAMPLE: The user has a requirement for a stimulus source which:

- a. Is activated by intrinsic circuit characteristics....FIRST DIGIT=1
- b. Has an output that is amplitude controlled.....SECOND DIGIT=1
- c. Delivers a direct current output stimulus.....THIRD DIGIT=1

The FUNCTIONAL CODE NUMBER = 1.1.1

STEP 2. Refer to the STIMULUS SOURCE-TABLE OF DELINEATIONS and locate the one which is identified by the FUNCTIONAL CODE NUMBER defined in STEP 1. The CATEGORIZATION INDEX NUMBERS listed therein identify technical delineations on items with the required functional capabilities. For FUNCTIONAL CODE NUMBER 1.1.1, one CATEGORIZATION INDEX NUMBER will be found: 20J002.

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- STEP 3. Locate the applicable documentation by searching the STIMULUS SOURCE-DELINEATIONS section of this document. The CATEGORIZATION INDEX NUMBERS found in STEP 2 identify the applicable delineations forms. The CATEGORIZATION INDEX NUMBER appears in the upper right hand corner of the delineation form.

20.1.3 Special instructions. The example used in the three-step retrieval procedure outlined above requires that three specific characteristics be defined in order to retrieve documentation applicable to the type of item desired. By referring to Figure 2, it can be seen that it is possible to leave one or two digits of the FUNCTIONAL CODE NUMBER undefined by specifying an "open capability" for a particular classification level. As the following examples show, this feature allows for either broadening or narrowing the scope of documentation which can be retrieved.

- EXAMPLE 1: The user has a requirement for a sinusoidal stimulus source, but he is not concerned at this point with control of the output or type of activation; therefore, he would define the FUNCTIONAL CODE NUMBER 0.0.2. This would lead to the retrieval of documentation stored in both Performance Factor Categories, both Controlled Parameter Categories, and the Sinusoidal Characteristic Factor Category.
- EXAMPLE 2: The user has a requirement for a sinusoidal stimulus source with an output that is amplitude-controlled, but he is not concerned with the type of activation; therefore, he would define the FUNCTIONAL CODE NUMBER 0.1.2. This would lead to the retrieval of documentation stored in both Performance Factor Categories, one of the two Controlled Parameter Categories, and the Sinusoidal Characteristic Factor Category.
- EXAMPLE 3: The user has a requirement for a sinusoidal stimulus source and no preference as to control of the output, but he must use an input trigger from another circuit; therefore, he would define the FUNCTIONAL CODE NUMBER 2.0.2. This would lead to the retrieval of documentation stored in one of the two Performance Factor Categories, either of the two Controlled Parameter Categories, and the Sinusoidal Characteristic Factor Category.
- c c



Levels of Classification		
Performance Factor Functional Capabilities	Controlled Parameter Functional Capabilities	Characteristic Factor Functional Capabilities
<div>First Digit</div> <p><u>Select:</u></p> <p>0. Open Capability</p> <p>1. Signal Source Activation by Intrinsic Circuit Characteristics</p> <p>2. Signal Source Activation by Input Trigger or Gate</p>	<div>Second Digit</div> <p><u>Select:</u></p> <p>0. Open Capability</p> <p>1. Amplitude Controlled</p> <p>2. Time Controlled</p>	<div>Third Digit</div> <p><u>Select:</u></p> <p>0. Open Capability</p> <p>1. Direct Current Output</p> <p>2. Sinusoidal Output</p> <p>3. Modulated Sinusoidal Output</p> <p>4. Rectangular Waveform Output</p> <p>5. Pulse or Pulse Group Output</p> <p>6. Other Waveform Types</p>

Figure 2. Digit Choices for Functional Code Numbers in the Electrical Stimulus Source Category

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Functional Code Numbers 0.0.1 - 0.0.3

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number	
0.0.1	200002	
0.0.2	200003	200030
	200004	200031
	200005	200032
	200006	200033
	200008	200034
	200012	200035
	200017	200036
	200021	200037
	200023	200038
	200024	200043
	200026	200062
	200027	200081
0.0.3	200023	200038
	200024	200039
	200030	200047
	200031	200049
	200032	200050
	200036	200066
	200037	

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Functional Code Numbers 0.0.4 - 0.0.4

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number	
0.0.4	200020	200057
	200026	200058
	200031	200059
	200040	200060
	200041	200061
	200042	200062
	200043	200063
	200044	200064
	200045	200065
	200046	200066
	200051	200067
	200052	200068
	200053	200069
	200054	200070
	200055	200071
	200056	200072

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Functional Code Numbers 0.0.5 - 0.0.6

TABLE OF DELINEATIONS

Functional Code Numbers	Categorization Index Number	
0.0.5	200024	200081
	200025	200082
	200027	200083
	200031	200084
	200044	200085
	200062	200086
	200063	200087
	200064	200088
	200065	200089
	200072	200090
	200073	200091
	200074	200092
	200075	200093
	200076	200094
	200077	200095
	200078	200096
	200079	200097
0.0.6	200080	
	200014	200094
	200052	200095

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Functional Code Numbers 0.1.0 - 0.1.1

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number		
0.1.0	200002	200039	200061
	200003	200040	200062
	200004	200041	200063
	200005	200042	200064
	200006	200043	200065
	200008	200044	200066
	200012	200048	200073
	200017	200049	200074
	200020	200052	200075
	200021	200053	200076
	200023	200054	200077
	200024	200055	200078
	200026	200056	200079
	200027	200057	200080
	200030	200058	200081
	200031	200059	200094
	200032	200060	
0.1.1	200002	200021	200048

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Functional Code Numbers 0.1.2 - 0.1.4

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number		
0.1.2	200003	200023	
	200004	200024	
	200005	200026	
	200006	200027	
	200008	200030	
	200010	200031	
	200012	200062	
	200017	200081	
	200021		
0.1.3	200023	200032	
	200024	200039	
	200030	200049	
	200031		
0.1.4	200020	200052	200060
	200026	200053	200061
	200031	200054	200062
	200040	200055	200063
	200041	200056	200064
	200042	200057	200065
	200043	200058	200066
	200044	200059	

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Functional Code Numbers 0.1.5 - 0.2.0

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number		
0.1.5	200024		200074
	200027		200075
	200031		200076
	200062		200077
	200063		200078
	200064		200079
	200065		200080
	200073		200081
			200094
0.1.6	200052		200094
0.2.0	200003	200026	200041
	200004	200027	200042
	200005	200030	200043
	200006	200031	200044
	200008	200032	200045
	200012	200033	200046
	200014	200034	200047
	200017	200035	200049
	200020	200036	200050
	200021	200037	200051
	200023	200038	200052
	200024	200039	200053
	200025	200040	

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Functional Code Numbers 0.2.0 - 0.2.0

TABLE OF DELINEATIONS

Functional Code Numbers	Categorization Index Number	
0.2.0	200054	200077
	200055	200078
	200056	200079
	200057	200080
	200058	200081
	200059	200082
	200060	200083
	200061	200084
	200062	200085
	200063	200086
	200064	200087
	200065	200088
	200067	200089
	200068	200090
	200069	200091
	200070	200092
	200071	200093
	200072	200094
	200073	200095
	200074	200096
	200075	200097
	200076	



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Functional Code Numbers 0.2.2 - 0.2.3

TABLE OF DELINEATIONS

Functional Code Numbers	Categorization Index Number	
0.2.2	200003	200030
	200004	200031
	200005	200033
	200006	200034
	200008	200035
	200012	200036
	200017	200037
	200021	200038
	200023	200043
	200024	200062
	200026	200081
	200027	
0.2.3	200023	200038
	200024	200039
	200030	200047
	200031	200049
	200032	200050
	200036	200066
	200037	

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Functional Code Numbers 0.2.4 - 0.2.5

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number		
0.2.4	200020	200052	200063
	200026	200053	200064
	200031	200054	200065
	200040	200055	200066
	200041	200056	200067
	200042	200057	200068
	200043	200058	200069
	200044	200059	200070
	200045	200060	200071
	200046	200061	200072
	200051	200062	
0.2.5	200015	200074	200086
	200024	200075	200087
	200025	200076	200088
	200027	200077	200089
	200031	200078	200090
	200044	200079	200091
	200062	200080	200092
	200063	200081	200093
	200064	200082	200094
	200065	200083	200095
	200072	200084	200096
	200073	200085	200097

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Functional Code Numbers 0.2.6 - 1.0.1

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number	
0.2.6	200014	200094
	200052	200095
	200071	
1.0.0	200002	200033
	200003	200034
	200004	200035
	200005	200036
	200006	200037
	200008	200038
	200012	200040
	200017	200041
	200020	200042
	200021	200043
	200023	200044
	200024	200045
	200025	200046
	200026	200047
	200027	200051
	200030	200096
	200031	200097
	200032	
1.0.1	200002	

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## Functional Code Numbers 1.0.2 - 1.0.6

TABLE OF DELINEATIONS

Functional Code Numbers	Categorization Index Number		
1.0.2	200003	200027	
	200004	200030	
	200005	200032	
	200006	200033	
	200008	200034	
	200012	200035	
	200017	200036	
	200021	200037	
	200023	200038	
	200024	200043	
	200026		
1.0.3	200023	200031	
	200024	200032	
	200030	200047	
1.0.4	200020	200043	
	200026	200044	
	200040	200045	
	200041	200046	
	200042	200051	
1.0.5	200025	200074	200079
	200027	200075	200080
	200031	200076	200081
	200044	200077	200096
	200073	200078	200097
1.0.6	No Items		

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Functional Code Numbers 1.1.0 - 1.1.4

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number		
1.1.0	200002	200020	200031
	200003	200021	200032
	200004	200023	200040
	200005	200024	200041
	200006	200026	200042
	200008	200027	200043
	200012	200030	200044
	200017		
1.1.1	200002		
1.1.2	200003	200012	200024
	200004	200017	200026
	200005	200021	200027
	200006	200023	200030
	200008		
1.1.3	200023	200030	200032
	200024	200031	
1.1.4	200020	200041	200043
	200026	200042	200044
	200040		

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Functional Code Numbers 1.1.5 - 1.2.0

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number		
1.1.5	200027	200031	
1.1.6	No Items		
1.2.0	200003	200026	200040
	200004	200027	200041
	200005	200030	200042
	200006	200031	200043
	200008	200032	200044
	200012	200033	200045
	200017	200034	200046
	200020	200035	200047
	200021	200036	200051
	200023	200037	200096
	200024	200038	200097
	200025		

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Functional Code Numbers 1.2.2 - 1.2.6

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number	
1.2.2	200003	200027
	200004	200030
	200005	200032
	200006	200033
	200008	200034
	200012	200035
	200017	200036
	200021	200037
	200023	200038
	200024	200043
	200026	
1.2.3	200023	200031
	200024	200032
	200030	200047
1.2.4	200020	200043
	200026	200044
	200040	200045
	200041	200046
	200042	200051
1.2.5	200025	200044
	200027	200096
	200031	200097
1.2.6	No Items	

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Functional Code Numbers 2.0.0 - 2.0.0

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number		
2.0.0	200014	200059	200079
	200021	200060	200080
	200024	200061	200081
	200031	200062	200082
	200036	200063	200083
	200037	200064	200084
	200038	200065	200085
	200039	200066	200086
	200042	200067	200087
	200043	200068	200088
	200044	200069	200089
	200045	200070	200090
	200046	200071	200091
	200047	200072	200092
	200048	200073	200093
	200049	200074	200094
	200054	200075	200095
	200055	200076	200096
	200056	200077	200097
	200057	200078	
	200058		



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Functional Code Numbers 2.0.1 - 2.0.4

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number	
2.0.1	200021	200048
2.0.2	200062	200081
2.0.3	200024	200050
	200049	200066
2.0.4	200031	200060
	200042	200061
	200043	200062
	200044	200063
	200046	200064
	200051	200065
	200052	200066
	200053	200067
	200054	200068
	200055	200069
	200056	200070
	200057	200071
	200058	200072
	200059	

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## Functional Code Numbers 2.0.5 - 2.0.6

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number	
2.0.5	200024	200082
	200044	200083
	200062	200084
	200063	200085
	200064	200086
	200065	200087
	200072	200088
	200073	200089
	200074	200090
	200075	200091
	200076	200092
	200077	200093
	200078	200094
	200079	200095
	200080	200096
	200081	200097
2.0.6	200014	200094
	200052	200095

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Functional Code Numbers 2.1.0 - 2.1.3

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number		
2.1.0	200021	200060	
	200024	200061	
	200031	200062	
	200039	200063	
	200042	200064	
	200043	200065	
	200044	200066	
	200048	200073	
	200049	200074	
	200052	200075	
	200053	200076	
	200054	200077	
	200055	200078	
	200056	200079	
	200057	200080	
	200058	200081	
	200059	200094	
2.1.1	200021	200048	
2.1.2	200062	200081	
2.1.3	200024	200039	200049

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## Functional Code Numbers 2.1.4 - 2.1.6

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number	
2.1.4	200031	200058
	200042	200059
	200043	200060
	200044	200061
	200052	200062
	200053	200063
	200054	200064
	200055	200065
	200056	200066
	200057	
2.1.5	200024	200076
	200062	200077
	200063	200078
	200064	200079
	200065	200080
	200073	200081
	200074	200095
	200075	
2.1.6	200088	

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Functional Code Numbers 2.2.0 - 2.2.2

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number		
2.2.0	200014	200063	200080
	200024	200064	200081
	200031	200065	200082
	200036	200066	200084
	200037	200067	200085
	200038	200068	200086
	200039	200069	200087
	200042	200070	200088
	200043	200071	200089
	200044	200072	200090
	200046	200073	200091
	200049	200074	200092
	200054	200075	200093
	200055	200076	200094
	200056	200077	200095
	200058	200078	200096
	200061	200079	200097
	200062		
2.2.2	200062	200081	

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Functional Code Numbers 2.2.3 - 2.2.5

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number		
2.2.3	200024	200039	
	200036	200049	
	200037	200050	
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Functional Code Numbers 2.2.6 - 2.2.6

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200001

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

## I. Item Identification

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-736-0488 C. P/N 9987233  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 200001  
 F. Missile System Imp-Hercules  
 G. Next Assembly \_\_\_\_\_

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

## B. Functional Description

The signal generator receives an RF input and one of three switch-selected inputs; an unstaggered trigger, a modulated trigger, or an internal voltage. The RF input is detected and filtered to produce a video output. The unstaggered trigger, modulated trigger, or internal voltage is used to produce a sync signal output and either a gated or continuous wave 30-mc IF test signal output. The signal generator consists of monostable multivibrators V1 and V2; 15-mc oscillator V3; gated doubler amplifier V4; gated IF amplifier V5; and cathode follower V6.

## C. Additional Functional Capabilities

\_\_\_\_\_  
 Note: \_\_\_\_\_

## III. Input Signal Characteristics

## IV. Operating Voltage(s)

A. AC 6.1V  
 B. DC -150V, +120V, +250V

## V. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

## VI. Reference Sources

Dept of the Army Technical Manual TM9-1430-260-34/3

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MIL-HDBK-142A

200002

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

## I. Item Identification

A. Federal Nomenclature Calibrator, Temperature Indicator  
 B. FSN 4935-440-9640 C. P/N PS640900219-1  
 D. Mfr. Name and Code Number Martin-Marietta Corp. -38597  
 E. Categorization Index No. 200002  
 F. Missile System \_\_\_\_\_  
 G. Next Assembly \_\_\_\_\_

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>DC</u>	<u>N/A</u>	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

## B. Functional Description

This unit achieves signal source activation through its intrinsic circuit characteristics and provides a floating voltage source for specific test applications at a selected millivolt dc signal level. The circuit includes accurate voltage standards supplying the equivalent millivolt output of a chromel-alumel thermocouple. Placing the selector switch to its different positions will give the equivalent output indications. Potentiometers are provided within the unit casing for adjustment of its output during calibration. The output voltage indications at the positions of the selector switch are 4.1 mv DC at 100°C position, 24.91 mv DC at 600°C position, and 41.31 mv DC at 1000°C position.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

III. Input Signal Characteristics N/A

## IV. Operating Voltage(s)

A. AC 115V, 60 cpsB. DC N/A

## V. Mechanical Characteristics

A. Dimensions (inches): Height 5; Width 5-1/2; Depth 7  
 B. Configuration: Portable X; Rack Mounted   ; Built into Next Assembly   .

## VI. Reference Sources

Dept of the Air Force Technical Order T.O. 33D9-29-3-3

Functional Code Number: 111

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FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200003

## I. Item Identification

A. Federal Nomenclature Generator Signal  
 B. FSN 4935-331-0615 C. P/N 8023747  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200003  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL J751: P/N 8157152

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sinusoidal</u>	<u>10 cps to 10 mc</u>	5.		
2.			6.		
3.			7.		
4.			8.		

## B. Functional Description

This signal generator develops a cw sinusoidal output signal variable between 30 microvolts to 3 volts and requires no application of an external triggering voltage. An output voltage divider provides a 6 ohm impedance for low-source impedance measurements. The output attenuator is adjustable in 10 db steps to a maximum of 50 db. The standard output is 15 mw or 3 volts across a 600-ohm resistive load.

## C. Additional Functional Capabilities

Can be used as a power supply for AF and RF bridge measurements.

Note: \_\_\_\_\_

III. Input Signal Characteristics N/A

## IV. Operating Voltage(s)

A. AC 115 or 230 V, 50 - 1000cps

B. DC N/A

## V. Mechanical Characteristics

A. Dimensions (inches): Height 10-1/2; Width 19; Depth 13  
 B. Configuration: Portable X; Rack Mounted X; Built into Next Assembly     .

## VI. Reference Sources

Heulett-Packard Co., Catalogue No. 24, Pg. 76. Electronic Test Instruments

Functional Code Numbers: 112 122

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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200004

**I. Item Identification**A. Federal Nomenclature Oscillator SubassemblyB. FSN 4935-019-3029 C. P/N 10167755D. Mfr. Name and Code Number 00000E. Categorization Index No. 200004F. Missile System Nike-Hercules (Imp)G. Next Assembly SNL J784-1: P/N 9988983**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sinusoidal</u>	<u>1.7 mc/s</u>	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

**B. Functional Description**

This oscillator unit achieves signal source activation through its intrinsic circuit characteristics providing an RF output at a single frequency of 1.7 mc and at an amplitude of 60 volts peak-to-peak. The oscillator is a free-running, push-pull circuit which is transformer loaded. Operating voltage is supplied externally.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Input Signal Characteristics N/A****IV. Operating Voltage(s)**

A. AC \_\_\_\_\_

B. DC -26V**V. Mechanical Characteristics**A. Dimensions (inches): Height 438; Width 3.875; Depth 4.781B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X.**VI. Reference Sources**MICOM Dwg Nos. 10167755 & 9988075

Functional Code Numbers: 111 122

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FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200005

## I. Item Identification

A. Federal Nomenclature Oscillator, Radio Frequency  
 B. FSN 4935-018-9837 C. P/N 9157515  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. \_\_\_\_\_  
 F. Missile System Nike-Hercules (Imp)  
 G. Next Assembly \_\_\_\_\_

## II. Stimulus Characteristics

A.	Waveform	Time Function		Waveform	Time Function
1.	<u>Sinusoidal</u>	<u>65 mc/s to 500 mc/s</u>	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

## B. Functional Description

This oscillator unit achieves signal source activation through its intrinsic circuit characteristics and produces a variable regulated and unregulated RF output voltage at frequencies from 65 through 500 megacycles. The minimum power output at 65 to 400 mc is 150 mw and 400 to 500 mc is 150 mw and 60 mw, respectively, across a 50 ohm load. The oscillator circuit utilizes an electron tube to produce alternating voltages, and inductive and capacitive elements which are varied simultaneously to determine the output frequency. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

III. Input Signal Characteristics N/A

## IV. Operating Voltage(s)

A. AC 6.3V 60 cps @ .9 amps  
 B. DC +120V @ 40 ma

## V. Mechanical Characteristics

A. Dimensions (inches): Height 6.969; Width 8.000; Depth 6.500  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X.

## VI. Reference Sources

MICOM Drawing No. 9164541 (Schematic)  
General Radio Co. P/N 1208C

Functional Code Numbers: 112 122

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PRC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200006

## I. Item Identification

A. Federal Nomenclature Oscillator, Radio FrequencyB. FSN 4935-737-0523 C. P/N 10046501D. Mfr. Name and Code Number 00000E. Categorization Index No. 200006F. Missile System HawkG. Next Assembly SNL J756-22: P/N 10046510

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sinusoidal</u>	<u>38,760 to 45,760 cps</u>	5.		
2.			6.		
3.			7.		
4.			8.		

## B. Functional Description

The oscillator unit achieves signal source activation through its intrinsic circuit characteristics and provides an output rf signal variable in increments of 280 cps between 38,760 to 45,760 cps. The unit consists of two banks of crystals which are coupled through a selector assembly to two crystal oscillator circuits which generate separate rf signals. These signals are proportionately fed to a balanced mixer which produces the two fundamentals and the sum and difference frequencies. The mixer output couples to a band-pass filter, feeds to a driver and output amplifier stage, and then is applied to the output connector. The signal amplitude is continuously variable between .05 and .3 v rms across a 4-ohm load. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

III. Input Signal Characteristics N/A

## IV. Operating Voltage(s)

A. AC 6.3 VB. DC +150 V, +28 V

## V. Mechanical Characteristics

11-3/8(Including

A. Dimensions (inches): Height 5-1/4; Width 9-15/32; Depth HandlesB. Configuration: Portable     ; Rack Mounted X; Built into Next Assembly     .

## VI. Reference Sources

DAIM 9-4935-506-35/3; -35/4

Functional Code Numbers: 112 122

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FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200007

## I. Item Identification

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-787-6584 C. P/N 10047168  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 200007  
 F. Missile System \_\_\_\_\_  
 G. Next Assembly \_\_\_\_\_

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

## B. Functional Description

Generates reference signals to simulate radar signals to operating missile.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Input Signal Characteristics

## IV. Operating Voltage(s)

A. AC \_\_\_\_\_ From console \_\_\_\_\_

B. DC \_\_\_\_\_

## V. Mechanical Characteristics

A. Dimensions (inches): Height 8-3/4; Width 19; Depth 14  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted X; Built into Next Assembly \_\_\_\_\_.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4935-506-35/3

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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200008

**I. Item Identification**

A. Federal Nomenclature Oscillator, Radio Frequency  
 B. FSN 4935-751-9145 C. P/N 10046503  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200008  
 F. Missile System Hawk  
 G. Next Assembly SNL J756-22: P/N 10046510

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sinusoidal, +1.5V</u>	<u>19.8 mc/s to 37 mc/s</u>	5.		
2.	<u>Sinusoidal, -1.5V</u>	<u>19.8 mc/s to 37 mc/s</u>	6.		
3.			7.		
4.			8.		

**B. Functional Description**

This oscillator unit achieves signal source activation through its intrinsic circuit characteristics and produces two variable frequency rf signals opposite in phase with respect to each other. The rf circuitry consists of a modified Colpitts oscillator which generates a variable frequency constant amplitude rf signal. The oscillator output feeds to a paraphase push-pull rf output stage which provides two oppositely phased output signals at the respective output connectors. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**III. Input Signal Characteristics** N/A**IV. Operating Voltage(s)**A. AC 6.3 VB. DC +150 V**V. Mechanical Characteristics**A. Dimensions (inches): Height 5-1/4; Width 4-45/64; Depth 11-3/8B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly     .**VI. Reference Sources**DATM 9-4935-506-35/3; -35/4

Functional Code Numbers: 112 122

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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200009

**I. Item Identification**A. Federal Nomenclature Generator, PulseB. FSN 4935-605-4732 C. P/N 8016551

D. Mfr. Name and Code Number \_\_\_\_\_

E. Categorization Index No. 200009F. Missile System Nike-Ajax

G. Next Assembly \_\_\_\_\_

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

**B. Functional Description**

The command modulator develops pulse trains from complex sine-wave inputs or from pure sine-wave inputs. The pulse trains are developed by isolation amplifier, multi-vibrator, output amplifier, and cathode follower circuits. A metering circuit provides calibration of multivibrator operating points and input voltage levels. Switching and relay circuits are used to select signal paths.

**C. Additional Functional Capabilities**

\_\_\_\_\_  
 Note: \_\_\_\_\_

**III. Input Signal Characteristics****IV. Operating Voltage(s)**

A. AC \_\_\_\_\_

B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_

B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

**VI. Reference Sources**Dept of the Army Technical Manual TM 9 1400-250-35/4/3



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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200010

**I. Item Identification**A. Federal Nomenclature Generator, PulseB. FSN 4935-308-2702C. P/N 8007720

D. Mfr. Name and Code Number \_\_\_\_\_

E. Categorization Index No. 200010F. Missile System Hercules

G. Next Assembly \_\_\_\_\_

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

**B. Functional Description**

The pulse generator is an electromechanical device which generates four stable and precise reference pulse frequencies. These are 30-cps, 100-cps, 220-cps, and 400-cps outputs, and are applied to Pl-3, 5, 7, and 9.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Input Signal Characteristics****IV. Operating Voltage(s)**A. AC 6.3 VB. DC +250 V, +150 V, -250 V**V. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_

B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

**VI. Reference Sources**Dept of the Army Technical Manual TM 9-1400-250-35/4/1

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FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200011

## I. Item Identification

A. Federal Nomenclature Oscillator, Reference  
 B. FSN 4935-308-0263 C. P/N 8021493  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 200011  
 F. Missile System Nike-Ajax  
 G. Next Assembly \_\_\_\_\_

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

## B. Functional Description

The reference oscillator incorporates three crystal oscillator circuits and a modulator circuit to provide precision output signals at frequencies of 1 megacycle, 24 kilocycles and 2 or 6 kilocycles.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Input Signal Characteristics

## IV. Operating Voltage(s)

A. AC 6.3 V  
 B. DC +300 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

## VI. Reference Sources

Dept of the Army Technical Manual TM9-1400-250-35/4/2

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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200012

**I. Item Identification**

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-950-9630 C. P/N 5-92632-107  
 D. Mfr. Name and Code Number Arma Div. of American Bosch Arma Corp. - 03848  
 E. Categorization Index No. 200012  
 F. Missile System \_\_\_\_\_  
 G. Next Assembly \_\_\_\_\_

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sinusoidal</u>	<u>20 cps to 40 kc/s</u>	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

**B. Functional Description**

This generator achieves signal source activation through its intrinsic circuit characteristics and produces precision audio and rf test voltages over the specified frequency range. The unit utilizes an RC oscillator system with ganged variable capacitor tuning attached to a calibrated dial. The unit features a 600 ohm balanced output at 1 watt (24.5V across 600 ohms). Vernier control of frequency is also provided. An output attenuator provides amplitude control of the signal. Operating voltages are supplied by a self-contained power supply.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Input Signal Characteristics** N/A**IV. Operating Voltage(s)**

A. AC 115V; 230V; 50-1000 cps

B. DC N/A

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 6-31/32; Width 19; Depth 12-23/32  
 B. Configuration: Portable    ; Rack Mounted X; Built into Next Assembly    .

**VI. Reference Sources**

Air Force Drawing Nos. 5-92632-107 and 5-00510-030  
Hewlett Packard Catalog No. 24

Functional Code Numbers: 112 122

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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200013

**I. Item Identification**

A. Federal Nomenclature Oscillator, Yaw  
 B. FSN 4935-306-2151 C. P/N 8016602  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 200013  
 F. Missile System Nike-Ajax  
 G. Next Assembly \_\_\_\_\_

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

**B. Functional Description**

The yaw oscillator can be set to provide a fixed frequency of 120 cps, 150 cps or 180 cps or it can be set to provide a variable frequency with a range of 138 to 162 cps. The 120 cps, 150 cps, and 180 cps frequencies correspond to yaw commands of -5G, 0G, and +5G, respectively. The variable frequency corresponds to a yaw command that is continuously variable from -2G to +2G.

**C. Additional Functional Capabilities**

\_\_\_\_\_  
 Note: \_\_\_\_\_

**III. Input Signal Characteristics****IV. Operating Voltage(s)**

A. AC 6.3V, 6.3V (two separate inputs)

B. DC +260V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

**VI. Reference Sources**

Dept of the Army Technical Manual TM9-1400-250-35/4/3

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200014

**I. Item Identification**

A. Federal Nomenclature Generator, Sweep  
 B. FSN 4935-953-0097 C. P/N 9997744  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200014  
 F. Missile System Nike-Ajax, -Hercules, and -Hercules (Imp)  
 G. Next Assembly SNL J784-1: P/N 9980218

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sawtooth, Pos.</u>	<u>100 to 10,000 us time</u>	5.		
2.		<u>base</u>	6.		
3.			7.		
4.			8.		

B. Functional Description: This generator unit achieves signal source activation by application of an input gate pulse and produces a linear, positive going sawtooth output voltage. A negative input gate pulse cuts off a normally conducting dual triode switch tube. This action causes a rise in the plate potential toward the plate supply voltage, charging through a selected RC network which provides time base selection. The rise in plate voltage is applied to the control grid of a bootstrap cathode follower. The cathode voltage which follows the rise in grid voltage is coupled to the output jack as the sawtooth sweep voltage. Bootstrap action by the cathode follower and a feedback network produce a straight line charging slope of the RC network providing sawtooth linearity. The end of the negative input gate causes a swing from cutoff to saturation current in the switch tube, providing the trailing edge of the sawtooth sweep. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Input Signal Characteristics** 100 microsecond negative-going gate.**IV. Operating Voltage(s)**

A. AC 6.3 V, 400 cps  
 B. DC +250 V, -250 V, -28 V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

**VI. Reference Sources**

DATM 9-4940-252-34/3; -35/2

Functional Code Number: 226

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200015

## I. Item Identification

A. Federal Nomenclature Radio Frequency Microsecond Oscillator  
 B. FSN 4935-084-8403 C. P/N 9993134  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 200015  
 F. Missile System Nike-Hercules  
 G. Next Assembly \_\_\_\_\_

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

## B. Functional Description

The radio frequency microsecond oscillator generates a sign-wave voltage at a frequency that is within a range of approximately 35 kilocycles to 1 megacycle. Frequency variations are produced by switching different values of capacitance into the arm of a wien-bridge oscillator circuit.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Input Signal Characteristics

## IV. Operating Voltage(s)

A. AC 6.3 V, 6.3 V, 6.3 V (three separate inputs)  
 B. DC +300 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-1400-250-35/4/3

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200016

**I. Item Identification**

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-017-8928 C. P/N 10108866  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 200016  
 F. Missile System Hawk  
 G. Next Assembly \_\_\_\_\_

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

**B. Functional Description**

The signal generator test set provides doppler signal and noise signals for checking the cw acquisition and illuminator radars.

**C. Additional Functional Capabilities**

\_\_\_\_\_  
 Note: \_\_\_\_\_

**III. Input Signal Characteristics Radar****IV. Operating Voltage(s)**

A. AC 115 Vac 400 cps single phase

B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 15 7/10; Width 21 1/8; Depth 22  
 B. Configuration: Portable X; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

**VI. Reference Sources**

Dept of the Army Technical Manual TM 9-4935-501-12

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200017

## I. Item Identification

A. Federal Nomenclature Oscillator, Radio FrequencyB. FSN 4935-768-2300 AD C. P/N GS59057D. Mfr. Name and Code Number AT&T - 70408 & Western Electric Co., - 64959 & 92663E. Categorization Index No. 200017F. Missile System PGM 437G. Next Assembly P/N G315765 AN/GRM-45

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	<u>Sinusoidal</u>	<u>6.3 mc/s, 8 mc/s</u>	5.	
2.			6.	
3.			7.	
4.			8.	

## B. Functional Description

This oscillator unit achieves signal source activation through its intrinsic circuit characteristics. The rf oscillator is a dual output crystal unit that generates a 6.3 mc or an 8 mc signal. The input transistor amplifier output is applied to two circuits. One output circuit consists of an emitter follower with a variable resistor in the emitter circuit to control the amplitude of the output signal. The other output circuit utilizes dual emitter followers with a variable resistor in the base circuit to balance the DC levels of the outputs. The oscillator output frequency is controlled by a relay which is operated by a remote switch. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

III. Input Signal Characteristics N/A

## IV. Operating Voltage(s)

A. AC N/AB. DC +15V, +20V, -28V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 6 7/8; Width 3 1/8; Depth 5 1/8B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Air Force Technical Order T.O. 33D9-115-2-2 & 33D9-115-2-4

Functional Code Numbers: 112 122



MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200018

**I. Item Identification**

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-930-5853 C. P/N 10111869  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 200018  
 F. Missile System Hawk  
 G. Next Assembly \_\_\_\_\_

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

**B. Functional Description**

Furnishes pulse outputs of variable width and variable delay to test various units.

**C. Additional Functional Capabilities**

Provides high-and low-impedance output signals

Note: \_\_\_\_\_

**III. Input Signal Characteristics****IV. Operating Voltage(s)**

A. AC from console  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 5 1/4; Width 9 15/32; Depth 11 3/8  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted x; Built into Next Assembly \_\_\_\_\_.

**VI. Reference Sources**

Dept of the Army Technical Manual TM 9-4935-506-35/4

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200019

**I. Item Identification**

A. Federal Nomenclature Comparator Signal  
 B. FSN 4935-807-7611 C. P/N 10045270  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 200019  
 F. Missile System Hawk  
 G. Next Assembly \_\_\_\_\_

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

**B. Functional Description**

Attenuates output signals from signal generator 10108866.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Input Signal Characteristics****IV. Operating Voltage(s)**

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 1.56; Width 4.78; Depth 3.01  
 B. Configuration: Portable X; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_

**VI. Reference Sources**

Dept of the Army Technical Manual TM 9-4935-501-12

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200020

## I. Item Identification

A. Federal Nomenclature Oscillator, Radio Frequency  
 B. FSN 4935-688-9138 HC C. P/N 21115-305  
 D. Mfr. Name and Code Number Autonetics Div. of North American Aviation - 94756  
 E. Categorization Index No. 200020  
 F. Missile System AGM-28 A/B  
 G. Next Assembly C2-2A-A System Alignment and Calibration Console

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Rectangular</u>	<u>100 Kc</u>	5.		
2.			6.		
3.			7.		
4.			8.		

## B. Functional Description

This oscillator unit achieves signal source activation through its intrinsic circuit characteristics. The circuit consists of an oven stabilized crystal oscillator unit that utilizes both positive and negative feedback to sustain oscillation and for gain control, respectively. The oscillator sine wave output is amplified and applied to a schmitt trigger circuit which functions as a bistable regenerative network to square the input 100 kc sine wave and produces a 100 kc output square wave. Amplitude adjustment is provided by a variable resistor in the schmitt trigger output coupling circuit. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

III. Input Signal Characteristics N/A

## IV. Operating Voltage(s)

A. AC 6.3V, 400 cpsB. DC 150V, 28V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 8-7/8; Width 1-1/2; Depth 8-3/4  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly X.

## VI. Reference Sources

Air Force Drawing No. 21115-305

Functional Code Numbers: 114 124

107

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200021

## I. Item Identification

A. Federal Nomenclature Calibrator, Frequency & Voltage  
 B. FSN 4935-894-9660 C. P/N 10046508  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200021  
 F. Missile System Hawk  
 G. Next Assembly SNL J756-22: P/N 10046510

## II. Stimulus Characteristics

A.	Waveform	Time Function	5.	Waveform	Time Function
1.	Sinusoidal	1 mc/s, 30 mc/s	5.		
2.	DC	Reference	6.		
3.			7.		
4.			8.		

## B. Functional Description

This unit achieves AC signal source activation thru its intrinsic circuit characteristics and DC signal source activation by application of an external DC voltage. This unit employs three oscillators to provide the required calibrating frequencies. The 1-kc calibrating circuit utilizes a Wein bridge oscillator, a cathode follower buffer stage, and an AC reference voltage network to provide a standard 1-vac and 3-vac signal at the selector switch terminals. The DC reference voltage circuit utilizes a 150-vdc input with limiting resistors and zener diodes to maintain a constant dc voltage and additional variable resistors to furnish the standard 1-vdc and 5-vdc potentials at the output selector switch. The 1-mc and 30-mc calibrating circuit utilize a modified Butler oscillator with associated amplifier and cathode follower circuitry to provide the 1-mc sine wave at 1-vrms and the 30-mc sine wave at .25-vrms at their respective output connectors. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

Note:

III. Input Signal Characteristics N/A

## IV. Operating Voltage(s)

A. AC 6.3V  
 B. DC +300V, +150V, -150V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 5-7/32; Width 4-11/32; Depth 10-1/16  
 B. Configuration: Portable ; Rack Mounted ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manuals TM 9-4935-506-35/3 and -35/4;  
MICOM Dwg No. 10046508

Functional Code Numbers: 112 122 211

125

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200022

**I. Item Identification**

A. Federal Nomenclature Radio Frequency Oscillator (Target)  
 B. FSN 4935-795-0466 C. P/R 9143818  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 200022  
 F. Missile System Imp-Hercules  
 G. Next Assembly \_\_\_\_\_

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

**B. Functional Description**

The radio frequency oscillator contains a reflex klystron which generates a micro-wave signal variable in power and in frequency range. The radio frequency oscillator produces either pulsed or continuous wave output in the frequency range from 8500 to 9600 megacycles. In pulsed operation the radio frequency oscillator is triggered by a pulse generator and the klystron oscillates only for the duration of each input pulse. Continuous wave operation occurs when no input signal is applied.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**III. Input Signal Characteristics**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**IV. Operating Voltage(s)**

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_  
 \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

**VI. Reference Sources**

Dept of the Army Technical Manual TM 9-1400-250-35/5/2  
 \_\_\_\_\_

MIL-HDBK-142A

FIG-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
 STIMULUS SOURCE DELINEATION

200023

## I. Item Identification

A. Federal Nomenclature Generator, Signal  
 B. P/N 4935-712-9217 C. P/N G290572-1  
 D. Mfr. Name and Code Number AT&T - 70408; Western Electric Co. - 64959 & 92663  
 E. Categorization Index No. 200023  
 F. Missile System \_\_\_\_\_  
 G. Next Assembly P/N's G277992 and G303300

## II. Stimulus Characteristics

A.	Waveform	Time Function	5.	Waveform	Time Function
1.	<u>Sinusoidal</u>	<u>5 mc/s to 175 mc/s</u>	5.	_____	_____
2.	<u>Mod. Sinusoidal</u>	<u>400 or 1000 cps</u>	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

## B. Functional Description

This signal generator achieves signal source activation through its intrinsic circuit characteristics. The generator provides stimulus at 5 to 175 mc/s in seven selective frequency bands utilizing a 5 to 1 ratio planetary drive dial system. The unit contains an RF voltmeter, a step attenuator, and a calibrated inductive potentiometer and provides an output continuously variable from zero to 100,000 microvolts. The output impedance is 15 ohms. An uncalibrated high impedance output is also available at a BNC outlet. Amplitude modulation at 30% with either 400 or 1000 cycles, a pure cw carrier, and provision for external modulation are selective. Operating voltages are supplied by a self-contained power supply.

## C. Additional Functional Capabilities

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

III. Input Signal Characteristics N/A

## IV. Operating Voltage(s)

A. AC 115V, 60 cps, single phase  
 B. DC \_\_\_\_\_

## V. Mechanical Characteristics

A. Dimensions (inches): Height 10-1/2; Width 19; Depth 6-5/16  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted X; Built into Next Assembly \_\_\_\_\_

## VI. Reference Sources

Air Force Drawing No. G-290572

Functional Code Numbers: 112 113 122 123

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200024

## I. Item Identification

Item Identification

A.	Federal Nomenclature	Generator, Sweep and Signal			
B.	FSN	4935-070-0595 AD	C.	P/N	G366341
D.	Mfr. Name and Code Number	Western Electric Co. -64959 & 92663			
E.	Categorization Index No.	200024			
F.	Missile System	PGM43N			
G.	Next Assembly	AN/GRM-41	P/N G303300 & P/N G365065		

## II. Stimulus Characteristics

A.	<u>Wave form</u>	<u>Time Function</u>		<u>Wave form</u>	<u>Time Function</u>
1.	<u>Sinusoidal</u>	<u>25-75 mc/s</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>Mod Sinusoidal: lkc,</u>	<u>50 cps to 5kc-Audio</u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>Mod Sinusoidal</u>	<u>50-5000 cps - Pulse</u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>Pulse</u>	<u>Function of Input</u>	8.	<u>                    </u>	<u>                    </u>

## B. Functional Description

This generator achieves signal source activation through its intrinsic circuit characteristics and by application of input trigger and modulation signals. This unit consists of a combination sweep and signal generator. The sweep generator provides a 1v rms output signal with sweep frequency calibrated and variable over the sweep range. The signal generator serves a dual purpose of providing a variable, calibrated cw signal output or a variable marker signal when used with sweep generator. The cw signal may be audio or pulse modulated. Special features: a step attenuator, a 1 mc oscillator, and a RF and pulse detector circuit. Inputs are provided for external marker signals and alternate modes of modulation to the signal generator. Operating voltages are supplied by a self-contained power supply.

### C. Additional Functional Capabilities

**Note:**

III. Input Signal Characteristics cw signal, .1 volt; 50-5000 cps signal,  
5 volts amplitude, peak to peak.

## IV. Operating Voltage(n)

A. AC 115 V, 50-60 cps

B. DC N/A

## V. Mechanical Characteristics

A. Dimensions (inches): Height 8.75; Width 19.00; Depth 15.72  
B. Configuration: Portable       ; Rack Mounted X; Built into Next Assembly       .

## VI. Reference Sources

Air Force Drawing No. G366341  
Air Force Drawing T.O. 33D9-98-3-2 & 33D9-98-3-4

Functional Code Numbers: 112 113 122 123 213 215 223 225

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200025

**I. Item Identification**

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-806-0934 C. P/N 9988562  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200025  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL's J751 & J782: P/N 8514550

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>pulse, +1 volt</u>	<u>330 kpps, .2 usec</u>	5.	<u></u>	<u></u>
2.	<u>pulse, +18 volts</u>	<u>500 pps, .4 usec</u>	6.	<u></u>	<u></u>
3.	<u>pulse, +1 volt</u>	<u>330 kpps, .2 usec</u>	7.	<u></u>	<u></u>
4.	<u></u>	<u></u>	8.	<u></u>	<u></u>

**B. Functional Description**

This pulse generator utilizes two modes of operation and develops three output signal voltages with self-contained stimulus generating circuitry. In one mode, a crystal oscillator generates two continuous pulse series which are independently adjustable in phase with a third sync pulse output obtained from a multivibrator synchronized to the crystal oscillator circuit. Phase shifters are operated from the front panel but not calibrated. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**

N/A  
 Note:

**III. Input Signal Characteristics**

N/A

**IV. Operating Voltage(s)**

A. AC 6.3 V  
 B. DC +150 V; +250 V; -250 V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 5.25; Width 9.315; Depth 15.438  
 B. Configuration: Portable ; Rack Mounted ; Built into Next Assembly X.

**VI. Reference Sources**

Department of the Army Technical Manual TM 9-4940-250-35/3

Functional Code Number: 125



MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200026

**I. Item Identification**

A. Federal Nomenclature Calibrator, Frequency  
 B. FSN 4935-812-2696 SB C. P/N PS640900215-1  
 D. Mfr. Name and Code Number Martin-Marietta Corp. -38597  
 E. Categorization Index No. 200026  
 F. Missile System TM76B  
 G. Next Assembly P/N 258N9423500

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sinusoidal</u>	<u>100 kc</u>	5.	<u></u>	<u></u>
2.	<u>Rectangular</u>	<u>100 kc</u>	6.	<u></u>	<u></u>
3.	<u></u>	<u></u>	7.	<u></u>	<u></u>
4.	<u></u>	<u></u>	8.	<u></u>	<u></u>

**B. Functional Description**

This unit achieves signal source activation through its intrinsic circuit characteristics. An oven stabilized crystal oscillator generates a 100 kc signal which is amplified and coupled to an output jack as a sine wave or applied to a multivibrator circuit to produce a square wave output at 100 kc. The amplitude of the output signal is maintained at .2 volt rms minimum. The rated output is also maintained when shunted with 1 megohm in parallel with a 2000 mmfd capacitor. Operating voltages are supplied by a self-contained power supply.

**C. Additional Functional Capabilities**

Note:

**III. Input Signal Characteristics N/A****IV. Operating Voltage(s)**

A. AC 105-125V, 60 cps

B. DC N/A

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 6-3/4; Width 17; Depth 5-1/4  
 B. Configuration: Portable ; Rack Mounted ; Built into Next Assembly X.

**VI. Reference Sources**

Air Force Dwg No. PS640900215

Functional Code Numbers: 112 114 122 124

113

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200027

## I. Item Identification

A. Federal Nomenclature Generator, PulseB. FSN 4935-722-2066 C. P/N 30700-315D. Mfr. Name and Code Number Autonetics Div. of North American Aviation - 94756E. Categorization Index No. 200027

F. Missile System \_\_\_\_\_

G. Next Assembly \_\_\_\_\_

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	<u>Sinusoidal</u>	<u>1 mc/s</u>	5.	
2.	<u>Pulse</u>	<u>1 mc/s</u>	6.	
3.			7.	
4.			8.	

## B. Functional Description

This generator achieves signal source activation through its intrinsic circuit characteristics and produces a 1 mc/s pulse output at an amplitude of 12 volts. The one megacycle pulse generator contains a one megacycle precision crystal oscillator whose output is amplified and fed to a pulse forming network and also to an output jack as a 1 mc sinewave output. The repetition rate of the one megacycle pulse is adjusted to within one part per million. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

Notes: \_\_\_\_\_

III. Input Signal Characteristics N/A

## IV. Operating Voltage(s)

A. AC N/AB. DC +12V, -12V, -6V

## V. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_

B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

## VI. Reference Sources

Air Force Dwg No. 30700-315Air Force Dwg No. 30702-315

Functional Code Numbers: 112 115 122 125

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200028

**I. Item Identification**

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-787-7344 C. P/N 9188069  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 200028  
 F. Missile System Hawk  
 G. Next Assembly \_\_\_\_\_

**II. Stimulus Characteristics**

A.	<u>Wave Form</u>	<u>Time Function</u>		<u>Wave Form</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

**B. Functional Description**

Generates range and coding signals to test radar components.

**C. Additional Functional Capabilities**

\_\_\_\_\_  
 Note: \_\_\_\_\_

**III. Input Signal Characteristics** \_\_\_\_\_**IV. Operating Voltage(s)**

A. AC Console Supplied  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 5 1/4; Width 9 15/32; Depth 11 3/8  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted X; Built into Next Assembly \_\_\_\_\_.

**VI. Reference Sources**

Dept of the Army Technical Manual TM 9-4935-503-34

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELIBERATION

200029

## I. Item Identification

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-621-5273 C. P/N 8158148  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 200029  
 F. Missile System Nike-Ajax  
 G. Next Assembly \_\_\_\_\_

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

## B. Functional Description

The signal generator contains a reflex klystron oscillator which generates a micro-wave signal variable in power and in frequency range. The signal generator produces either pulsed or continuous wave output in the frequency range from 8500 to 9600 megacycles. In pulsed operation the signal generator is triggered by a pulse generator, and the klystron oscillator only for the duration of each input pulse. Continuous wave operation occurs when no input signal is applied.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Input Signal Characteristics

## IV. Operating Voltage(s)

A. AC 6.3VB. DC +300V

## V. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-1400-250-35/5/2

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200030

## I. Item Identification

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-962-7776 C. P/N 9991179  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200030  
 F. Missile System Nike-Ajax, -Hercules, and -Hercules (Imp.)  
 G. Next Assembly SNL 784-1: P/N 9980459

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Mod. Sinusoidal</u>	<u>1300 to 1600 mc/s cw</u>	5.		
2.	<u>Sinusoidal</u>	<u>1300 to 1600 mc/s cw</u>	6.		
3.			7.		
4.			8.		

B. Functional Description: This oscillator unit derives its signal source activation through intrinsic circuit characteristics and produces a continuously variable rf signal in a pulse mode or cw mode at power levels from 5 to 50 milliwatts. A klystron oscillator with an external, tunable cavity generates the rf signal which is coupled from the cavity by means of a probe to a servo-controlled variable attenuator. RF power from the attenuator is applied to a directional coupler and then to an isolator. A crystal detector in the directional coupler detects a portion of the rf signal which is applied to a chopper for comparison with a reference voltage. The voltage difference detected by the vibrating contact of the chopper is amplified, phase corrected, and coupled to the attenuator servo motor which adjusts the variable attenuator. A crystal modulator in series with the output of the isolator acts as a valve permitting the rf signal to pass when the crystal has a forward current of 40 ma. A mode switch permits either cw or pulse operation by controlling the bias voltage on a crystal diode. Operating voltages are supplied by a self-contained power supply. This generator supersedes generator with P/N 9993325.

## C. Additional Functional Capabilities

This unit contains three regulated power supplies furnishing full wave rectification with silicon rectifiers. The voltages supplied are +725v, -325V, +150 V.

Note: This generator supersedes signal generator with P/N 9993325.

III. Input Signal Characteristics Positive 30 to 40 volt pulse.

## IV. Operating Voltage(s)

A. AC 120 V, 400 cpsB. DC -28 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built Into Next Assembly \_\_\_\_\_.

## VI. Reference Sources

DATM 9-4940-252-34/2; -35/1

Functional Code Numbers: 112 113 122 123

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200031

## I. Item Identification

A. Federal Nomenclature Generator, Video, Trigger  
 B. FSN 4935-652-1231 SB C. P/N PS640900171-1  
 D. Mfr. Name and Code Number Martin-Marietta Corp. - 38597  
 E. Categorization Index No. 200031  
 F. Missile System \_\_\_\_\_  
 G. Next Assembly P/N's 258H9700005 & 258H9940000

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse, Pos.</u>	<u>.2 us width &amp; 12.36,</u>	5.	<u>Rect.+3V,+40V;12.37</u>	<u>us/W,210us PRR</u>
2.		<u>61.85,618.5 usec PRR</u>	6.	<u>Rect. +2V; 197.8us</u>	<u>width, 210us PRR</u>
3.	<u>Pulse, Neg; .25 us</u>	<u>width, 618.5usec PRR</u>	7.	<u>Rectangular +50V</u>	<u>10 cps</u>
4.	<u>Rectangular; 197.8us</u>	<u>width, 618.5usec PRR</u>	8.	<u>Mod. Sinusoidal</u>	<u>2 Kc, 10cps mod.</u>

## B. Functional Description

This multi-function generator achieves signal source activation through its intrinsic circuit characteristics and by application of input trigger pulses. The unit consists of a timing generator, a trigger generator, a video generator, and a blanking generator. The timing generator consists of controlled blocking oscillator circuitry and produces timing pulses of various widths, amplitudes, and recurrent rates. The video generator provides video outputs with range delay pulse width and pulse amplitude adjustment capabilities. Other video outputs consist of a 10 cps square wave and a 12.37 usec, 40-volt pulse for modulation of a klystron. A blanking generator provides a 2Kc—carrier frequency output amplitude modulated by a 10 cps sine wave. Operating voltages are supplied by a self-contained power supply.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

III. Input Signal Characteristics Input Trigger Pulse

## IV. Operating Voltage(s)

A. AC 120V, 60 cpsB. DC +28V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 17; Width 26; Depth 17-1/2  
 B. Configuration: Portable 7; Rack Mounted    ; Built Into Next Assembly    .

## VI. Reference Sources

Dept of the Air Force Technical Order 33D9-8-4-2, & -4

Functional Code Numbers: 113 115 123 125 214 224

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**STIMULUS SOURCE DELINEATION**

200032

**I Item Identification**

A. Federal Nomenclature Generator, Modulator Signal  
 B. FSN 4935-790-4770 C. P/N 9188053  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200032  
 F. Missile System Hawk  
 G. Next Assembly SNL J756-22: P/N's 9188233 and 10046510

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>	<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sinusoidal</u>	<u>30 cps or 40 cps</u>	5.	<u>Mod. Sinusoidal; 15 kc. AM at 40 cps</u>
2.	<u>Mod. Sinusoidal</u>	<u>17.5 kc. FM-AM</u>	6.	<u>Mod. White Noise; 2-120kc. AM at 40.cps</u>
3.	<u>Mod. Sinusoidal</u>	<u>35 kc. FM-AM</u>	7.	<u>Mod. Sinusoidal; 310kc. AM at 30 cps</u>
4.	<u>Mod. Sinusoidal</u>	<u>70 kc. FM-AM</u>	8.	<u></u>

B. Functional Description: This generator-modulator unit achieves signal source activation through its intrinsic circuit characteristics and provides two basic outputs: one a 30 cps or 40 cps sine wave; the other, a modulated signal variable in center frequency and amplitude. In the AF output mode, the output from an audio oscillator (30 cps or 40 cps) is coupled through a cathode follower directly to the AF output jack. In the composite or modulated signal mode, the cathode follower of output feeds into a deviation selector network and modulates an rf oscillator. This fm output and an external af-rf signal are coupled to an amplitude modulator stage whose output becomes an fm-am wave. The composite signal is amplified and coupled through the output cathode follower to an output attenuator for amplitude adjustment and final coupling to the output connector. In am operation, the rf oscillator is eliminated from the signal path providing amplitude modulation of the external af-rf signal input. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Input Signal Characteristics AF-RF signal of 275 cps, 2 kc, 15 kc, or 310 kc.****IV. Operating Voltage(s)**

A. AC 6.3 v. 400 cps.

B. DC +150 v. +28 V

**V. Mechanical Characteristics**

11.38 (including

A. Dimensions (inches): Height 5.12; Width 9.468; Depth Handles

B. Configuration: Portable ; Rack Mounted x; Built into Next Assembly .

**VI. Reference Sources**

DATM 9-4935-506-35/3: -35/4

Functional Code Numbers: 113 122 123

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200033

## I. Item Identification

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-788-2954 C. P/N 10046917  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200033  
 F. Missile System Hawk  
 G. Next Assembly SNL J756-22; P/N's 9188233 & 10046510; SNL J756-23; P/N's 9188165 & 10046509

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	<u>Classified information.</u>		5.	
2.	<u>See Reference Sources listed below.</u>		6.	
3.			7.	
4.			8.	

## B. Functional Description

This oscillator achieves signal source activation through its intrinsic circuit characteristics and develops two sine wave signals, 180 degrees out of phase with respect to each other. Basically, the unit consists of a Wien bridge oscillator, a paraphase amplifier, and a cathode follower output stage. The sine wave output from the oscillator is applied to the paraphase amplifier which produces the two signals 180° out of phase. Each is applied to the output terminals through similar output circuits which utilize two cathode follower stages in parallel. See the Reference Source listed below for a detailed description of the unit.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

III. Input Signal Characteristics N/A

## IV. Operating Voltage(s)

A. AC 6.3 V, 400 cpsB. DC +150 V, -150 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 5-1/4; Width 9-1/2; Depth 11-9/16  
 B. Configuration: Portable     ; Rack Mounted     ; Built Into Next Assembly X.

## VI. Reference Sources

DATM 9-4935-506-35/1; -35/2

Functional Code Number: 122



MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200034

**I. Item Identification**

A. Federal Nomenclature Oscillator, Radio Frequency  
 B. FSN 4935-962-7760 C. P/N 9997863  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200034  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL J784-1: P/N 9997862

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	_____	_____	5.	_____	_____
2.	_____	_____	6.	_____	_____
3.	_____	_____	7.	_____	_____
4.	_____	_____	8.	_____	_____

**B. Functional Description**

This oscillator achieves signal source activation through its intrinsic circuit characteristics. This unit generates sine waves utilizing 12 crystals in the circuit for frequency control. Frequencies are selected by remote switching control. The sine wave developed by the crystal and oscillator tube is applied to a pre-selected LC network and fed to parallel connected cathode followers to two output connectors at a level of approximately 35V rms. Crystal frequency is adjustable to within two per cent of the fundamental. Operating voltages are supplied externally. This oscillator unit replaces RF oscillator unit P/N 9980622.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Input Signal Characteristics N/A****IV. Operating Voltage(s)**

A. AC 6 3V, 400 cps  
 B. DC +250V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 6-3/64; Width 8-1/2; Depth 3-1/16  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly X.

**VI. Reference Sources**

Dept of the Army Technical Manuals TM 9-4940-252-34/3 and TM 9-4940-252-35/2

Functional Code Number: 122

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200035

## I. Item Identification

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-439-8211 C. P/N 8153130  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200035  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL's J752 & J783: P/N 9008074

## II. Stimulus Characteristics

A.	Waveform	Time Function	5.	Waveform	Time Function
1.	<u>Sinusoidal cw</u>	<u>8500 to 9600 mc</u>	5.		
2.			6.		
3.			7.		
4.			8.		

## B. Functional Description

This signal generator achieves signal source stimulation through its intrinsic electro-mechanical circuit characteristics and utilizes one mode of operation to develop a sinusoidal cw output. This generator comprises a semi-conventional reflex klystron oscillator principal utilizing a flexible diaphragm to vary the size of the resonant cavity and provide a variable frequency output. The degree of conduction through the tuner triode section of the reflex oscillator tube indirectly controls movement of the diaphragm. A dc control potential on the tuner triode grid provides variable conduction through the tube section. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note: \_\_\_\_\_

III. Input Signal Characteristics +15 Volt, 10 sec pulse; -35 Volt 10 sec pulse

## IV. Operating Voltage(s)

A. AC 6.3 V  
 B. DC +320 V. See reference sources below for additional operating voltage requirements.

## V. Mechanical Characteristics

A. Dimensions (inches): Height 4-23/32; Width 4-9/16; Depth 4-25/64  
 B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-251-34/4, & TM 9-4940-251-35, &  
TM 9-4940-251-35/3

Functional Code Numbers: 122

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

206036

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-977-5568 C. P/N 9993858  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200036  
 F. Missile System Nike-Ajax, -Hercules & -Hercules (Imp.)  
 G. Next Assembly SNL J734: P/N 9980674

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sinusoidal, cw</u>	<u>20 mc/s</u>	5.		
2.	<u>Sinusoidal, moc.</u>	<u>20 mc/s, 40 usec</u>	6.		
3.			7.		
4.			8.		

## B. Functional Description

This pulse generator utilizes two modes of operation and develops two forms of output voltages with self-contained stimulus generating circuitry. A control pentode and gating triode tubes operate in conjunction with a diode to control the "on-off" operation of the oscillator circuit. In the pulse mode, a positive input pulse causes the gating tube to conduct. This lowers the common plate-cathode potential of the gating and control tubes and reverse-biases the diode which removes the resistive loading on the oscillator transformer allowing the circuit to oscillate for the duration of the input pulse. The rf voltages are amplified and applied to the output jack through a coupling transformer. In the cw mode, operation of a relay circuit removes plate voltage from the control pentode tube. This places a reverse bias on the diode and allows the oscillator to operate continuously. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note: This signal generator supersedes signal generator P/N 9980222

III. Input Signal Characteristic 40 usec, +30 Volt gate pulse

## IV. Operating Voltage(s)

A. AC 6.3 V, 400 cps  
 B. DC +250 V; +150 V; -250 V; -28 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 1.5; Width 8.5; Depth 6.02  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM9-4940-252-34/2 & TM9-4940-252-35/1

MIL-HDBK-142A

ESC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200037

## I. Item Identification

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-083-8245 C. P/N 9993860  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200037  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL J784-1; P/N 9980674

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sinusoidal, cw</u>	<u>30 mc/s</u>	5.		
2.	<u>" "</u>	<u>30 mc/s, 40 usec</u>	6.		
3.			7.		
4.			8.		

## B. Functional Description

This pulse generator utilizes two modes of operation and develops two forms of output voltages with self-contained stimulus generating circuitry. A control pentode and gating triode tubes operate in conjunction with a diode to control the "on-off" operation of the oscillator circuit. In the pulse mode, a positive input pulse causes the gating tube to conduct. This lowers the common plate-cathode potential of the gating and control tubes and reverse-biases the diode which removes the resistive loading on the oscillator transformer allowing the circuit to oscillate for the duration of the input pulse. The rf voltages are amplified and applied to the output jack through a coupling transformer. In the cw mode, operation of a relay circuit removes plate voltage from the control pentode tube. This places a reverse bias on the diode and allows the oscillator to operate continuously. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note: This generator supersedes generator P/N 9980221

III. Input Signal Characteristics 40 usec, +30 Volt gate pulse

## IV. Operating Voltage(s)

A. AC 6.3 V, 400 cps  
 B. DC +250 V; +150 V; -250 V; -28 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 6.02; Width 7.5; Depth 8.5  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-252-34/2 & TM 9-4940-252-35/1

Functional Code Numbers: 122 223

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200038

**I. Item Identification**

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-977-5567 C. P/N 9993962  
 D. Mfr. Name and Code Number 00006  
 E. Categorization Index No. 200038  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL J784: P/N 9980674

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sinusoidal, cw</u>	<u>12 mc/s</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>" mod</u>	<u>12 mc/s, 40 used</u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>                    </u>	<u>                    </u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>	<u>                    </u>

**B. Functional Description**

This pulse generator utilizes two modes of operation and develops two forms of output voltages with self-contained stimulus generating circuitry. A control pentode and gating triode tubes operate in conjunction with a diode to control the "on-off" operation of the oscillator circuit. In the pulse mode, a positive input pulse causes the gating tube to conduct. This lowers the common plate-cathode potential of the gating and control tubes and reverse-biases the diodes which removes the resistive loading on the oscillator transformer allowing the circuit to oscillate for the duration of the input pulse. The rf voltages are amplified and applied to the output jack through a coupling transformer. In the cw mode, operation of a relay circuit removes plate voltage from the control pentode tube. This places a reverse bias on the diode and allows the oscillator to operate continuously. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**N/A

Note: This signal generator supersedes signal generator P/N 9980223

**III. Input Signal Characteristics** 40 usec, +30 Volt gate pulse**IV. Operating Voltage(s)**

A. AC 6.3 V., 400 cps  
 B. DC +250 V.; +150 V.; -250 V.; -28 V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 1.5; Width 8.5; Depth 6.02  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly X.

**VI. Reference Sources**

Dept of the Army Technical Manual TM 9-4940-252-34/2 & TM 9-4940-252-35/1

Functional Code Numbers: 122 223

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**STIMULUS SOURCE DELINEATION**

200039

**I. Item Identification**

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-569-1756 C. P/N 8171572  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200039  
 F. Missile System Nike-Ajax, -Hercules & -Hercules (Imp.)  
 G. Next Assembly SNL Y004-3: P/N 8158387, SNL Y039: P/N 8512051 & SNL Y177: P/N 9141141

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse Modulated</u>		5.		
2.	<u>Sinusoidal</u>	<u>60 mc</u>	6.		
3.			7.		
4.			8.		

**B. Functional Description**

This generator achieves signal source activation by application of input trigger pulses. The input pulses trigger a phantastron circuit, which in turn triggers a blocking oscillator circuit. The blocking oscillator, pulse generator, and modulator circuits work together to control the tuned-grid, untuned plate oscillator circuit. The resulting output consists of 60 mc pulses having a closely controlled pulse width. The amplitude of the output can be varied from 0 to 50 db in 1 db steps. Details on the pulse width and circuits operation are classified.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Input Signal Characteristics** Input trigger pulses. Provisions are made for delaying in input trigger pulses.**IV. Operating Voltage(s)**

A. AC 6.3 Vac, 400 cps  
 B. DC +250 V; +150 V; -25 V; -250 V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X.

**VI. Reference Sources**

Dept of the Army Technical Manual TM 9-1430-258-34, TM 9-1430-252-35 & TM 9-5020-2;  
WTCGM Dwg Nos. 8171572 & 8511524

Functional Code Numbers: 213 223

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELIBERATION**

200040

**I. Item Identification**

A. Federal Nomenclature Generator, Crystal Frequency  
 B. FSN 4935-978-0637 C. P/N 10018708  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200040  
 F. Missile System Sergeant  
 G. Next Assembly SNL Y157-1: P/N 10102559; SNL Y164-1: P/N 10102031, & SNL J760-10:  
P/N 10398686

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Rectangular +3 V</u>	<u>32 kc/s</u>	5.	<u></u>	<u></u>
2.	<u></u>	<u></u>	6.	<u></u>	<u></u>
3.	<u></u>	<u></u>	7.	<u></u>	<u></u>
4.	<u></u>	<u></u>	8.	<u></u>	<u></u>

**B. Functional Description**

This crystal frequency generator achieves signal source stimulation through its intrinsic circuit characteristics and utilizes one mode of operation to develop a square wave output signal. Application of operating voltage excites a crystal oscillator circuit whose output is amplified and shaped to provide a three volt (3 V) RMS square wave output. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**N/ANote: **III. Input Signal Characteristics**N/A**IV. Operating Voltage(s)**A. AC 115 V acB. DC +30 V**V. Mechanical Characteristics**A. Dimensions (inches): Height 3.27; Width 2.02; Depth 2.02B. Configuration: Portable ; Rack Mounted ; Built into Next Assembly X.**VI. Reference Sources**Aperture Card Drawing. Approved Mfr. Source: Hill Electronic, Inc.

Functional Code Numbers: 114 124

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200041

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-472-8890 C. P/N 9154976  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200041  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL J784-1: P/N 9995964

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	Rectnglr, -28V	20 pps, 35 ms	5.	
2.	Rectnglr	1 pps, 50-90 ms	6.	
3.			7.	
4.			8.	

## B. Functional Description

This pulse generator utilizes a single mode of operation and develops negative 28 volt pulses with self-contained stimulus generating circuitry. The pulse is formed and applied to the output when a transistor normally held at cutoff begins to conduct and actuates a relay whose contacts transfer an externally supplied -28 volts to the output terminal for a length of time determined by the circuit constants. Conduction of a second transistor disables the pulse generating circuit by developing a negative bias at the base of the pulse generating transistor. Pulse width and repetition rate are internally adjustable to meet the automatic and manual external switching requirements. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

This unit contains a full-wave rectifier and relay circuit which develops -28 volts from a 120 V, 400 cps source.

Note: \_\_\_\_\_

## III. Input Signal Characteristics

N/A

## IV. Operating Voltage(s)

A. AC 120 V, 400 cps

B. DC -28 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 1.5; Width 8.5; Depth 6.72  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-252-34/3 & TM9-4940-252-35/2

Functional Code Numbers: 114 124

-25



MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200042

## I. Item Identification

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-439-8220 C. P/N 8151260  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200042  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL's J029-4B, J752 & J783: P/N 8514750

## II. Stimulus Characteristics

A.	Waveform	Time Function		Waveform	Time Function
1.	Rectnglr, +80V	1000 cps	5.		
2.	" , +30V	475 u sec	6.		
3.	" , +100V	475 u sec	7.		
4.	" , +210V	500 u sec	8.		

B. Functional Description: This signal generator achieves signal stimulation by application of an input trigger pulse and through its intrinsic circuit characteristics and utilizes one basic mode of operation to develop four output pulses. On the basis of a trigger function, a positive pulse train passes through two amplifier-inverter stages and two tandem blocking diodes to a 2:1 binary frequency division stage. The output is differentiated and passed through tandem switching tubes to another 2:1 binary frequency division stage. One binary output is applied directly to an output jack. The other is fed through two amplifier stages and applied to the output jacks from a voltage divider network in the final amplifier plate circuit. Two of these three outputs are variable in amplitude. As an intrinsic circuit function, selected through manual switching a variable frequency a stable multivibrator generates a negative pulse train which is applied to the above circuitry to produce the same output signal characteristics. Operating voltages are supplied externally.

## C. Additional Functional Capability

N/A

Note:

III. Input Signal Characteristics Positive trigger pulses

## IV. Operating Voltage(s)

A. AC 6.3 V  
 B. DC +320V; +250V; +150 V; -250V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 6-1/8; Width 9-3/8; Depth 6-29/32  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-251-34/3 & TM 9-4940-251-35/2

Functional Code Numbers: 114 124 214 224

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200043

## I. Item Identification

A. Federal Nomenclature Unit, Reference, Control, Automatic  
 B. FSN 4935-604-8387 C. P/N 8151460  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200043  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL;s J029-4B, J752, & J783: P/N 8514790

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	Rectnglr +15V -35V	Alternating @ 10 sec	5.	
2.		intervals	6.	
3.	Sinusoidal, cw	1000cps	7.	
4.			8.	

B. Functional Description: This reference control unit achieves signal source stimulation by application of an input signal and through its intrinsic circuit characteristics and utilizes two modes of operation to develop a sinusoidal and a positive and negative pulse series output. In the pulse mode, a phantastron circuit generates a negative pulse every ten (10) seconds and through a pulse selector circuit, applies the negative trigger to the conducting section of a bistable multivibrator to switch its conducting state. A similar coincident action is produced by a 1000 pps demodulated input signal and a 1000 cps oscillator signal which are properly conditioned by amplifier-inverter and phase splitter circuitry, respectively, and applied to coincidence tubes which, on proper phase sequence of the 1000 cps and 1000 pps inputs, will conduct and trigger the bistable multivibrator. The multivibrator output provides a controlling circuit, with regenerative feedback sustaining oscillation, develops the 1000 cps sine wave as a direct output in addition to the application described above. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note:

III. Input Signal Characteristics 1000 pps demodulated pulses

## IV. Operating Voltage(s)

A. AC 6.3 V  
 B. DC +320 V; +150 V; -250 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 3 7/8; Width 3-1/8; Depth 17-1/16  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-251-34/4, and TM 9-4940-251-35

Functional Code Numbers: 114 122 124 214 224

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200044

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-441-2104 C. P/N 9143322  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200044  
 F. Missile System Nike-Ajax, -Hercules & -Hercules (Imp.)  
 G. Next Assembly SNL J751: P/N 8514490 & SNL J782: P/N 9983978

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	pulse, -12V	3 u sec	5.	
2.	Rectnglr, +	120 u sec	6.	
3.	pulse, -15V	22.5 u sec, 20 pps	7.	
4.	Rectnglr, positive	600 or 1200 us, 20pps	8.	

B. Functional Description: This pulse generator achieves signal source stimulation by application of an input trigger pulse and through its intrinsic circuit characteristics and utilizes three modes of operation to develop four output pulses. In one mode an input switch selects an input to trigger a multivibrator whose positive output is fed through a cathode follower, amplified, and applied to the output jack as a negative 3 u sec pulse. In the variable-polarity pulse mode, the input switch selects two inputs which are amplified and applied to opposite ends of a bistable multivibrator. The multivibrator is switched into opposite conducting states, by the two inputs and the output polarity is determined by a reversing switch. Pulse amplitude is adjustable. In the third mode, another position of the input switch synchronizes an astable multivibrator. In all other switch positions, the multivibrator is free-running at 20 pps and produces two outputs. One is differentiated and inverted; the other is applied directly to the output jack as a rectangular pulse through an adjustable attenuator. Pulse width is adjustable for either condition. Operating voltages are supplied externally.

C. Additional Functional Capabilities

N/A

Note:

III. Input Signal Characteristics .5 u sec pulse, 18-volt positive pulse; 1.25 u sec, 60-volt positive pulse; .75 u sec, 60-volt positive pulse; 0.1 u sec, 70-volt positive pulse.

## IV. Operating Voltage(s)

A. AC 6.3 V  
 B. DC +28 V; +250 V; -250 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 3-15/32; Width 19; Depth 10-11/16  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-250-35/3 & TM 9-4940-250-34/4

Functional Code Numbers: 114 124 125 214 224 225

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200045

**I. Item Identification**

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-604-8991 C. P/N 9980767  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200045  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL J784: P/N 9983589

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Rectnglr., +110V</u>	<u>2300 us, 9200 us</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>                    </u>	<u>interval</u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>                    </u>	<u>                    </u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>	<u>                    </u>

**B. Functional Description**

This pulse generator achieves signal source stimulation through intrinsic circuit characteristics and utilizes a single mode of operation to develop a timed output pulse. The circuitry consists of a free-running multivibrator and a parallel connected cathode follower stage. Variable resistors in the respective grid RC coupling networks control the cut-off time for respective multivibrator sections and determine the pulse width and pulse interval as applied to the output cathode follower. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**N/ANote:                                     **III. Input Signal Characteristics** N/A**IV. Operating Voltage(s)**A. AC 6.3V, 400 cpsB. DC +250V; +150V; -250V**V. Mechanical Characteristics**A. Dimensions (inches): Height 1.5; Width 8.5; Depth 5.56B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly X.**VI. Reference Sources**Dept of the Army Technical Manual TM 9-4940-252-34/3 & TM 9-4940-252-35/2

Functional Code Numbers: 124

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200046

## I. Item Identification

A. Federal Nomenclature Unit, Control, Automatic  
B. FSN 4935-604-9666 C. P/N 8151340  
D. Mfr. Name and Code Number 00000  
E. Categorization Index No. 200046  
F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
G. Next Assembly SNL's J029-4E, 752, & 783: P/N 8514790

## II. Stimulus Characteristics

A.		B.	
<u>Waveform</u>	<u>Time Function</u>	<u>Waveform</u>	<u>Time Function</u>
1. <u>Rectnglr, +15, -35V</u>	<u>Alternating @ 10 sec</u>	5. _____	_____
2. _____	<u>intervals</u>	6. _____	_____
3. _____	_____	7. _____	_____
4. _____	_____	8. _____	_____

B. Functional Description: This automatic control unit achieves signal source stimulation by application of an input signal and through intrinsic circuit characteristics and utilizes these two modes of operation to produce a series of alternately positive and negative pulses with polarity reversal every ten seconds. An input IF signal, approximately 60 mc is applied to a 60 mc, discriminator whose varying d.c. output controls the conduction state of a bistable multivibrator. The multivibrator output positive and negative pulses are applied through the output jack to external circuitry. In the intrinsic circuit mode a phantastron circuit which reverses polarity of the output series of alternately positive and negative pulses generates a negative pulse every ten seconds and through a pulse selector circuit applies the negative pulse to the conducting section of the bistable multivibrator switching its conduction state. The 10 second interval between negative pulses is adjusted by a variable resistor in the phantastron grid return circuit. Operating voltages are supplied externally.

### C. Additional Functional Capabilities

N/A

**Note:**

III. Input Signal Characteristics IF Signal, variable in frequency about 60 mc reference

## IV. Operating Voltage(s)

A. AC 6.3 V

B. DC +320 V; +150 V; -250 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 3-3/4 ; Width 1-3/4 ; Depth 17-1/16  
B. Configuration: Portable        ; Rack Mounted        ; Built into Next Assembly x .

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-251-34/4, and TM 9-4940-251-35

Functional Code Numbers: 124 224

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200047

## I. Item Identification

A. Federal Nomenclature Simulator, Radar Target  
 B. FSN 4935-739-6756 C. P/N 10045200  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200047  
 F. Missile System Hark  
 G. Next Assembly SNL YL2202: P/N 9187955

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sinusoidal, Modulated</u>	<u>SSB</u>	5.		
2.	<u>Classified information, Refer to</u>		6.		
3.	<u>reference source listed below.</u>		7.		
4.			8.		

B. Functional Description: This radar target simulator achieves signal source stimulation through its intrinsic circuit characteristics and utilizes two basic modes of operation to develop a modulated output signal. In the RF shift mode, an oscillator circuit generates a fixed-frequency signal which is applied to an input FM signal to produce an RF shift simulating the doppler shift in a radar target echo. In the gated noise mode, a sawtooth signal variable in pulse width and repetition rate is applied to a variable noise generating circuit. The outputs from both operating modes are applied to a selector switch which applies either signal or a composite signal to a microwave assembly. In this section, the modulating signal modulates the received or input RF signal and produces a microwave modulated output for transmission to the radar equipment under test. Since this equipment is classified, information and data provided here is limited. Refer to reference source listed below for a detailed description.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

III. Input Signal Characteristics cw, FM signal

## IV. Operating Voltage(s)

A. AC 115 V., 400 cps, 1  $\phi$

B. DC \_\_\_\_\_

## V. Mechanical Characteristics

A. Dimensions (inches): Height 21.125; Width 22.125; Depth 15.750  
 B. Configuration: Portable X; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4935-501-12/2

Functional Code Numbers: 123

126

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200048

**I. Item Identification**

A. Federal Nomenclature Generator, Frequency  
 B. FSN 4935-535-3537 C. P/N 8514360  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200048  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL's J752 & J783: P/N 8514690

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>dc, +</u>	<u>N/A</u>	5.	<u></u>	<u></u>
2.	<u></u>	<u></u>	6.	<u></u>	<u></u>
3.	<u></u>	<u></u>	7.	<u></u>	<u></u>
4.	<u></u>	<u></u>	8.	<u></u>	<u></u>

B. Functional Description: This phase comparator achieves signal source stimulation by application of input trigger voltages and combines two modes of operation to develop positive and negative error voltages. In the measure pulse mode, a positive input pulse triggers a shock excited 500 kc oscillator whose output is amplified and fed through a cathode follower circuitry to a detector transformer primary as the measure signal for phase comparison. In the reference signal mode, a 500 kc input square wave triggers a resonant tuned network whose 500 kc output signal is fed through a phase inverter and phase-shift network to a cathode follower. The cathode follower output is applied to the secondary of the detector transformer as a reference signal for phase comparison. The output of the detector is a dc voltage corresponding to the phase displacement between the two input signals, and is applied to a differential voltmeter which differentiates the dc voltage and applies an error voltage to output connectors. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**N/ANote: **III. Input Signal Characteristics** .25 u sec, +40 Volt Trigger pulse; 2.1 Volt, 500 kc square wave.**IV. Operating Voltage(s)**

A. AC 6.3V  
 B. DC +320V; -250V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 13-11/16; Width 6; Depth 6-11/16  
 B. Configuration: Portable ; Rack Mounted ; Built into Next Assembly X.

**VI. Reference Sources**Dept of the Army Technical Manual TM 9-4940-251-35/2, & TM 9-4940-251-34/3

Functional Code Numbers: 211

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200049

## I. Item Identification

A. Federal Nomenclature Amplifier-Oscillator  
 B. FSN 4935-806-1026 C. P/N 9988567  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200049  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL's J751 & J782: P/N 8514550

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Mod. Sinusoidal</u>	<u>81.947 kc</u>	5.	<u></u>	<u></u>
2.	<u></u>	<u></u>	6.	<u></u>	<u></u>
3.	<u></u>	<u></u>	7.	<u></u>	<u></u>
4.	<u></u>	<u></u>	8.	<u></u>	<u></u>

B. Functional Description: This oscillator unit achieves signal source activation by application of an input sync pulse and produces a sine wave output that lasts for 1600 microseconds. The amplifier-oscillator consists of a monostable multivibrator whose negative square wave output is applied to a shock-excited oscillator and a resonant LC network which determines the 81.947 Kc sine wave output. The output of the oscillator is coupled to a driver stage to a phase splitting network which produces four signals each 90 degrees out of phase with the adjacent phase. These four quadrature voltages are applied to the stator plates of a phase shift capacitor whose output is a sine wave continuously variable in phase with respect to the shock-excited oscillator output. The highly attenuated phase shifter output is amplified to a usable level before it is coupled capacitively to the output connector. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

Note:

III. Input Signal Characteristics 1.5 u sec, +30V sync pulse

## IV. Operating Voltage(s)

A. AC 6.3V, 400 cpsB. DC +250V, +150V, -250V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 12-13/16; Width 8; Depth 8  
 B. Configuration: Portable ; Rack Mounted ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manuals TM9-4940-250-34 & TM9-4940-250-35

Functional Code Numbers: 213 223



MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**STIMULUS SOURCE DELINEATION**

200050

**I. Item Identification**

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-613-8832 C. P/N 9004247  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200050  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL Y030: P/N 9143375

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sinusoidal, Mod.</u>	<u>8500-9600 mc/s</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>                    </u>	<u>Mod. Rate propor-</u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>                    </u>	<u>tional to input</u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>pulse</u>	8.	<u>                    </u>	<u>                    </u>

**B. Functional Description**

This signal generator achieves signal source activation by application of an input trigger pulse and produces an RF output consisting of a train of continuous wave pulses. A positive input trigger pulse causes conduction of a clamper diode which triggers a klystron oscillator by optimizing its operating voltages. The klystron oscillates only for the duration of the trigger pulse and produces an RF continuous wave output with a frequency selective between 8500 mc/s to 9600 mc/s. A tracking network, mechanically linked to the frequency control, assures application of proper voltages to the klystron as the frequency is varied. Operating voltages are supplied externally. This signal generator supersedes generator P/N 8158148.

**C. Additional Functional Capabilities**

Note: This generator supersedes generator P/N 8158148.

**III. Input Signal Characteristics Positive trigger pulse.****IV. Operating Voltage(s)**

A. AC 6.3 V, 400 cps

B. DC +300 V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 9-29/64; Width 6-23/32; Depth 3  
 B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly X.

**VI. Reference Sources**

DATM 9-1430-250-35, -259-34

Functional Code Number: 222

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200051

## I. Item Identification

A. Federal Nomenclature Generator, SweepB. FSN 4935-446-6084C. P/N 9138256D. Mfr. Name and Code Number 00000E. Categorization Index No. 200051F. Missile System Nike-Ajax, -Hercules, and -Hercules (Imp)G. Next Assembly SNL J752: P/N 8514680 and SNL J783: P/N 9983979

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Rectangular</u>		5.		
2.			6.		
3.			7.		
4.			8.		

B. Functional Description: This unit has two channels of operation and utilizes two modes of signal source activation to produce two calibrated square wave outputs per channel. One channel achieves signal source activation by a sync trigger input pulse. The other channel achieves signal source activation by either a sync trigger input or thru intrinsic circuit characteristics. In the trigger input mode both channels have similar circuitry and operate in the same manner. Dual amplifiers invert the positive input pulse to trigger a bistable multivibrator whose square wave is fed 180° out of phase to dual cathode followers. The output square waves are applied to selected output connectors through a selector switch. In the intrinsic circuit mode an astable multivibrator feeds square wave outputs 180° out of phase to dual cathode followers whose output then triggers a 10 to 1 beam switching tube which serves as the internal trigger source. Operating voltages for this unit are supplied externally.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

III. Input Signal Characteristics Sync trigger input pulse.

## IV. Operating Voltage(s)

A. AC 120V, 400 cpsB. DC +320V; +150V; -250V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 6-15/16; Width 19-7/8; Depth 13B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly     .

## VI. Reference Sources

DA TM 9-4940-251-34 and -35

Functional Code Numbers: 124 224

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200052

**I. Item Identification**

A. Federal Nomenclature Amplifier, Sweep Generator  
 B. FSN 4935-522-0716 C. P/N 8514650  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200052  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL J751: P/N 8514490; SNL J782: P/N 9983978

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Rectangular, 2V</u>	<u>Function of input</u>	5.		
2.	<u>Trapezoidal, 2V</u>	<u>Function of input</u>	6.		
3.			7.		
4.			8.		

**B. Functional Description**

This amplifier unit contains a signal source which is activated by application of an input trigger pulse. The unit produces a 2-volt square wave and two trapezoidal sweep voltage outputs. The input pulse triggers a one-shot multivibrator whose positive square wave output is clamped and applied to a cathode follower. The positive square wave output from the cathode follower is applied to the output connector and to two sweep generator circuits which provide trapezoidal output sweep voltages. The grid-circuit time constant in the one-shot multivibrator circuit is controlled by a variable resistor and capacitor selection. The amplitude and duration of the sawtooth sweep voltages are manually controlled by a variable resistor charge limiter and by a range switch, respectively. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**

This unit contains amplifier capability - amplifies video and range mark inputs.

Note: \_\_\_\_\_

**III. Input Signal Characteristics** input trigger pulse, +40 volts**IV. Operating Voltage(s)**

A. AC 6.3V, 400 cps  
 B. DC +250V, +150V, -250V, -28V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 5-7/32; Width 19; Depth 7-3/16  
 B. Configuration: Portable     ; Rack Mounted X; Built into Next Assembly     .

**VI. Reference Sources**

Dept of the Army Technical Manuals TM 9-4940-250-34 and TM 9-4940-250-35

Functional Code Numbers: 214 216 224 226

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200053

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-774-6236 C. P/N 9140745  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200053  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL J753-2: P/N 9140754

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	Rectnqlr, 110V	var. pulse width	5.	
2.	Pulse, positive	var. delay, .8 usec	6.	
3.			7.	
4.			8.	

## B. Functional Description

This generator utilizes two modes of operation and develops two output pulses after application of a positive input trigger pulse. In the pulse width mode, the input pulse causes plate current flow in a phantastron whose positive output pulse is amplified and applied to an amplifier clipper-limiter circuit. The positive square wave output is then applied as a variable width pulse at the output jack. In the delay mode the input pulse triggers a delay phantastron whose positive output is amplified and fed through a cathode follower and clipping network to produce a sharp positive variable delay pulse at the output jack. The variable pulse width and delay are obtained by remote adjustment of variable resistor which controls conduction of a cathode follower whose cathode potential sets the initial plate voltage of the phantastrons. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note:

III. Input Signal Characteristics Positive trigger pulse

## IV. Operating Voltage(s)

A. AC 6.3 VB. DC +300 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 10.50; Width 5.74; Depth 3.90  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4935-252-34/2 &amp; TM 9-4935-252-35

Functional Code Numbers: 214 224

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200054

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-962-7761 C. P/N 9997968  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200054  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL J784: 9980171

## II. Stimulus Characteristics

A.	Waveform	Time Function	5.	Waveform	Time Function
1.	Rectnglr., +25 V	2 to 25 usec wide	5.		
2.			6.		
3.			7.		
4.			8.		

## B. Functional Description

This pulse generator achieves signal source stimulation by application of an input trigger pulse and utilizes a single mode of operation to develop a positive square wave gate pulse. A positive input trigger pulse drives a gate circuit into conduction and with special transformer coupling the generator utilizes bootstrap, multiar, and binary circuitry to produce the gate pulse of the low impedance cathode follower output. A variable negative dc potential as set by an externally programmed voltage divider network provides controlling bias voltage to the multiar control grid circuit and varies the output pulse width from 2 to 25 microseconds. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note: This generator supersedes generator P/N 9995997.III. Input Signal Characteristics Positive trigger pulse.

## IV. Operating Voltage(s)

A. AC 6.3 V., 400 cps  
 B. DC +250 V; +150 V; -250 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 1.5; Width 8.5; Depth 5.5  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-252-34/3 &amp; TM 9-4940-252-35/2

Functional Code Numbers: 214 224

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200055

## I. Item Identification

A. Federal Nomenclature Control, Scribe Time  
 B. FSN 4935-064-6467 C. P/N 9993989  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200055  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL J784-1; P/N's 9996182 or 9996606

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Rectnglr., +200 V</u>	<u>200 u sec</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>                    </u>	<u>                    </u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>                    </u>	<u>                    </u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>	<u>                    </u>

## B. Functional Description

This scribe time control achieves signal source stimulation by application of an input trigger pulse and utilizes a single mode of operation to develop an output timing pulse. A positive input gate pulse is amplified, inverted, and applied to the first of three binary and counter or beam switching tube stages which produce one output pulse for every 1000 input pulses. Interstage diode rectification assures the application of negative pulses to the binary control grids. The negative pulse produced by the final counter tube stage is RC coupled to an amplifier-inverter stage and applied as a positive pulse to the output terminals. Operating voltages are supplied externally.

C. Additional Functional Capabilities  
N/A

Note: This test equipment supersedes equipment P/N 9993750

III. Input Signal Characteristics 1.5 usec, +35 Volt gate pulse

## IV. Operating Voltage(s)

A. AC 6.3 V, 400 cps  
 B. DC +250 V; +150 V, reg.; -100 V; -25 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 6.770; Width 3.062; Depth 8.5  
 B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-252-34 & TM 9-4940-252-35

Functional Code Numbers: 214 224

MIL-HDBK-142A  
FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200056

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-962-7772 C. P/N 9991107  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 20056  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL J784: P/N 9980070

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	Rectnglr., +68V	10 ns rise time	5.	
2.			6.	
3.			7.	
4.			8.	

## B. Functional Description

This pulse generator utilizes a single mode of operation and develops a near perfect square wave output after application of input trigger pulses. Separate input triggers are amplified and applied to a bistable multivibrator. The amplifier inputs are then combined with the multivibrator output and fed through a cathode follower to the output jack. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note: This test equipment item supersedes equipment P/N 9993864.

III. Input Signal Characteristics two 1.5 usec, +70 Volt trigger pulses

## IV. Operating Voltage(s)

A. AC 6.3 V, 400 cps  
 B. DC +250 V, variable; +150 V variable; +250 V; +150 V; -250 V; -28 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 3.062; Width 8.5; Depth 5.5  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-252-34/2, TM 9-4940-252-34/3  
TM 9-4940-252-35/1, TM 9-4940-252-35/2

Functional Code Numbers: 214 224

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200057

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-593-8191 C. P/N 9980774  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200057  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL's J784 & J784-1: P/N's 9993859 or 9993685

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Rectnglr., -100 V</u>	<u>up to 500 pps</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>                    </u>	<u>                    </u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>                    </u>	<u>                    </u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>	<u>                    </u>

## B. Functional Description

This pulse generator achieves signal source stimulation by application of an input trigger pulse and utilizes a single mode of operation to develop a negative gate pulse. The input pulse triggers a phantastron circuit which generates an 80 microsecond internally adjustable pulse. The positive pulse at the phantastron screen is amplified, inverted, and applied to parallel connected cathode follower grids. The negative output pulse is taken from the cathodes and applied to the output jack. A repetition rate up to 500 pps may be used. Operating voltages are supplied externally.

C. Additional Functional Capabilities  
N/ANote:                                     III. Input Signal Characteristics Positive trigger pulse

## IV. Operating Voltage(s)

A. AC 6.3 V, 400 cps  
 B. DC +250 V; +150 V; -28 V; & -250 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 5.56; Width 1.5; Depth 8.5  
 B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-252-34/3 & TM 9-4940-252-35/2

Functional Code Numbers: 214 224

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200058

**I. Item Identification**

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-440-3242 C. P/N 9139938  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200058  
 F. Missile System Nike-Ajax, -Hercules & -Hercules (Imp.)  
 G. Next Assembly SNL J751: P/N 8514299 & SNL J782: P/N 9983984

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Classified Information.</u>		5.		
2.	<u>See reference source</u>		6.		
3.	<u>below for detailed</u>		7.		
4.	<u>information.</u>		8.		

**B. Functional Description**

This pulse generator is presently listed as confidential (MHA) and all information concerning input and output characteristics is classified. See the reference source below for a detailed and functional description of this equipment.

**C. Additional Functional Capabilities**N/A

Note: \_\_\_\_\_

**III. Input Signal Characteristics****IV. Operating Voltage(s)**

A. AC \_\_\_\_\_

B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

**VI. Reference Sources**Dept of the Army Technical Manual TM 9-4940-250-34/2 & TM 9-4940-250-35/1

Functional Code Numbers: 214 224

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200059

## I. Item Identification

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-829-7480 C. P/N 8151070  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200059  
 F. Missile System Nike-Ajax, -Hercules, and -Hercules (Imp.)  
 G. Next Assembly SNL J751: P/N 8514490 and SNL J782: P/N 9983978

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Rectnglr. +8 V</u>	<u>function of input PRR</u>	5.		
2.			6.		
3.			7.		
4.			8.		

## B. Functional Description

This signal generator utilizes a single mode of operation and develops a square wave output after application of a positive input trigger pulse. Circuit operation involves an amplifier, blocking diodes, a bistable multivibrator, and a cathode follower. The positive input pulse is amplified, inverted, and applied through blocking diode circuitry to eliminate positive overshoot. The negative pulse triggers the multivibrator which remains in one state until triggered into the other. The repetition rate of the square wave output is equal to one-half the PRR of the trigger pulse. The square wave output is coupled to a cathode follower and from its cathode to the output jack. A variable resistor remotely controls the amplitude of the cathode follower output. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note:

III. Input Signal Characteristics 1 usec +30 V trigger pulse

## IV. Operating Voltage(s)

A. AC 6.3 V  
 B. DC +250 V; +150 V; -250 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 9; Width 4-1/2; Depth 3-15/16  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-250-34/4, TM 9-4940-250-35/3

Functional Code Numbers: 214 224

**MIL-HDBK-142A**  
**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**STIMULUS SOURCE DELINEATION**

200060

**I. Item Identification**

A. Federal Nomenclature Generator, Signal  
 B. FSN 4935-439-8212 C. P/N 8156967  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200060  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL:s J029-4B, J752, & J783: P/N 8514690

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Rectnglr. Cal. Volt</u>	<u>60 cps</u>	5.		
2.			6.		
3.			7.		
4.			8.		

**B. Functional Description**

This signal generator achieves signal source stimulation by application of a continuous alternating voltage and utilizes a single mode of operation to develop an output square wave voltage. The circuit consists of a chopper relay and associated voltage dividers. A 60 cycle voltage is superimposed on a dc bias voltage across the coil of the chopper relay, aiding the dc voltage such that each positive alternation energizes the relay at a 60 cps rate. The 60 cps square wave signal is coupled through a capacitor to the output jack. A control panel switch selects the precision dc voltages for conversion to ac voltages. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**N/A

Note: \_\_\_\_\_

**III. Input Signal Characteristics** 120 V, 60 cps**IV. Operating Voltage(s)**

A. AC N/A  
 B. DC +250V; -250V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 10-5/8; Width 8-11/16; Depth 6-11/16  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly X.

**VI. Reference Sources**

Dept of the Army Technical Manual TM 9-4940-251-34/3, and TM 9-4940-251-35/2

Functional Code Numbers: 214 224

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200061

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-446-6123 C. P/N 8151360  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200061  
 F. Missile System Nike-Ajax, -Hercules, and -Hercules (Imp.)  
 G. Next Assembly SNL J752: P/N 8519690 and SNL J783: P/N 8514750

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	<u>Rectnglr +24V</u>	<u>function of input</u>	5.	<u>                    </u>
2.	<u>                    </u>	<u>                    </u>	6.	<u>                    </u>
3.	<u>                    </u>	<u>                    </u>	7.	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>

## B. Functional Description

This pulse generator utilizes a single mode of operation and develops an output pulse of variable pulse duration after application of a positive input trigger pulse. A negative input pulse is amplified and applied to a cathode follower grid, increasing plate current flow and corresponding cathode potential of the cathode follower. The positive pulse developed at the cathode is applied to the output jack. The input pulse is variable in pulse duration from 20 to 200 usec. A variable resistor in plate circuit of the cathode follower controls the amplitude of the output pulse. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/ANote:                     III. Input Signal Characteristics 1.5 Sec. +36V trigger pulse

## IV. Operating Voltage(s)

A. AC 6.3V  
 B. DC +150V; +250V; -250V; -28V

## V. Mechanical Characteristics

A. Dimensions (inches): Height                     ; Width                     ; Depth                       
 B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-251-34/3, and TM 9-4940-251-34/3

Functional Code Numbers: 214 224

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200062

**I. Item Identification**

A. Federal Nomenclature Control, Electronic  
 B. FSN 4935-535-3539 C. P/N 8514370  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200062  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL's J752 & J783: P/N 8514750

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Sinusoidal, +60V cw</u>	<u>1 mc</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>Pulse, +30V</u>	<u>.1 u sec, 10<sup>6</sup> pps</u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>Rectnglr, +2V, cw</u>	<u>500 kc</u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>	<u>                    </u>

B. Functional Description: This electronic control unit achieves signal source stimulation by application of continuous wave input signals and utilizes two modes of operation to produce three different output signals. In the standard pulse mode, a 100 kc input signal is converted to a 1 mc signal through frequency multiplication and applied to a phase inverter. The inverted signal is coupled directly to an output jack, fed back to the preceding doubler stage as regenerative feedback and applied to an amplifier whose output triggers a blocking oscillator. The blocking oscillator output is transformer coupled to two cathode followers whose identical outputs are applied to output jacks as standard mark pulses. In the reference mode, a 1 mc input pulse is amplified and triggers a blocking oscillator whose output is coupled to a cathode follower. One output from the cathode follower is applied to an output jack as .1 u sec standard mark pulses. The other output triggers a monostable multivibrator whose 500 kc square wave output is applied to an output jack. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**N/ANote:                                     **III. Input Signal Characteristics** 100 kc sine-wave, 2.7-volts, 1 mc sine-wave, .5-volts variable phase**IV. Operating Voltage(s)**

A. AC 6.3V  
 B. DC +320V; +250V; +150 V; -250 V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 11-1/2; Width 9-3/8; Depth 7  
 B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly X.

**VI. Reference Sources**Dept of the Army Technical Manuals TM 9-4940-251-34/3 and TM 9-4940-251-35/2

Functional Code Numbers: 212 214 215 222 224 225

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200063

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-974-9617 C. P/N 9995953  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200063  
 F. Missile System Nike-Ajax, -Hercules & -Hercules (Imp)  
 G. Next Assembly SNL J784: P/N 9980171

## II. Stimulus Characteristics

A.	Waveform	Time Function		Waveform	Time Function
1.	<u>Pulse, -30 V</u>	<u>1 usec</u>	5.	<u></u>	<u></u>
2.	<u>Rectngr., +35 V</u>	<u>1000 to 10,000 usec</u>	6.	<u></u>	<u></u>
3.	<u></u>	<u></u>	7.	<u></u>	<u></u>
4.	<u></u>	<u></u>	8.	<u></u>	<u></u>

## B. Functional Description

This pulse generator utilizes two modes of operation and develops two output pulses upon application of an input trigger pulse. The input pulse activates a phantastron circuit which produces a positive and negative output pulse. In one mode the positive pulse is applied to a driver amplifier stage and taken from the cathode directly to the output jack as a positive gate pulse with a pulse width selection capability between 1000 and 10,000 microseconds. A second mode applies the negative pulse through a differentiator-amplifier to crystal diodes, which remove the positive edge of the differentiated wave and apply the negative portion to a driver amplifier. The output from the cathode is applied to the output jack as a -30 Volt mark pulse. Control and adjustment capabilities are supplied through external switching. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note: This generator supersedes pulse generator P/N 9154969

III. Input Signal Characteristics 1 usec, 10 Volt trigger pulse with variable repetition frequency.

## IV. Operating Voltage(s)

A. AC 6.3 V., 400 cpsB. DC +250 V; +150 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 1.5; Width 8.5; Depth 6.00B. Configuration: Portable ; Rack Mounted ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manuals TM 9-4940-252-34/3 and TM 9-4940-252-35/2

Functional Code Numbers: 214 215 224 225

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200064

## I. Item Identification

A. Federal Nomenclature Generator, Scribe  
 B. FSN 4935-960-8721 C. P/N 9996176  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200064  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL J784: P/N's 9980022 or 9996182

## II. Stimulus Characteristics

A.	Waveform	Time Function		Waveform	Time Function
1.	Rectnglr., -400 V	14 usec wide	5.		
2.	Pulse +60 V	1.2 usec wide	6.		
3.	Pulse +200 V	1.8 usec wide	7.		
4.			8.		

## B. Functional Description

This scribe generator achieves signal source stimulation by application of an input trigger pulse and utilizes a single mode of operation to develop three output pulses. A variable prf positive input pulse feeds through an inverter-amplifier stage to trigger a blocking oscillator. The positive voltage developed at the cathode provides a 200 Volt output pulse and triggers a normally cut-off hydrogen thyatron stage. The positive 60 Volt pulse developed at the thyatron cathode is applied to a second output jack. A negative 400 Volt pulse developed at the thyatron plate is applied to a third output jack. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note: This generator supersedes generator P/N 9154772

III. Input Signal Characteristics 1 sec, 20 Volt trigger pulse with variable pulse repetition frequency from 50 to 5000 pps.

## IV. Operating Voltage(s)

A. AC 6.3 V  
 B. DC +440 V; +250 V; +150 V; +6.3 V; -25 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 5.33; Width 1.5; Depth 8.5  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-252-34/2 & TM 9-4940-252-35/1

Functional Code Numbers: 214 215 224 225

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200065

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-797-7332 C. P/N 9154974  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200065  
 F. Missile System Nike-Ajax, -Hercules & -Hercules (Imp)  
 G. Next Assembly SNL J784: P/N 9980171

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse, -25V</u>	<u>1 usec</u>	5.	<u></u>	<u></u>
2.	<u>Rectnglr., +25V</u>	<u>30 to 400 u sec</u>	6.	<u></u>	<u></u>
3.	<u></u>	<u></u>	7.	<u></u>	<u></u>
4.	<u></u>	<u></u>	8.	<u></u>	<u></u>

## B. Functional Description

This pulse generator utilizes two modes of operation and develops two output pulses after application of an input trigger pulse. The input pulse activates a phantastron circuit which produces a positive and negative output pulse. In one mode the positive pulse is applied to a driver amplifier stage and taken from the cathode directly to the output jack as a positive gate pulse with a pulse width selection capability, at specific time intervals, between 30 and 400 microseconds. A second mode applies the negative pulse through a differentiator-amplifier to crystal diodes, which remove the positive edge of the differentiated wave and apply the negative portion to a driver amplifier. The output from the cathode is applied to the output jack as a -25 volt mark pulse. Control and adjustment capabilities are supplied through external switching. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note: III. Input Signal Characteristics 1 u sec., 10-volt trigger pulse with variable repetition frequency.

## IV. Operating Voltage(s)

A. AC 6.3V, 400 cpsB. DC +250V; +150 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 1.5; Width 8.50; Depth approx. 6  
 B. Configuration: Portable ; Rack Mounted ; Built into Next Assembly X.

## VI. Reference Sources

Department of the Army Technical Manual TM 9-4940-252-34/3 and TM 9-4940-252-35/2

Functional Code Number: 214 215 224 225





MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200067

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-974-9618 C. P/N 9995903  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200067  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL J784: P/N 9980171

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	<u>Rectnlg., +70V</u>	<u>.1 usec to 1.5 u sec</u>	5.	<u>                    </u>
2.	<u>                    </u>	<u>                    </u>	6.	<u>                    </u>
3.	<u>                    </u>	<u>                    </u>	7.	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>

## B. Functional Description

This pulse generator utilizes a single mode of operation and develops an output pulse upon application of an input trigger pulse. A square wave input pulse triggers a blocking oscillator which operates in conjunction with a width oscillator to produce the desired output. A system of relays and LC networks in the width oscillator output circuit control the output pulse width as a function of the time required for a negative pulse to be developed by the selected LC network and drive the width oscillator below cut-off. The pulse output is taken from the cathode of the width oscillator and applied to the output jack. Control and adjustment capabilities are supplied through external switching. Operating voltages are supplied externally.

## C. Additional Functional Capabilities:

N/ANote:                                     III. Input Signal Characteristics 1 usec, +15 V trigger pulse

## IV. Operating Voltage(s)

A. AC 6.3 V., 400 cps  
 B. DC +250 V; -250 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 3.062; Width 8.5; Depth 5.562  
 B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-252-34/3 and TM 9-4940-252-35/2Functional Code Numbers: 224

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MIL-HDBK-142A  
FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200068

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-086-8418 C. P/N 9995803  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200068  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL J784: P/N 9980218

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Rectnglr. -90 V</u>	<u>100 to 10,400 usec.</u>	5.		
2.			6.		
3.			7.		
4.			8.		

## B. Functional Description

This pulse generator utilizes a single mode of operation and develops an output pulse upon application of an input trigger pulse. The input pulse sets a phantastron into the conducting state which lowers the plate voltage and projects a negative output at the cathode of a cathode follower. This negative going pulse causes the phantastron grid capacitor to discharge and cut-off the phantastron. The positive pulse formed at the screen of the phantastron is amplified, inverted and applied to two common output jacks as a negative pulse. A divider network for variable pulse duration feeds into the grid of one section of a cathode follower by remote switching and limits the negative output from the second cathode follower section which provides pulse width control. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note: This pulse generator supersedes generator P/N 9154982

III. Input Signal Characteristics 1 u sec, +30 Volt sync pulse

## IV. Operating Voltage(s)

A. AC 6.3 V, 400 cpsB. DC +250 V; +150 V; -250 V; -28 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 1.5; Width 8.5; Depth 5.52B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-252-34/3 and TM 9-4940-252-35/2

Functional Code Number: 224

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200069

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-593-8131 C. P/N 9154965  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200069  
 F. Missile System Nike-Ajax, -Hercules, and -Hercules (Imp.)  
 G. Next Assembly SNL J784-1: P/N's 9983589 or 9993685

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Rectnglr</u>	<u>180° phase reversal</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>Rectnglr</u>	<u>180° phase reversal</u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>                    </u>	<u>                    </u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>	<u>                    </u>

## B. Functional Description

This pulse generator utilizes a single mode of operation and develops two square wave pulse outputs 180° out of phase after application of an input trigger pulse. A positive input pulse applied at either of two inputs is amplified and fed to a binary circuit which utilizes crystal diodes to aid in fast transit time between conducting states. The binary output is applied to two cathode follower circuits which develop the output pulses across their cathode resistors. The selection of input jack determines the desired pulse polarity at each output jack. Operating voltages are supplied externally.

C. Additional Functional Capabilities  
N/ANote:                                     III. Input Signal Characteristics Positive trigger pulse, -10 volts min.

## IV. Operating Voltage(s)

A. AC 6.3 V  
 B. DC +250 V; +150 V; -28 V; -250 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 1.5; Width 8.5; Depth 6.04  
 B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly y.

## VI. Reference Sources

Dept of the Army Technical Manuals TM 9-4940-252-34/3 and TM 9-4940-252-35/2

Functional Code Number: 224

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200070

**I. Item Identification**

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-775-0198 C. P/N 9140517  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200070  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL J753-2: P/N 9140754

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Rectnglr. +17 V</u>	<u>500 pps</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>" "</u>	<u>100-500 pps</u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>" "</u>	<u>500-5000pps</u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>	<u>                    </u>

**B. Functional Description**

This pulse generator achieves signal source stimulation by application of an input trigger pulse and through intrinsic circuit characteristics utilizing two modes of operation to develop 2.5 u sec output pulses. In the trigger input mode, the amplifier and amplifier-inverter circuitry assures the application of a negative trigger pulse to a monostable multivibrator, regardless of input trigger pulse polarity. The multivibrator negative output pulses pass through an output transformer and appear as positive pulses at the output jack. In the self-actuating mode, a selector switch sets up a free-running multivibrator and selects the repetition rate of the multivibrator output pulse. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**N/ANote:                     **III. Input Signal Characteristics Negative or positive trigger pulse****IV. Operating Voltage(s)**A. AC 6.3 V, 400 cpsB. DC 300 V, -150 V**V. Mechanical Characteristics**

A. Dimensions (inches): Height                     ; Width                     ; Depth                       
 B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly X.

**VI. Reference Sources**Dept of the Army Technical Manual TM 9-4935-252-34/2, -35

Functional Code Number: 224

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200071

## I. Item Identification

A. Federal Nomenclature Generator, Pulse Sweep  
 B. FSN 4935-991-6635 C. P/N 9993241  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200071  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL Y030: P/N 9143428

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	<u>Sawtooth</u>	<u>500 pps</u>	5.	
2.	<u>Rectangular</u>		6.	
3.			7.	
4.			8.	

B. Functional Description: This generator achieves signal source activation by application of input trigger pulses and develops sawtooth and square wave voltages utilizing multivibrator, amplifier, clamp, and cathode follower circuitry. One input pulse triggers two multivibrators at a repetition rate of 500 pps. Two amplifiers and a clamper circuit convert the negative-going output of the multivibrators to sawtooth voltages of equal phase and amplitude which are fed through respective cathode followers to two output jacks. The same input pulse is gated through a diode gating network and through a delay line to an appropriate output jack. A second input pulse triggers two multivibrators whose outputs alternate in polarity with each trigger pulse. The square wave outputs from the multivibrator are fed to the output jacks through respective cathode followers which serve as isolation amplifiers. In a different mode the same input pulse is fed through a delay circuit and triggers a blocking oscillator circuit which produces a special output gate pulse. Operating voltages are supplied externally. This test equipment supersedes generator P/N 9983563.

## C. Additional Functional Capabilities

Note: This test equipment supersedes generator P/N 9983563.

III. Input Signal Characteristics Input trigger

## IV. Operating Voltage(s)

A. AC 6.3 V.  
 B. DC +300 V, +60 V, -250 V, -17 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 5-5/8; Width 12-1/2; Depth 9-3/8  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly     .

## VI. Reference Sources

DATM 9-1430-258-34: -4935-253-34

Functional Code Numbers: 224 226

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200072

**I. Item Identification**

A. Federal Nomenclature Multimeter-Simulator, Load and Pulse  
 B. FSN 4935-522-0665 C. P/N 8155140  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200098  
 F. Missile System Nike-Ajax, -Hercules, -Hercules (Imp)  
 G. Next Assembly SNL J752: P/N 9983978

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Rectangle, +80 V.</u>	<u>1600 usec</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>Pulse +30 V.</u>	<u>2 usec</u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>                    </u>	<u>                    </u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>	<u>                    </u>

B. Functional Description: This pulse simulator utilizes a single mode of operation and develops two output pulses upon application of a positive input trigger pulse. The input pulse feeds into a coincidence amplifier and triggers a two stage frequency division network consisting of two monostable, cathode-coupled multivibrators coupled through an RC differentiating network and a limiter which functions to block the negative pulse of the differentiated signal. The multivibrators function as 1:10 frequency dividers to provide a positive pulse output for every 10 input trigger pulses. The differentiated output is applied to an external circuit and to an isolation diode which applies only the positive pulse to a phantastron. The phantastron negative output cuts off the coincidence amplifier which otherwise triggers a blocking oscillator at the repetition rate of the input trigger pulse, providing a positive pulse at the output terminals. A selector switch controls the pulse width of the phantastron output by providing a voltage to a clamper which sets the operating level of the phantastron. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

See Categorization Index No. M-606

Note:                                     

**III. Input Signal Characteristics** 2000 pps, +300 V. trigger pulse**IV. Operating Voltage(s)**

A. AC 6.3 V  
 B. DC +320 V.; +250 V.; +150 V.; -250 V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 12-7/32; Width 19; Depth 10-3/4  
 B. Configuration: Portable       ; Rack Mounted x; Built into Next Assembly       .

**VI. Reference Sources**

Dept of the Army Technical Manual TM 9-4940-251-34 and TM 9-4940-251-35  
MICOM Dwg. No. 8155140

Functional Code Numbers: 224 225

159

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION:  
STIMULUS SOURCE DELINEATION

200073

## I. Item Identification

A. Federal Nomenclature Generator  
 B. FSN 4935-797-9537 C. P/N 9980120  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200073  
 F. Missile System Nike-Ajax, -Hercules and -Hercules (Imp)  
 G. Next Assembly SNL J784-1: P/N 9998445

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse, +200 V</u>	<u>Pulse width - 7 usec</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>                    </u>	<u>                    </u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>                    </u>	<u>                    </u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>	<u>                    </u>

## B. Functional Description

This pulse generator produces a positive output pulse and achieves signal source activation by application of an input trigger pulse. A positive 2-volt input trigger pulse is amplified and converted to a square pulse by a blocking oscillator circuit. This positive square pulse fires a gas tube and discharges an LC network initially charged to 450 volts. This action produces a sharp 200-volt positive pulse at the cathode of the gas tube. When the plate voltage drops, the cathode pulse is terminated. Pulse duration is 7 microseconds. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

Note:                                     III. Input Signal Characteristics +2 V trigger pulse

## IV. Operating Voltage(s)

A. AC 6.3 V, 400 cps  
 B. DC +450 V, +250 V, +150 V, -250 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 5.592; Width 1.5; Depth 8.5  
 B. Configuration: Portable       ; Rack Mounted X; Built into Next Assembly       .

## VI. Reference Sources

DAIM 9-4940-252-34/3; -35/2

Functional Code Numbers: 215 225

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200074

**I. Item Identification**A. Federal Nomenclature Generator, PulseB. FSN 4935-893-2016C. P/N 9981031D. Mfr. Name and Code Number 00000E. Categorization Index No. 200074F. Missile System Nike-HerculesG. Next Assembly SNL J753-2: P/N 9140754**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse, +75 Volt</u>	<u>500 pps, 5 us</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>Pulse, -75 Volt</u>	<u>500 pps, 5 us</u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>                    </u>	<u>                    </u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>	<u>                    </u>

**B. Functional Description**

This pulse generator utilizes two similar modes of operation and develops a positive and negative output pulse after application of an input trigger pulse. The input is applied simultaneously to three trigger amplifiers and sets a primary amplifier stage into a conducting state which triggers a bistable multivibrator circuit. The multivibrator output provides varying bias to intra-stage trigger amplifiers, and when driven into a conducting state by application of the input pulse and reduced bias condition, the amplifiers trigger respective blocking oscillators. The output from each blocking oscillator is applied to the output jacks by means of mutual coupling in respective output transformer windings as positive and negative 75 Volt pulses. The polarity at each output is determined by transformer winding connections. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**N/ANote:                                     **III. Input Signal Characteristics** .25 usec +17V trigger pulse @ 500 pps.**IV. Operating Voltage(s)**A. AC 6.3V, 400 cpsB. DC +300V, -150V**V. Mechanical Characteristics**A. Dimensions (inches): Height 10.5; Width 5.74; Depth 3.82B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly X.**VI. Reference Sources**Dept of the Army Technical Manual TM 9-4935-252-34/2 and TM 9-4935-252-35

Functional Code Numbers: 215 225

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200075

## I. Item Identification

A. Federal Nomenclature Generator, PulseB. FSN 4935-775-0206C. P/N 9140531D. Mfr. Name and Code Number 00000E. Categorization Index No. 200075F. Missile System Nike-HerculesG. Next Assembly SNL J753-2: P/N 9140754

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse +56V</u>	<u>.25 usec</u>	5.		
2.			6.		
3.			7.		
4.			8.		

## B. Functional Description

This pulse generator utilizes a single mode of operation with two identical pulse generating sections and develops .25 usec output pulses after application of an input trigger pulse. The input pulse is applied to a cathode follower whose output is amplified and transformer coupled as a positive voltage to the grid of a blocking oscillator. The output pulse from the blocking oscillator passes through two stages of amplification and a filter network to an output transformer and applied to the output jacks as a positive .25 usec pulse. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note: \_\_\_\_\_

III. Input Signal Characteristics Positive 2.5 us trigger pulse

## IV. Operating Voltage(s)

A. AC 6.3 V, 400 cpsB. DC +300 V, -150 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 11.56; Width 6.18; Depth 5.68B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4935-252-34/2 and TM 9-4935-252-35

Functional Code Numbers: 215 225

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200076

**I. Item Identification**

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-732-7820 C. P/N 9980154  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200076  
 F. Missile System Nike-Ajax, -Hercules & Hercules (Imp.)  
 G. Next Assembly SNL J784-1: P/N 9160888

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse, -15V</u>	<u>1.5 usec</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>Pulse, +40V</u>	<u>" "</u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>                    </u>	<u>                    </u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>	<u>                    </u>

**B. Functional Description**

This pulse generator utilizes a single mode of operation and develops three output pulses after application of an input trigger pulse. A positive input pulse triggers one of three blocking oscillator circuits and a 2- usec input pulse, in conjunction with two (2) crystal diode "and" gate circuits, sequentially triggers the remaining blocking oscillators. The 2- usec pulse and one crystal diode form one-half of the "and" gate circuit in each oscillator stage. The positive pulses from the preceding blocking oscillator stage and the second set crystal diodes form the other half of the "and" gate circuits. The -15-Volt and one +40-Volt output are taken from the plate and cathode of the final oscillator stage, respectively. Another +40V output pulse is taken from the cathode of a parallel connected cathode follower circuits. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**

N/A

Note:

**III. Input Signal Characteristics** Positive trigger pulse; 2-usec positive trigger pulse.**IV. Operating Voltage(s)**A. AC 6.3V, 400 cpsB. DC +250V; +150V; -20V**V. Mechanical Characteristics**

A. Dimensions (inches): Height 1.5; Width 3.5; Depth 5.56  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly X.

**VI. Reference Sources**Dept of the Army Technical Manual TM 9-4940-252-34/3 & TM 9-4940-252-35/2

Functional Code Numbers: 215 225

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200077

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-797-9498 C. P/N 9160806  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200077  
 F. Missile System Nike-Ajax, -Hercules & Hercules (Imp.)  
 G. Next Assembly SNL J784: P/N 9980218

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse, +20V</u>	<u>.8 usec</u>	5.		
2.			6.		
3.			7.		
4.			8.		

## B. Functional Description

This pulse generator utilizes a single mode of operation and develops a 20-volt output pulse after application of an input trigger pulse. The input pulse is amplified, inverted, and transformer-coupled as a positive pulse to the grid of a cathode follower. The cathode follower output causes a blocking oscillator to conduct, and the negative pulse formed at its plate couples to the output jack through an output transformer as a sharp positive pulse. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

This unit contains a vacuum tube switching circuit for external monitoring purposes.

Note: \_\_\_\_\_

III. Input Signal Characteristics .5 usec, 20-Volt trigger pulse

## IV. Operating Voltage(s)

A. AC 6.3 V 400 cps  
 B. DC 150 V; -250 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 1.50; Width 8.50; Depth 5.52  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly X.

## VI. Reference Sources

Dept of the Army Technical Manual TM 9-4940-252-34/3 & TM 9-4940-252-35/2

Functional Code Numbers: 215 225

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**STIMULUS SOURCE DELINEATION**

200078

**I. Item Identification**

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-535-3533 C. P/N 8153480  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200078  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL J752: P/N 8514790 & SNL J783: P/N 9983977

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse, +18 V</u>	<u>1000 pps. .25 usec</u>	5.		
2.			6.		
3.			7.		
4.			8.		

**B. Functional Description**

This generator utilizes a single mode of operation and develops a .25 microsecond output pulse after application of an input pulse which triggers a buffer amplifier and a blocking oscillator circuit. A clamper circuit clips the negative spikes from the blocking oscillator output pulse which triggers a pulser circuit. A charging network charges up between input pulses and discharges rapidly through the conducting pulser tube. The resultant positive-going pulse at the cathode is again clamped at approximately +18 volts and applied to the output jack. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**

This generator also contains a power supply ckt. which consists of a full and half wave rect., volt doubler, RC filter, and thermal TD relay.

Note: \_\_\_\_\_

**III. Input Signal Characteristics** 1.5 usec, +30 volt, trigger pulse @ 1000 pps**IV. Operating Voltage(s)**

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 9"; Width 7 1/2"; Depth 6 1/4"  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly X.

**VI. Reference Sources**

DATM TM 9-4940-251-35/3, -35/4  
Department of the Army Technical Manual

Functional Code Numbers: 215 225

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200079

## I. Item Identification

A. Federal Nomenclature Generator, Pulse Variable  
 B. FSN 4935-992-4503 C. P/N 9989793  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200079  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL J753-2: P/N 9140754

## II. Stimulus Characteristics

A.	Waveform	Time Function		Waveform	Time Function
1.	Pulse, +0 -50V	.1 usec	5.		
2.	" "	.25 usec	6.		
3.	" "	.5 usec	7.		
4.	" "	1.0 usec	8.		

## B. Functional Description

This generator utilizes a single mode of operation and develops output pulses after application of an input trigger pulse. The positive input pulse sets conduction level of input cathode follower. The positive output from the cathode triggers a blocking oscillator circuit which produces a positive pulse at its cathode. The pulse is amplified and applied through a selector switch to one of four LC networks which produce the desired pulse width. The output of the pulse shaping network is transformer coupled to an output cathode follower. The positive pulse at the cathode is directly applied to the output jack as a positive pulse and through an inverter as a negative pulse output. Variable pulse amplitude is obtained by varying the bias on output cathode follower. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note: This test equipment item supersedes P/N 9140601.

III. Input Signal Characteristics 2.5 usec, positive 17 volt trigger pulse.

## IV. Operating Voltage(s)

A. AC 6.3 V., 400 cpsB. DC +300 V., -150 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X.

## VI. Reference Sources

DATM TM 9-4935-252-34/2, -35  
Department of the Army Technical Manual

Functional Code Numbers: 215 225

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200080

## I. Item Identification

A. Federal Nomenclature Generator, Sweep Delay  
 B. FSN 4935-202-1011 C. P/N PS2-10447-1  
 D. Mfr. Name and Code Number Lockheed Aircraft Corp. - 06887 and 36659  
 E. Categorization Index No. 200080  
 F. Missile System Polaris  
 G. Next Assembly \_\_\_\_\_

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	<u>Pulse</u>	<u>1 usec to 10 sec delay</u>		
2.	_____	_____	6.	_____
3.	_____	_____	7.	_____
4.	_____	_____	8.	_____

## B. Functional Description

This generator achieves signal source activation by application of an input trigger pulse and provides a variety of sweep delay capabilities and permits measurement of time intervals between pulses or trains of pulses and reference signals. The two basic delay functions performed by the unit are arming and triggering the main sweep of the associated oscilloscope unit. Front panel delay control settings determine the delay time between the start of the scope trace and the reference signal. The arming function may be performed either manually with a pushbutton or electrically. A mixed sweep function allows display of two separate sweep speeds on the scope. A delaying sweep function utilizes intensity pulse modulation circuits to provide fast setup in time interval measurements. Operating voltages are supplied by an external power supply in the associated scope unit or next assembly.

## C. Additional Functional Capabilities

\_\_\_\_\_  
 Note: \_\_\_\_\_

III. Input Signal Characteristics Input trigger pulse 1/4V p-p min.

## IV. Operating Voltage(s)

A. AC N/AB. DC N/A

## V. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built Into Next Assembly X

## VI. Reference Sources

Hewlett Packard Catalog No. 24 BuWebs  
Polaris Standard PS-2-10447

Functional Code Numbers: 215 225

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200081

## I. Item Identification

A. Federal Nomenclature Calibrator Set, Range  
 B. FSN 4935-475-5386 C. P/N 8514550  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200081  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL J751: P/N 8514490 & SNL J782: P/N 9983978

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse, +24V</u>	<u>1 usec</u>	5.	<u></u>	<u></u>
2.	<u>Pulse group</u>	<u>1 usec, specific</u>	6.	<u></u>	<u></u>
3.	<u></u>	<u>intervals</u>	7.	<u></u>	<u></u>
4.	<u></u>	<u></u>	8.	<u></u>	<u></u>

## B. Functional Description

This unit achieves signal source activation by application of an input sync pulse and consists of two major assemblies to produce a variable range mark or 2000-yard marker pips. The amplifier-oscillator produces a precise sinewave which establishes a reference for generating timing pips used in range measurements. The range calibrator assembly of this unit provides the accurately calibrated range marks. Operating voltage is supplied externally.

## C. Additional Functional Capabilities

Note: III. Input Signal Characteristics Input sync pulse, 1 usec, +40V.

## IV. Operating Voltage(s)

A. AC 6.3V, 400 cpsB. DC +250V, +150V, -250V

## V. Mechanical Characteristics

A. Dimensions (inches): Height ; Width ; Depth   
 B. Configuration: Portable ; Rack Mounted X; Built into Next Assembly .

## VI. Reference Sources

Dept of the Army Technical Manuals TM 9-4940-250-34/1, -34/4, and 35/3:  
MICOM Dwg. No. 8514550

Functional Code Numbers: 212 215 222 225

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200082

**I. Item Identification**A. Federal Nomenclature Generator, PulseB. FSN 4935-967-9165 C. P/N 9995819D. Mfr. Name and Code Number 00000E. Categorization Index No. 200082F. Missile System Nike-HerculesG. Next Assembly SNL Y030: P/N 9143375**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
	1. <u>Classified information.</u>		5.		
	2. <u>See reference sources.</u>		6.		
	3. <u>listed below.</u>		7.		
	4. _____		8.		

**B. Functional Description**

This pulse generator is presently listed as confidential and all information concerning operating characteristics is classified. See reference source below for a detailed and functional description of this equipment.

**C. Additional Functional Capabilities**

Note: This equipment item supersedes equipment P/N 9007869

**III. Input Signal Characteristics****IV. Operating Voltage(s)**

A. AC \_\_\_\_\_

B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_

B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly, X.**VI. Reference Sources**

DATM TM 9-4935-253-12, -20

Department of the Army Technical Manual

Functional Code Number: 225

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200083

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-794-8712 C. P/N 9143324  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200083  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL J751: P/N 8514490 & SNL J782: P/N 9983978

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse 78 p., pos</u>	<u>2 mc/s, 50 usec</u>	5.		
2.			6.		
3.			7.		
4.			8.		

## B. Functional Description

This pulse generator utilizes a single mode of operation and develops pulsed timing markers only after application of an input trigger pulse. An input gate pulse triggers a 2 mc/s sine wave oscillator. A portion of the positive half of the sine wave is applied to an output cathode follower. A potentiometer controls negative bias to the grid of output cathode follower and provides variable pulse amplitude. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

This item includes a capability for attenuation of the input pulse and direct feed to an output jack.

Note: \_\_\_\_\_

III. Input Signal Characteristics 50 usec., 15 volt trigger pulse.

## IV. Operating Voltage(s)

A. AC 6.3 V  
 B. DC +150 V., +250 V., -250 V., +320 V., -28 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X.

## VI. Reference Sources

DATM TM 9-4940-250-35/3, -34/4  
Department of the Army Technical Manual

Functional Code Number: 225

MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200084

**I. Item Identification**

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-646-8448 C. P/N 9007869  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200084  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL Y030: P/N's 9142925 or 43375

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Classified information.</u>		5.		
2.	<u>See reference sources</u>		6.		
3.	<u>listed below.</u>		7.		
4.			8.		

**B. Functional Description**

This pulse generator is presently listed as confidential and all information concerning its operating characteristics is classified. See reference source listed below for a detailed and functional description of this equipment.

**C. Additional Functional Capabilities**

Note: This equipment item has been superseded by equipment P/N 9995819

**III. Input Signal Characteristics****IV. Operating Voltage(s)**

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X.

**VI. Reference Sources**

DATM TM 9-4935-253-12, -20  
Department of the Army Technical Manual

Functional Code Number: 225

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200085

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-439-8213 C. P/N 8514340  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200085  
 F. Missile System Nike-Hercules, -Ajax, and -Hercules (Imp.)  
 G. Next Assembly SNL J752 and J783: P/N 8514690

## II. Stimulus Characteristics

A.	Waveform	Time Function		Waveform	Time Function
1.	Pulse, 80V	500 kpps	5.		
2.	Pulse, 30V	500 kpps	6.		
3.	Pulse, 40V	10 <sup>6</sup> pps	7.		
4.			8.		

## B. Functional Description

This pulse generator utilizes two basic modes of operation and develops three output pulses after application of three input trigger pulses. A 1.0 sec pulse input with a PRR of 10<sup>6</sup> pps is applied to two cathode follower circuits. A .2 sec pulse output at a PRR of 500 kpps from one cathode follower combines with a monostable multivibrator output to operate a dual gating circuit and trigger a blocking oscillator which produces two positive output sync pulses. The output from the other cathode follower combines with another multivibrator pulse to trigger a similar gating circuit which gates a coincidence amplifier at 1 sec intervals. A 1 sec pulse input to the pulse generator is amplified, clipped, and fed through a differential amplifier as a positive input pulse to the coincidence amplifier. The amplifier output triggers a blocking oscillator whose positive output is then applied to the proper connector jack. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note:

## III. Input Signal Characteristics

Square wave trigger pulse

1.0 sec, 30V trigger pulse at 10<sup>6</sup> pps

1 sec, .35V trigger pulse

## IV. Operating Voltage(s)

A. AC 6.3 Volts

B. DC 320V 150V -250V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 9; Width 11; Depth 5-7/8

B. Configuration: Portable; Rack Mounted; Built into Next Assembly X.

## VI. Reference Sources

Department of the Army Technical Manual TM 9-4940-251-34/3, &amp; TM 9-4940-251-35/2

Functional Code Number: 225

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION:  
STIMULUS SOURCE DELINEATION

200086

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
B. FSN 4935-441-2105 C. P/N 9142834  
D. Mfr. Name and Code Number 00000  
E. Categorization Index No. 200086  
F. Missile System Nike-Ajax, -Hercules, and -Hercules (Imp.)  
G. Next Assembly SNL J752: P/N 8514790 and SNL J783: P/N 9983977

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse, positive</u>	<u>prp function of input</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>Pulse, positive</u>	<u>2 u sec Time Delay</u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>Pulse, positive</u>	<u>1.5 u sec Time Delay</u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>Pulse, positive</u>	<u>0.34 u sec Time Delay</u>	8.	<u>                    </u>	<u>                    </u>

## B. Functional Description

This generator utilizes four modes of operation and develops variable amplitude pulses after application of input trigger pulses. Circuitry provides a pulse width selectivity of .1, .25, .5 or 1  $\mu$  sec. Mode 1 input drives gating triodes into conduction. The sudden drop in plate potential projects a pulse to the output through the action of a pre-selected pulse forming network and transformer plate load. Parallel connected cathode followers receive the pulse from the transformer secondary and apply it to the output jack. Variable resistor bias control on the cathode follower provides variable pulse amplitude. Input modes 2 and 3 operation is similar to mode 1 with the exception of delay line circuitry for the output pulse time-delay provisions. Input mode 4 operation provides a variable time delay of the output pulse by means of pulse width variation of a multivibrator output pulse. Operating voltages are supplied externally.

### C. Additional Functional Capabilities

N/A

**Note:**

III. Input Signal Characteristics Trigger pulses: 1.5 u sec, 70V; .14 u sec, 60V;  
.14 u sec, 70V; 1.5 u sec, 60V.

## IV. Operating Voltage(s)

A. AC 6.3 V

B. DC +320 V; -250 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 6-31/32; Width 19; Depth 8-13/32  
B. Configuration: Portable     ; Rack Mounted X; Built into Next Assembly     .

## VI. Reference Sources

Department of the Army Technical Manual TM 9-4940-251-34/4 & TM 9-4940-251-35/3

Functional Code Numbers: 225

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200087

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-773-6896 C. P/N 9143388  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200087  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL Y030: P/N 9143428

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	<u>Classified information.</u>	<u>See reference</u>	5.	
2.	<u>sources listed below.</u>		6.	
3.			7.	
4.			8.	

## B. Functional Description

This pulse generator utilizes two similar modes of operation and develops a series of accurately timed pulses after application of two sawtooth input voltages. The output pulses are produced in each operating mode by a sequence of amplifier, blocking oscillator, diode switching, delay line, and cathode follower circuitry. Operating voltages are supplied externally. Since the detailed theory of this generator is presently classified, see the reference sources listed below for a more detailed functional description of the equipment.

C. Additional Functional Capabilities  
N/A

Note:

III. Input Signal Characteristics Classified information. See reference sources listed below.

## IV. Operating Voltage(s)

A. AC 6.3 V  
 B. DC +300 V, -250 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 11; Width 4-1/16; Depth 10-3/8  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## VI. Reference Sources

Department of the Army Technical Manual TM 9-4935-253-12; TM 9-1430-258-34;  
TM 9-4935-253-20; & TM 9-4935-253-34

Functional Code Number: 225

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200088

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-563-3499 C. P/N 9000007  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200088  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL Y004-3: P/N 8009322 & SNL's Y039 & Y177: P/N 8158377

## II. Stimulus Characteristics

A.	Waveform	Time Function		Waveform	Time Function
1.	Pulse, positive	30 pps	5.		
2.	Pulse, positive	100 pps	6.		
3.	Pulse, positive	220 pps	7.		
4.	Pulse, positive	400 pps	8.		

## B. Functional Description

This generator achieves signal source activation by application of input trigger pulses and develops output pulses at four pulse frequencies and pulse widths. Frequency divider, clamper cathode follower, and pulse circuitry convert a 420 pps input to 60 pps. These trigger pulses are applied to a multivibrator circuit whose output is inverted and applied to a power amplifier. The 60 cps sine wave voltage developed by the power amplifier drives a synchronous motor with an attached tone wheel at a constant speed. Rotation of the tone wheel with the specially designed hole pattern programs a series of photoelectric circuits which produce four positive output pulses at four different frequencies. The voltage developed by the action of light on the photocells are taken through output cathode followers. Operating voltages are supplied externally. This pulse generator supersedes generator unit P/N 8007720.

## C. Additional Functional Capabilities

Note: This frequency generator supersedes generator P/N 8007720.

III. Input Signal Characteristics 420 pps input trigger pulse.

## IV. Operating Voltage(s)

A. AC 6.3 V  
 B. DC +250 V, +150 V, -250 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

## VI. Reference Sources

DAIM 9-5020-2; 9-1430-252-35; & 9-1430-258-34

Functional Code Numbers: 225

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200089

## I. Item Identification

A. Federal Nomenclature Generator, Delay  
 B. FSN 4935-961-4184 C. P/N 9991185  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200089  
 F. Missile System Nike-Ajax, -Hercules, and -Hercules (Imp.)  
 G. Next Assembly SNL J784-1: P/N 9996182

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse</u>	<u>10 to 10,000 us</u>	5.		
2.		<u>var. delay</u>	6.		
3.			7.		
4.			8.		

## B. Functional Description

This delay generator achieves signal source activation upon application of an input trigger and staircase pulse and develops a positive output trigger pulse. A 20-volt, .2 microsecond input pulse with a repetition rate of 50 to 5000 pps triggers a blocking oscillator circuit whose cathode output is applied to a phantastron. The phantastron introduces a delay by utilizing charging capacitors and cathode follower circuitry to provide a variable voltage to its plate circuit. The phantastron output is amplified by a grounded grid delay amplifier and taken from the cathode of the following stage to the output terminal as a positive trigger pulse. The output pulse can be delayed 10 to 10,000 us from the inception of the input pulse through a relay selective network of charging capacitors. Operating voltages are supplied externally. This generator unit supersedes generator P/N 9997856.

## C. Additional Functional Capabilities

Note: This generator supersedes generator P/N 9997856.

III. Input Signal Characteristics 20-volt sync pulse, .2 microsecond wide, and a repetition rate of 50 to 5000 pps; 100-volt, 1000-step staircase pulse.

## IV. Operating Voltage(s)

A. AC \_\_\_\_\_  
 B. DC +250 V, +150 V, +6.3 V, -100 V, -25 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 5.52; Width 1.5; Depth 8.5  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## VI. Reference Sources

DATM 9-4940-252-34/2; -35/1

Functional Code Number: 225



MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200090

**I. Item Identification**

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-522-0842 C. P/N 9980822  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200090  
 F. Missile System Nike-Ajax, -Hercules, and -Hercules (Imp.)  
 G. Next Assembly SNL's J752 and J783: P/N 8514690

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse train +35V</u>	<u>25 u sec</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>Pulse +32V</u>	<u>3 u sec</u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>                    </u>	<u>                    </u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>	<u>                    </u>

**B. Functional Description**

This pulse generator utilizes two modes of operation and develops two output pulses after application of input trigger pulses. In the zero pulse mode, the input pulse triggers a bistable multivibrator whose output is differentiated and applied to the output jack. In the timing pulse mode, two input pulses are combined to overcome a back-biased gating diode and applied through a cathode follower to the output jack. Other input pulses utilize cathode follower and multivibrator circuitry to provide positive gating pulses to a buffer amplifier whose output pulses develop back bias to the gating diode and close the time gate. A monostable multivibrator circuit develops a 50,000 u sec negative pulse to block succeeding positive sync pulses from triggering the zero pulse mode bistable multivibrator. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**N/ANote:                     **III. Input Signal Characteristics** .45 u sec, 40V pulse; .45 u sec, 30V pulse (at two input locations). 1.0 u sec, 30V pulse.**IV. Operating Voltage(s)**

A. AC 6.3V  
 B. DC +320V; -250V; +150V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 9; Width 7-13/16; Depth 5-15/16  
 B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly X.

**VI. Reference Sources**Department of the Army Technical Manual TM 9-4940-251-34/3 & TM 9-4940-251-35/2

Functional Code Number: 225

MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200091

## I. Item Identification

A. Federal Nomenclature Generator, Delay  
 B. FSN 4935-593-8182 C. P/N 9983651  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200091  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL J784: P/N 9983589

## II. Stimulus Characteristics

A.	Waveform	Time Function	5.	Waveform	Time Function
1.	<u>Pulse +20V</u>	<u>precise time delay</u>	5.		
2.			6.		
3.			7.		
4.			8.		

## B. Functional Description

This delay generator utilizes a single mode of operation and develops a precise selected delayed output pulse upon application of a trigger input pulse. A positive input pulse triggers a phantastron which generates a negative gate at its cathode. The square wave at the cathode exhibits trailing edge overshoot and drives an amplifier, normally cutoff, into conduction during the overshoot only. The amplifier plate pulse then triggers a blocking oscillator which develops the positive output pulse. The width of the phantastron pulse is controlled by switching of components and by variations of the dc voltage applied to plate clamping diode. Operating voltages are externally supplied.

## C. Additional Functional Capabilities

N/A

Note:

III. Input Signal Characteristics +20 Volt trigger pulse, 1.5 u sec wide.

## IV. Operating Voltage(s)

A. AC 6.3V., 400  
 B. DC +250V., +150V., -28V., and relay operating voltages.

## V. Mechanical Characteristics

A. Dimensions (inches): Height 1.5; Width 8.5; Depth 5.6  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly X.

## VI. Reference Sources

Department of the Army Technical Manual TM 9-4940-252-34/3 &amp; TM 9-4940-252-35/2

Functional Code Number: 225

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MIL-HDBK-142A

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION**

200092

**I. Item Identification**

A. Federal Nomenclature Generator, Delay  
 B. FSN 4935-960-8723 C. P/N 9991184  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200092  
 F. Missile System Nike-Ajax, -Hercules, and -Hercules (Imp.)  
 G. Next Assembly SNL J784: P/N's 9980022 and 9996182

**II. Stimulus Characteristics**

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Positive pulse</u>	<u>1 usec time delay</u>	5.	<u>                    </u>	<u>                    </u>
2.	<u>Positive pulse</u>	<u>10 usec time delay</u>	6.	<u>                    </u>	<u>                    </u>
3.	<u>Positive pulse</u>	<u>100 usec time delay</u>	7.	<u>                    </u>	<u>                    </u>
4.	<u>                    </u>	<u>                    </u>	8.	<u>                    </u>	<u>                    </u>

**B. Functional Description**

This delay generator utilizes a single mode of operation and develops a delayed output pulse upon application of a positive input sync and staircase pulse. A phantastron circuit generates a negative-going sawtooth wave which is conditioned by application of staircase voltage and differentiating circuitry and applied through a cathode follower to the delay amplifier control grid as a negative swaure wave. The positive pulse from the amplifier plate triggers a blocking oscillator which produces a positive square wave at the cathode. The positive output from the cathode is then coupled through contacts of a remote controlled relay to the output terminals. Operating voltages are supplied externally.

**C. Additional Functional Capabilities**N/A

Note: This test equipment item supersedes test equipment P/N 9993786

**III. Input Signal Characteristics**.2 usec sync pulse1000 step staircase pulse**IV. Operating Voltage(s)****A. AC****B. DC** +250V; +150V; -100V; -25V; +6.3V**V. Mechanical Characteristics**

A. Dimensions (inches): Height 1.5; Width 8.5; Depth 5.5  
 B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly X.

**VI. Reference Sources**Department of the Army Technical Manual TM 9-4935-252-34/3 & TM 9-4935-252-35/2

Functional Code Number: 225

MIL-HDBK-142A

ESC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
 STIMULUS SOURCE DELAY GENERATION

200093

## I. Item Identification

A. Federal Nomenclature Generator, Delay  
 B. P/N 4935-977-0923 C. P/N 9995818  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200093  
 F. Missile System Nike-Ajax, -Hercules, and -Hercules (Imp.)  
 G. Next Assembly SNL J784-1: P/N 9980070

## II. Stimulus Characteristics

A.	Waveform	Time Function	Waveform	Time Function
1.	Positive pulse	.1 to 10 usec time delay.		
2.	Positive pulse	10-100 usec time delay.		
3.	Positive pulse	100-1000 usec time delay.		
4.	Positive pulse	1000-10,000 usec time delay		

## B. Functional Description

This delay generator utilizes two modes of operation and develops a positive output pulse upon application of a positive input trigger pulse. In the short delay mode, the input pulse is applied to a phantastron. The Miller rundown output waveform feeds into a cathode follower whose output is connected through diodes and load resistor to a positive voltage externally supplied and through a differentiating circuit to produce a rectangular pulse whose delayed start is determined by the external voltage level. The leading edge of the pulse is differentiated and used to trigger a blocking oscillator which produces the positive output pulse. A relay switching circuit operated by external voltage provides a .1 to 10 usec delay time. In the long delay mode, the same input pulse is applied to a phantastron whose cathode output is applied to the blocking oscillator. The positive trailing edge triggers the oscillator. Three delay times are available through relay switching circuitry. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

N/A

Note: This item is identical to delay generator P/N 9995859.

III. Input Signal Characteristics Positive trigger pulse.

## IV. Operating Voltage(s)

A. 6.3V, 400 cps  
 B. +150V; +250V; -250V; and relay operating voltage.

## V. Physical Characteristics

a. Dimensions (inches): Height 1.5; Width 8.5; Depth 5.48  
 b. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly X

## VI. Reference Sources

Department of the Army Technical Manual TM 9-4940-252-34/3 & TM 9-4940-252-35/2

Functional Code Number: 225

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MIL-HDBK-142A

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200094

## I. Item Identification

A. Federal Nomenclature Sweep Generator and Comparator  
 B. FSN 4935-589-8288 C. P/N 9155237  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200094  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL's J029-4B, J752, & J783; P/N 3514680

## II. Stimulus Characteristics

A.	Waveform	Time Function		Waveform	Time Function
1.	<u>Pulse, +25V</u>	<u>.3 to .5 u sec</u>	5.		
2.	<u>Sawtooth, 2V</u>	<u>slope to linearity</u>	6.		
3.		<u>controlled</u>	7.		
4.			8.		

## B. Functional Description

This sweep generator and comparator unit achieves signal source stimulation by application of input trigger pulses and utilizes two modes of operation to develop three output pulses. In the comparator mode, a sawtooth waveform is applied to differential amplifiers whose relative output determines the state of a bistable multivibrator. The selected positive or negative output pulse from the multivibrator feeds through a pulse amplifier and triggers a blocking oscillator which provides the output pulse to the connector jack as a function of the input sawtooth wave. In the sweep generator mode, a positive input pulse triggers a monostable multivibrator whose output positive pulse drives a sawtooth generating switch tube into conduction. The sawtooth voltage of the plate is applied to a dual cathode follower circuit and taken from the cathodes to the output connector jacks. The slope and linearity of the sawtooth wave is controlled by a regenerative feedback and bootstrap circuit in the switch tube plate circuit. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

Note:

III. Input Signal Characteristics Sawtooth waveform; positive trigger pulse.

## IV. Operating Voltage(s)

A. AC 120V, 400 cps  
 B. DC +300V; +250V; +150V; & -250V

## V. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X.

## VI. Reference Sources

Department of the Army Technical Manual TM 9-4940-251-34 & TM 9-4940-251-35

Functional Code Numbers: 215 216 225 226

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FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE CATEGORIZATION

200095

## I. Item Identification

A. Federal Nomenclature Generator, Sweep  
 B. FSN 4935-328-6065 C. P/N 10105120  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200095  
 F. Missile System Hawk  
 G. Next Assembly SNL J756-22: P/N 10046510 & SNL J756-23: P/N 10046509

## II. Stimulus Characteristics

A.	Waveform	Time Function		Waveform	Time Function
1.	<u>Sawtooth, Neg.</u>	<u>2 us to .2 sec.</u>	5.		
2.		<u>pulse duration.</u>	6.		
3.			7.		
4.	<u>Pulse</u>	<u>Duration, same as</u>	8.		
		<u>above sweep voltage.</u>			

## B. Functional Description

This generator achieves signal source activation by application of input sync pulses and provides horizontal sweep voltage and unblanking pulses to an oscilloscope unit. The appropriate sync signal input is amplified and converted to a constant amplitude square wave in a binary stage. After passing thru a pulse amplifier stage, the signal triggers a one-shot multivibrator which produces the unblanking pulse and a second output that triggers a phantastron. The phantastron simultaneously produces a linear sawtooth and a gating pulse of equal width controlled by a pulse width selector. The gating pulse is fed back to the multivibrator to control the width of its output pulses, and the sawtooth signal is fed through a cathode follower and coupled to a sweep selector circuit which controls the delivery of either the internally generated sweep voltage or any external signal to an oscilloscope unit. The pulse width and sweep selector circuits are programmable. Operating voltages are supplied externally.

## C. Additional Functional Capabilities

Note:

III. Input Signal Characteristics Positive and Negative Sync Signal, External Sync Signal

## IV. Operating Voltage(s)

A. AC 6.3 V  $\pm$  .6 VB. DC 150 V; 28 V; -150 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 5-1/4; Width 4-45/64; Depth 11-3/8  
 B. Configuration: Portable     ; Rack Mounted X; Built into Next Assembly     .

## VI. Reference Sources

DATH 9-4935-506-35/1; -35/4

Functional Code Numbers: 225 226

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FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200096

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-803-4491 C. P/N 10105118  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200096  
 F. Missile System Hawk  
 G. Next Assembly SNL J756-22: P/N 10046510

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>	<u>Waveform</u>	<u>Time Function</u>
1.	<u>Pulse +.5 to +10V</u>	<u>40.7 to 1000 pps</u>	5. <u>Pulse +30V</u>	<u>40.7 to 1000 pps</u>
2.	<u>Pulse -.5 to -10V</u>	<u>40.7 to 1000 pps</u>	6. <u>Pulse +30V</u>	<u>40.7 to 1000 pps</u>
3.	<u>Pulse +5 to +100V</u>	<u>40.7 to 1000 pps</u>	7. <u>Pulse -12V</u>	<u>40.7 to 1000 pps</u>
4.	<u>Pulse -5 to -100V</u>	<u>40.7 to 1000 pps</u>	8. _____	_____

B. Functional Description: This pulse generator utilizes two modes of operation and develops seven (7) output pulses with stimulus generating circuitry that requires (and circuitry that does not require) external stimulation. In the trigger input mode, the input pulse triggers a blocking oscillator whose output pulse is coupled through a clamper to a trigger cathode follower. In the self-actuating mode, a blocking oscillator is free-running at a prf determined by a manually or automatically controlled prf selector. For undelayed operation, the cathode follower output provides a 1 usec trigger pulse to the front panel and is also applied to a pulse width multivibrator. This output feeds through a limiter and a phase splitting network developing two outputs of opposite polarity, and to a cathode follower and inverter stage developing a negative gate pulse. Pulse width is variable in 12 steps from 1 -2500 u sec. For delayed operation, the trigger cathode follower output is applied to a multivibrator whose output is differentiated and sequentially clipped, amplified, inverted, and coupled through a clamper and cathode follower to a blocking oscillator. This positive output is clipped, shaped and applied to above undelayed circuit operation. A 10-8000 u sec time delay is provided by manually controlled selector switch. Operating voltages are supplied externally.

Note: This pulse generator supersedes generator P/N 10046505

III. Input Signal Characteristics 1 u sec; +30-volt trigger pulse between 40.7 and 1000 pps.

## IV. Operating Voltage(s)

A. AC 6.3 V  
 B. DC +150 V; +300 V; -150 V; +150 V; +28 V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 5-1/4; Width 9-15/32; Depth 11-3/8  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## VI. Reference Sources

Department of the Army Technical Manual TM 9-4935-503-34; TM 9-4935-506-35/3,  
TM 9-4935-506-35/4

Functional Code Numbers: 125 225

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FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
STIMULUS SOURCE DELINEATION

200097

## I. Item Identification

A. Federal Nomenclature Generator, Pulse  
 B. FSN 4935-793-1954 C. P/N 9143938  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 200097  
 F. Missile System Nike-Hercules (Imp.)  
 G. Next Assembly SNL Y172-00: P/N 9143816

## II. Stimulus Characteristics

A.	<u>Waveform</u>	<u>Time Function</u>		<u>Waveform</u>	<u>Time Function</u>
1.	<u>Classified information. See reference</u>		5.		
2.	<u>sources listed below.</u>		6.		
3.			7.		
4.			8.		

## B. Functional Description

This pulse generator is presently listed as confidential and therefore all information concerning operating characteristics is classified. See reference source below for a detailed and functional description of this equipment.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Input Signal Characteristics

## IV. Operating Voltage(s)

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

## V. Mechanical Characteristics

A. Dimensions (inches): Height 7; Width 4.62; Depth 4.58  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

## VI. Reference Sources

Department of the Army Technical Manual TM 9-1430-252-35 & TM 9-1430-259-20

Functional Code Numbers: 125 225

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CATEGORY 30: THE ELECTRICAL MEASURING EQUIPMENT CATEGORY

## 30.1 RETRIEVAL INSTRUCTIONS.

30.1.1 General instructions. There are three simple steps to be followed in retrieving the delineations contained in this test function category, and they can be summarized as follows: First, define the FUNCTIONAL CODE NUMBER which identifies the category in which data on the required item is located. Second, refer to the MEASURING EQUIPMENT-TABLE OF DELINEATIONS section of this document to determine which delineations are applicable to the code number defined in STEP 1. Third, locate the applicable delineations which are indexed by CATEGORIZATION INDEX NUMBER in the MEASURING EQUIPMENT-DELINEATIONS section of this document.

30.1.2 Detailed instructions. Detailed instructions on following this three-step procedure are given below, along with examples of typical functional requirements which can be met by the items for which data is stored in this Functional Categorization System.

STEP 1. Define the FUNCTIONAL CODE NUMBER which identifies the category in which data on the required item is located. The FUNCTIONAL CODE NUMBER is always a three-digit number and is defined by specifying the functional capability of the required item in terms of:

- a. PERFORMANCE FACTOR.....FIRST DIGIT
- b. MEASURABLE PARAMETER.....SECOND DIGIT
- c. CHARACTERISTIC FACTOR.....THIRD DIGIT

The digits for the FUNCTIONAL CODE NUMBER are selected from Figure 3. All three digits must be selected from Retrieval Groups I, II, or III.

EXAMPLE: The user has a requirement for an item which can measure:

- a. The characteristic quantity of an energy source.....FIRST DIGIT = 1
  - b. The amplitude of the current out of the energy source..SECOND DIGIT = 2
  - c. The dc value as the measured quantity.....THIRD DIGIT = 1
- The FUNCTIONAL CODE NUMBER = 1.2.1

STEP 2. Refer to the MEASURING EQUIPMENT-TABLE OF DELINEATIONS and locate the one which is identified by the FUNCTIONAL CODE NUMBER defined in STEP 1. The CATEGORIZATION INDEX NUMBERS listed therein identify technical delineations on items with the required functional capabilities. For FUNCTIONAL CODE NUMBER 1.2.1, five CATEGORIZATION INDEX NUMBERS will be found: 300007, 300008, 300009, 300027 and 300028.

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STEP 3. Locate the applicable documentation by searching the MEASURING EQUIPMENT-DELINEATIONS section of this document. The CATEGORIZATION INDEX NUMBERS found in STEP 2 identify the applicable delineation forms. The CATEGORIZATION INDEX NUMBER appears in the upper right hand corner of the delineation form.

30.1.3 Special instructions. The example used in the three-step retrieval procedure outlined above requires that three specific characteristics be defined in order to retrieve documentation applicable to the type of item desired. By referring to Figure 3, it can be seen that it is possible to leave one or two digits of the FUNCTIONAL CODE NUMBER undefined by specifying an "open capability" for the third, or second and third classification levels. As the following examples show, this feature allows for either broadening or narrowing the scope of documentation which can be retrieved.

EXAMPLE 1. Retrieval Group I - The user has a requirement for equipment which will measure the power output of an energy source, but he is not concerned at this point with the type of waveform response of the equipment; therefore, he would define FUNCTIONAL CODE NUMBER 1.3.0. This would lead to the retrieval of documentation stored in one Performance Factor Category, one Measurable Parameter Category, and three of the Characteristic Factor Categories.

EXAMPLE 2. Retrieval Group II - The user has a requirement for equipment which will measure the amplitude variations of an electrical energy source as a function of time; therefore, he would define the FUNCTIONAL CODE NUMBER 1.4.0. This would lead to the retrieval of documentation on all time measuring equipment.

EXAMPLE 3. Retrieval Group III - The user has a requirement for equipment which can measure VSWR which is one of the many characteristics of a transmission line; therefore, he would define the FUNCTIONAL CODE NUMBER 2.4.0. This would lead to the retrieval of documentation on all measuring equipment that will measure characteristics of transmission lines.

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Levels of Classification					
Performance Factor		Measurable Parameter		Characteristic Factor	
A = First Digit		B = Second Digit		C = Third Digit	
Retrieval Group I		Retrieval Group II		Retrieval Group III	
A.	1. Energy Source Measurement	A.	1. Energy Source Measurement	A.	2. Non-Energy Source Measurement
B.	0. Open Capability* 1. Voltage Amplitude 2. Current Amplitude 3. Power Amplitude	B.	0. Open Capability* 4. Time		0. Open Capability 1. Resistance 2. Inductance 3. Capacitance 4. Transmission Line Characteristics
C.	0. Open Capability 1. Direct Current 2. Sinusoidal 3. Non-Sinusoidal	C.	0. Open Capability 1. Duration 2. Frequency 3. Phase 4. Waveform 5. Count	B.	5. Electron Tube Devices 6. Solid State Devices 7. Integrated System Testing
*Do not use unless C = 0				C.	0. Third Digit Always = 0

Figure 3. Digit Choices for Functional Code Number in the Electrical Measuring Equipment Category

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## Functional Code Numbers 1.0.0 - 1.1.0

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
1.0.0	300002	300011	300020	300029
	300003	300012	300021	300030
	300004	300013	300022	300031
	300005	300014	300023	300032
	300006	300015	300024	300033
	300007	300016	300025	300034
	300008	300017	300026	300039
	300009	300018	300027	300040
	300010	300019	300028	300041
1.1.0	300002	300008	300014	300020
	300003	300009	300015	300021
	300004	300010	300016	300022
	300005	300011	300017	300023
	300006	300012	300018	300024
	300007	300013	300019	300025
				300026

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Functional Code Numbers 1.4.3 - 2.7.0

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
1.4.3	300006	300012	300013	
1.4.4	300018	300021	300023	300025
	300019	300022	300024	300026
	300020			
1.4.5	300032			
2.0.0	300007	300009	300035	300037
	300008	300025	300036	300038
2.1.0	300007	300009	300028	300035
	300008			
2.2.0	No Items			
2.3.0	No Items			
2.4.0	No Items			
2.5.0	No Items			
2.6.0	No Items			
2.7.0	300036	300037	300038	

## Functional Code Numbers 1.1.1 - 1.2.0

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
1.1.1	300001	300003	300005	300007
	300002	300004	300006	300008
				300009
1.1.2	300001	300006	300009	300012
	300004	300007	300010	300013
	300005	300008	300011	
1.1.3	300001	300013	300018	300022
	300005	300014	300019	300023
	300006	300015	300020	300025
	300007	300016	300021	300026
	300012	300017		
1.2.0	300007	300009	300027	300028
	300008			

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Functional Code Numbers 1.2.1 - 1.4.2

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
1.2.1	300007 300008	300009	300027	300028
1.2.2	No Items			
1.2.3	No Items			
1.3.0	300029 300030	300031 300039	300040	300041
1.3.1	No Items			
1.3.2	No Items			
1.3.3	300029 300030	300031 300039	300040	300041
1.4.0	300025	300026		
1.4.1	300018 300019	300020 300021	300022 300023	300032
1.4.2	300031	300032	300033	300034

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300001

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Oscilloscope  
 B. FSN 4935-875-6400 C. P/N 9142998  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 300001  
 F. Missile System Nike Hercules  
 G. Next Assembly \_\_\_\_\_

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____

**B. Functional Description**

The Oscilloscope consists of a vertical deflection amplifier, a horizontal deflection amplifier, an intensifier, and a cathode-ray tube. The horizontal and vertical amplifiers are singlestage, resistance-capacitance coupled amplifiers. The intensifier is a conventional amplifier whose output is applied to the cathode of the cathode-ray tube.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics****IV. Operating Voltage(s) Required**

A. AC 6.3V.-400CPS  
 B. DC +28V, +300V, +900V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

**VI. Reference Sources**

Department of the Army Technical Manual TM 9-1400-250-35/2/2

Functional Code Numbers: 111 112 113



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300002

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Voltmeter, Digital  
 B. FSN 4935-784-7737 SB C. P/N PS837000039  
 D. Mfr. Name and Code Number The Martin Company - 38597  
 E. Categorization Index No. 300002  
 F. Missile System MACE-B  
 G. Next Assembly \_\_\_\_\_

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	<u>0.001-999.9</u>	<u>Vdc</u>	<u>Accuracy: <math>\pm 1</math> digit</u>
2.			<u>Input Impedance: 10 megohms</u>
3.			
4.			

**B. Functional Description**

The Digital Voltmeter provides 4 digit readout of dc voltages with manual or automatic ranging. The readout time is 0.2 seconds maximum.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics** 4 digit in line with decimal point and polarity displayed.

**IV. Operating Voltage(s) Required**

A. AC 105-125v, 54 to 66hz, 100 watts max.

B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 8 3/4; Width 19; Depth 20  
 B. Configuration: Portable    ; Rack Mounted X; Built into Next Assembly    .

**VI. Reference Sources**

Air Force Drawing No. PS837000039

Functional Code Numbers: 111

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300003

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Multimeter and Amplifier  
 B. FSN 4935-086-6038 AD C. P/N 5-92485-000  
 D. Mfr. Name and Code Number American Bosch Arma Corp - 03848  
 E. Categorization Index No. 300003  
 F. Missile System HGMT6E & HCM16F  
 G. Next Assembly \_\_\_\_\_

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	<u>0-1000</u>	<u>Vdc</u>	<u>Accuracy: <math>\pm</math> 3% of full scale</u>
2.	<u>0-1</u>	<u>amp dc</u>	<u>Accuracy: <math>\pm</math> 3% of full scale</u>
3.	_____	_____	_____
4.	_____	_____	_____

**B. Functional Description**

The Multimeter and Amplifier, P/N 5-92485-00 is a electronic microvolt and nanoampere meter, with basic full scale sensitivities of 100 microvolts and 1 nanoampere respectively. It also provides a amplifier output of 1 volt full scale across 500 ohms on the 100 microvolt range. It is a Ken Tel Type 203AR or equal microvolt meter.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics** A front panel mounted d'Arsonval meter provides linear scales calibrated from 0-1 and 0-3.**IV. Operating Voltage(s) Required**

A. AC 115v  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 5 1/4; Width 19; Depth 12  
 B. Configuration: Portable\_\_\_\_; Rack MountedX; Built into Next Assembly\_\_\_\_.

**VI. Reference Sources**

Air Force Drawing No. 5-92485-000

Functional Code Numbers: 111 121

-64-

MIL-HDBK-142A

300004

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**A. Federal Nomenclature Thermo VoltmeterB. FSN 4935-738-1434 C. P/N 9158797D. Mfr. Name and Code Number 00000E. Categorization Index No. 300004F. Missile System Nike HerculesG. Next Assembly SNL J753-2: P/N 9158753**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	0-300	V RMS	$\pm 0.5\%$ F.S., 0-2000 cps, 5000 $\Omega/v$
2.			
3.			
4.			

**B. Functional Description**

Thermo Voltmeter, P/N 9158797, is similar to Weston Model 430 Thermo Voltmeter. It is thermocouple-type voltmeter for indicating the true RMS value of the measured voltage regardless of waveform. An overload safety switch is provided for thermocouple protection. Prior to switch actuation the value to be measured must be below the red line at 30.0 on the 150 volt scale. Measurement is then performed after switch actuation.

**C. Additional Functional Capabilities**NONE

Note: \_\_\_\_\_

**III. Readout Characteristics** The measured value is presented for analog interpretation on a mirror-backed meter scale. The scale calibrations are: 0-50 V, 150 V, 300 V. 28.0 Volts on the 0-50 V scale is accurate to  $\pm 0.2\%$ .

**IV. Operating Voltage(s) Required**A. AC NONEB. DC NONE**V. Mechanical Characteristics**A. Dimensions (inches): Height 6.00; Width 5.05; Depth 3.44B. Configuration: Portable X; Rack Mounted   ; Built into Next Assembly   .**VI. Reference Sources**MICOM Dwg. No. 9158797.

MIL-HDBK-142A

300005

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Oscilloscope, OS-49/M  
 B. FSN 4935-308-2703 C. P/N 8007722  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300005  
 F. Missile System Nike-Ajax, -Hercules & - Hercules (Imp.)  
 G. Next Assembly SNL Y177: P/N 8158377

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	2.75 - 6.87	(Vertical) V/cm	4 cps to 750 kc
2.			
3.			
4.			

**B. Functional Description**

The OS-49/M is a special purpose oscilloscope. The vertical deflection system contains amplifiers and attenuators only. The horizontal system has provisions for triggered sweep operation. A VTVM is provided to indicate the comparative amplitude of signals being tested. A 16 position rotary switch determines the inputs to both the oscilloscope and the VTVM metering circuit. It also selects the proper writing rate of the oscilloscope for convenient display.

**C. Additional Functional Capabilities**

See Volume II, The Stimulus Source Category, Categorization Index

No. S-699

Note: \_\_\_\_\_

**III. Readout Characteristics** A single beam, 3-inch cathode ray tube and a d'Arnosval meter provide readout facilities.**IV. Operating Voltage(s) Required**

A. AC 6.3V, 400 cps, 4.1 amps.  
 B. DC 250V, 0.027 amps; 150 V, 0.010 amps; -250 V, 0.023 amps; -28V, 0.040 amps.

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 14-1/2; Width 5; Depth 14  
 B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

**VI. Reference Sources**

Department of the Army Technical Manual TM 9-1430-250-20/2, TM 9-1430-250-20/6, TM 9-1430-252-35, TM 9-5020-2, TM 9-5020-3, and Final Report, Oscilloscope Technical Analysis, Proj. No. 4935-A069.

MIL-HDBK-142A

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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Oscilloscope  
 B. FSN 4935-328-5932 C. P/N 10105119  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300006  
 F. Missile System Hawk  
 G. Next Assembly SNL J756-23: P/N 10046510

**II. Measuring Capabilities****A. Measurable Parameters**

	Range	Units	Supporting Parameters
1.	.029-20	(Vertical) V/cm	dc to 2.5 mc
2.	1.75-20	(Horizontal) V/cm	dc to 800 kc
3.	0-360	degrees (phase angle)	
4.			

**B. Functional Description**

Oscilloscope, P/N 10105119, is a special-purpose monitor oscilloscope. Only horizontal and vertical axis deflection amplifiers and associated input attenuators are provided. The vertical input attenuator switch is automatic and can be programmed externally.

**C. Additional Functional Capabilities**

NONE

Note: \_\_\_\_\_

**III. Readout Characteristics** A square 3.5 inch single beam cathode ray tube is the readout facility.**IV. Operating Voltage(s) Required**

A. AC 240 V, 400 cps; 6.3 V, 400 cps.  
 B. DC + 150 V, - 150 V, + 300 V, + 28 V.

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 5-1/4; Width 9-1/2; Depth 11-3/8  
 B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

**VI. Reference Sources**

Department of the Army Technical Manuals TM 9-4935-506-35/3 TM 9-4935-506-35/4.  
Final Report, Oscilloscope Technical Analysis, Project No 4935-A069,  
MICOM Dwg. No. 10105119.

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Multimeter-Simulator, Load and Pulse  
 B. FSN 4935-522-0665 C. P/N 8155140  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300007  
 F. Missile System Nike Ajax, -Hercules, & - Hercules (Imp.)  
 G. Next Assembly SNL J752; P/N 9983978

**II. Measuring Capabilities****A. Measurable Parameters**

	Range	Units	Supporting Parameters
1.	0-5000	V dc	20,000 $\Omega$ /V, $\pm$ 4% of full scale
2.	0-1000	V dc	1,000 $\Omega$ /V, $\pm$ 3% of full scale
3.	0-1000	V ac	1,000 $\Omega$ /V, $\pm$ 4% of full scale
4.	0-2.5 0-10	amps meg ohms	Max. 250 mV Insertion loss, $\pm$ 3% full scale $\pm$ 3% of arc length.

**B. Functional Description**

Multimeter-Simulator, Load and Pulse, P/N 8155140, utilizes a TS-352/u multimeter for monitoring of input voltages and for general testing. The TS-352/u is a passive instrument measuring dc and ac voltages, dc current, and ohms.

**C. Additional Functional Capabilities**

See Volume II, The Stimulus Source Category, Categorization Index No. S-737

Note: \_\_\_\_\_

**III. Readout Characteristics** An analog readout of dc and ac voltages and dc current is presented for analog interpretation from a linear scale and ohms on a non-linear scale.

**IV. Operating Voltage(s) Required**

A. AC NONE

B. DC NONE

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 12-7/32; Width 19; Depth 10-3/4  
 B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

**VI. Reference Sources**

Department of the Army Technical Manuals TM 9-4940-251-34 & TM 9-4940-251-35  
MICOM Dwg No. 8155140.

MIL-HDBK-142A

300008

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Multimeter, Stop Timer  
 B. FSN 4935-446-6045 C. P/N 8151770  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300008  
 F. Missile System Nike-Ajax-Hercules & -Hercules (Imp.)  
 G. Next Assembly SNL J751 & SNL J782: P/N 9983978

**II. Measuring Capabilities****A. Measurable Parameters**

	Range	Units	Supporting Parameters
1.	0-5000	V dc	20,000 $\Omega$ /V. $\pm$ 4% of full scale
2.	0-1000	V dc	1,000 $\Omega$ /V. $\pm$ 3% of full scale
3.	0-1000	V ac	1,000 $\Omega$ /V. $\pm$ 4% of full scale
4.	0-2.5 0-10	amp meg ohms	Max. 250 mV Insertion loss, $\pm$ 3% full $\pm$ 3% of arc length scale

**B. Functional Description**

The Multimeter, Stop Timer, P/N 8151770, consists of a rack mounted Multimeter, TS-352/U and a resetable timing motor. The TS-352/U is a passive instrument measuring dc and ac voltages, dc current, and resistance and is used for general testing. The timing motor is calibrated from 0-60 seconds in 1/100 of a second increments. The maximum open circuit test voltage of the ohmmeter position of the TS-352/U is 15 vdc.

**C. Additional Functional Capabilities**

External circuits may be controlled by the timing motor.

Note:

**III. Readout Characteristics** An analog readout of dc and ac voltages and dc current is presented for analog interpretation from a linear scale and ohms on a non-linear scale.

**IV. Operating Voltage(s) Required (for operation of Timing Meter only)**

A. AC 120 V 60 cps

B. DC -28 V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 12.22; Width 19; Depth 5.375

B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

**VI. Reference Sources**

Department of the Army Technical Manuals TM 9-4940-250-34/1 -34/3, -34/4  
MICOM Dwg. No. 8151770

Functional Code Numbers: 111 112 121 21-

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Panel Test, Electrical  
 B. FSN 4935-441-2072 C. P/N 8157362  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300009  
 F. Missile System Nike-Ajax-Hercules & Hercules (Imp.)  
 G. Next Assembly SNL J751 & J782: P/N 9983983

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	0-5000	V dc	20,000 $\Omega$ /V, + 4% of full scale
2.	0-1000	V dc	1,000 $\Omega$ /V, + 3% of full scale
3.	0-1000	V ac	1,000 $\Omega$ /V, + 4% of full scale
4.	0-2,5 0-10	amps meg ohms	Max. 250 mV Insertion loss, + 3% of full + 3% of arc length scale

**B. Functional Description**

The Electrical Test Panel, P/N 8157362, consists of a rack mounted Multi-meter, TS-352/U and two panel meters. The TS-352/U is a passive instrument measuring dc and ac voltages, dc current, and resistance and is used for general testing. The two panel meters are d'Arsonval movements utilized as sensitive current indicators. The maximum open circuit test voltage of the ohmmeter position of the TS-352/U is 15 vdc.

**C. Additional Functional Capabilities**

NONE

Note: \_\_\_\_\_

**III. Readout Characteristics** An analog readout of dc and ac voltages and dc current is presented for analog interpretation from a linear scale and ohms on a non-linear scale of the TS-352/U meter. Two front panel meters provide sensitive current indications from 0-20 u amps and 100-0-100 u amps.

**IV. Operating Voltage(s) Required**

A. AC NONE

B. DC NONE

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 12.22; Width 19; Depth 7.25  
 B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

**VI. Reference Sources**

Department of the Army Technical Manuals TM 9-4940-250-34/3; -35/2  
 MICOM Dwg No. 8157362

Functional Code Numbers: 111 112 121 21-



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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Tachometer, Voltmeter, Electrical  
 B. FSN 4935-620-9323 C. P/N 9032951  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300010  
 F. Missile System Nike-Hercules  
 G. Next Assembly P/N 9032732

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	<u>0-150</u>	<u>Vac</u>	<u>Accuracy <math>\pm</math> 3% FSD</u>
2.			
3.			
4.			

**B. Functional Description**

Tachometer, Voltmeter, Electrical P/N 9032951 is a permanent magnet, moving coil type with a full scale sensitivity of 150 volts, 400 cps.

**C. Additional Functional Capabilities**

This unit can also be used to monitor a tachometer generator up to 63 thousand RPM.

Note: \_\_\_\_\_

**III. Readout Characteristics** Readout is provided on a analog scale graduated from 0 to 150 with 6 major divisions and 30 subdivisions.**IV. Operating Voltage(s) Required**

A. AC NONE

B. DC NONE

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 2.695; Width 2.695; Depth 2.65  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

**VI. Reference Sources**

MICOM Dwg. No. 9032951

300011

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

## I. Item Identification

A. Federal Nomenclature Voltmeter, Digital  
 B. FSN 4935-784-7734 SB                      C. P/N PS837000040-1  
 D. Mfr. Name and Code Number The Martin Company-38597  
 E. Categorization Index No. 300011  
 F. Missile System MACE-B  
 G. Next Assembly                     

## II. Measuring Capabilities

### A. Measurable Parameters

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	0-999.9	Vac	Accuracy: $\pm 0.25\%$ of full scale
2.			from 30 hz to 10k hz.
3.			
4.			

## B. Functional Description

The Digital Voltmeter provides 4 digit readout of ac voltages, with either manual or automatic ranging. The voltmeter is capable of displaying the RMS value of a sine wave with a maximum response time of 5 seconds.

### C. Additional Functional Capabilities

**Note:**

III. Readout Characteristics 4 digits in line with decimal point and AC notation displayed

#### IV. Operating Voltage(s) Required

A. AC 105 to 125v; 54 to 66 hz; 100 watts max.

B. DC

## V. Mechanical Characteristics

A. Dimensions (inches): Height 8 3/4; Width 19; Depth 20  
B. Configuration: Portable       ; Rack Mounted X; Built into Next Assembly       .

## VI. Reference Sources

Air Force Drawing No. PS837000040

Functional Code Number: 112

MIL-HDBK-142A

300012

FSC-4935-ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION

## I. Item Identification

A. Federal Nomenclature Oscilloscope  
 B. FSN 4935-707-9893 C. P/N 9142999  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300012  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL Y30: P/N 9142925

## II. Measuring Capabilities

## A. Measurable Parameters

	Range	Units	Supporting Parameters
1.	<u>1 (vertical)</u>	<u>v/cm</u>	<u>150 cps to 500 kc</u>
2.	<u>0.7 (horizontal)</u>	<u>v/cm</u>	<u>1500 cps to 500 kc</u>
3.			
4.			

## B. Functional Description

Oscilloscope, P/N 9142999, is a special purpose monitor oscilloscope. It consists of horizontal and vertical axis deflection amplifiers only. Controls are provided for focus and intensity adjustments. Facilities for external beam modulation are provided with blanking occurring for a 60.8v (intensity dependent) peak input amplitude signal.

## C. Additional Functional Capabilities

Two front panel knobs provide mechanical coupling to external units and a two position toggle switch, located on the front panel facilitates external switching.  
 Note: \_\_\_\_\_

III. Readout Characteristics A 2-inch, recessed single beam cathode ray tube is the readout facility.

## IV. Operating Voltage(s) Required

A. AC 6.3v, 400 cps, 2 amps.  
 B. DC +300v, 0.04 amps; 900 v, 0.001 amps.

## V. Mechanical Characteristics

A. Dimensions (inches): Height 5 1/2; Width 4 3/4; Depth 11 7/8  
 B. Configuration: Portable    ; Rack Mounted X; Built into Next Assembly    .

## VI. Reference Sources

Department of the Army Technical Manual TM 9-4935-253-12.  
Final Report, Oscilloscope Technical Analysis, Project No. 4935-A069

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Oscilloscope  
 B. FSN 4935-621-3301 C. P/N 8158147  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300013  
 F. Missile System Nike-Ajax  
 G. Next Assembly SNL Y18: P/N 8158149

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	<u>1</u>	<u>(Vertical) V/cm</u>	<u>175 cps to 500 kc</u>
2.	<u>0.7</u>	<u>(Horizontal) V/cm</u>	<u>150 cps to 500 kc</u>
3.			
4.			

**B. Functional Description**

Oscilloscope, P/N 8158147, is a special purpose monitor oscilloscope, that consists of horizontal and vertical axis deflection amplifiers only. Controls are provided for focus and intensity adjustments. Facilities for external beam modulation are provided with blanking occurring for 60.8V (intensity dependent) peak input amplitude signal.

**C. Additional Functional Capabilities**

Two front panel knobs provide mechanical coupling to external units and a two position toggle switch located on the front panel facilitates external switching.

Note: \_\_\_\_\_

**III. Readout Characteristics** A 2-inch, recessed, single beam cathode ray tube provides readout facilities.**IV. Operating Voltage(s) Required**

A. AC 6.3V, 400 cps, 2 amps.  
 B. DC +300 V, 0.1 amps; +900 V, 0.001 amps.

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 5-1/2; Width 4-3/4; Depth 11-1/8  
 B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

**VI. Reference Sources**

Department of the Army Technical Manual TM 9-9503-1-1 and Final Report.  
Oscilloscope Technical Analysis, Project No, 4935-A069

MIL-HDBK-142A

300014

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Oscilloscope  
 B. FSN 4935-446-6085 C. P/N 9140030  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300014  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
 G. Next Assembly SNL J29, J751, J782: P/N 8514299

**II. Measuring Capabilities****A. Measurable Parameters**

	Range	Units	Supporting Parameters
1.	$19.4 \pm 5\%$	$\mu A/\text{inch}$	$65\Omega$ shunted $275\Omega \pm 2\%$
2.			DC through 40 cycles/sec.
3.			
4.			

**B. Functional Description**

Oscilloscope, P/N 9140030, accommodates eight mirrored permanent magnet type galvanometers and is supplied with three active and five dummy elements. Active elements are Heiland Research Corp. Type 40-350B. Dummy elements are Heiland Research Corp. Type A-60U-7.

Further information may be obtained from: Minneapolis-Honeywell Heiland Div.  
 5200 E. Evans Ave.  
 Denver, Colorado.

**C. Additional Functional Capabilities**

NONE

Note: \_\_\_\_\_

**III. Readout Characteristics** A drive mechanism provides paper speeds of .2, 1, 5, and 25 inches/second. A calibrated screen has a lever arm of 30 cm (11.8 inches).**IV. Operating Voltage(s) Required**

A. AC 115 V ac, 60 cycles.

B. DC NONE

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 9.53; Width 10.3; Depth 15.5  
 B. Configuration: Portable X; Rack Mounted   ; Built into Next Assembly   .

**VI. Reference Sources**

MICOM Dwg No. 9140030.

MIL-HDBK-142A

300015

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Oscillograph  
 B. FSN 4935-086-4132 C. P/N 10607235-1  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300015  
 F. Missile System Pershing  
 G. Next Assembly SNL J789: P/N 10576002

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	.002 to 2	VRMS/chart line	dc through 10 cycles/sec
2.			Z in equals 10,000 ohms
3.			
4.			

**B. Functional Description**

Oscillograph, P/N 10607235-1, is a two-channel recorder utilizing vertical curvilinear, electric type writing. A one second event marker is provided. The instrument is capable of providing DC-10 cycles graphic display representations of 400 cycle suppressed carrier modulated signal inputs. Further information may be obtained from Brush Instruments, Division of Clevite Corp., Cleveland 14, Ohio. Refer to Part No. 432335-915.

**C. Additional Functional Capabilities**

NONE

Note:

**III. Readout Characteristics Chart Data:** Speeds of 1, 2, 5, 10, 25, 50, 125, and 250 mm/sec; length of 150 ft.; graduation of 1 div/mm; travel from right to left.

**IV. Operating Voltage(s) Required**

A. AC 115 ± Volts ac, 400 ± 1 cycles; 115 ± 0.5 Volts ac, 400 ± .012 cycles  
 (reference signal)  
 B. DC + 28 ± 2 V dc, - 24 ± 2 V dc; less than 5 % ripple from full wave  
rectified, 400 cycles.

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 13.5; Width 17.76; Depth N/S  
 B. Configuration: Portable X; Rack Mounted ; Built into Next Assembly .

**VI. Reference Sources**

MICOM Dwg. No. 10607235.

MIL-HDBK-142A

300016

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Peak Voltmeter  
 B. FSN 4935-053-2551 C. P/N 10167172  
 D. Mfr. Name and Code Number Ordnance Corps - 00000  
 E. Categorization Index No. 300046  
 F. Missile System Nike Hercules (Imp)  
 G. Next Assembly SNL J784-01: P/N 9980771

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.			
2.			
3.			
4.			

**B. Functional Description**

The Peak Voltmeter, P/N 10167172 provides facilities for accepting pulses of various amplitudes and repetition rates and furnishes a dc voltage proportional to the maximum pulse amplitude over a large time scale, the output remains at a constant level for 20 seconds after injection of final signal pulse. It is designed as a peak detecting module to be used with a convenient readout device.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics** A dc output is provided for external monitoring by voltmeters or oscilloscopes.**IV. Operating Voltage(s) Required**

A. AC 6.3v  
 B. DC 250v, -250v

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 6 3/8; Width 1 1/2; Depth 8 1/2  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

**VI. Reference Sources**

Department of the Army Technical Manuals  
TMS-4940-252-34/3 and -35/2

Functional Code Number: 113

MIL-HDBK-142A

300017

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**MEASURING EQUIPMENT DELINEATION**

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**I. Item Identification**

A. Federal Nomenclature Test Set, Stray Voltage  
 B. FSN 4935-955-6583 C. P/N 804E4100000-009  
 D. Mfr. Name and Code Number The Martin Company-38597  
 E. Categorization Index No. 300017  
 F. Missile System TITAN II LGM25C  
 G. Next Assembly FSN 4935-955-6583

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	<u>0-30</u>	<u>vac/dc</u>	<u>Accuracy: <math>\pm</math> 5%</u>
2.			
3.			
4.			

**B. Functional Description**

The Test Set, Stray Voltages provides measurement of ac and/or dc average values in two ranges, 0-90mv and 0-30vdc, utilizing a bridge rectifier circuit.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics** A d'Arsonval meter provides readout of voltage on a non-linear scale**IV. Operating Voltage(s) Required**

A. AC None Required  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 12; Width 8; Depth 6  
 B. Configuration: Portable X; Rack Mounted   ; Built into Next Assembly   .

**VI. Reference Sources**

Department of the Air Force Technical Order: T.O. 33D9-84-28-2

Functional Code Numbers: 113

2.5



MIL-HDBK-142A

300018

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Oscilloscope  
 B. FSN 4935-078-4364 C. P/N 10395325  
 D. Mfr. Name and Code Number Tektronix Inc. - 80009  
 E. Categorization Index No. 300018  
 F. Missile System Sergeant  
 G. Next Assembly SNL J760-D

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.		See Section II B.	
2.			
3.			
4.			

**B. Functional Description**

The Tektronix Type 321 is a general purpose, portable type cathode ray oscilloscope with a 3-inch, single beam CRT. It can be operated from an external power source or self-contained batteries. The circuitry of the vertical and horizontal deflection systems is self-contained, thus placing this instrument in the permanent characteristics classification. The vertical deflection system has a pass band of dc to 5 mc and a maximum deflection sensitivity of 0.01v/div (1 div = 1/4 inch). The horizontal deflection system provides 19 fixed calibrated sweep rates from 0.5 usec/div to 0.5 sec/div with provisions for extending the fastest sweep rate to 0.1 usec/div through the use of the five times (5X) magnifier. This system also provides an uncalibrated vernier control for the continuous adjustment of the sweep rate between the 19 calibrated steps and to extend the slow sweep range to 1 sec/cm.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics** A Cathode Ray tube provides visual display of input signals.**IV. Operating Voltage(s) Required**

A. AC either 105 to 125, 210 to 250v; 50-800cps.

B. DC or 11.5 to 35 Vdc.

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 8 1/4; Width 5 3/4; Depth 16  
 B. Configuration: Portable X; Rack Mounted   ; Built into Next Assembly   .

**VI. Reference Sources**

TM9-4935-307-34 (Tektronix Instruction Manual Type 321 Oscilloscope)

Functional Code Numbers: 113 141 144

MIL-HDBK-142A

300019

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Oscilloscope  
 B. FSN 4935-075-5328 C. P/N 11065981  
 D. Mfr. Name and Code Number Ordnance Corps - 00000  
 E. Categorization Index No. 300019  
 F. Missile System Sergeant  
 G. Next Assembly SNL J760-13: P/N 10395306

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	See Section II, B.		
2.			
3.			
4.			

**B. Functional Description**

The Fairchild Type 767 is a general purpose, rack mounted type, cathode ray oscilloscope with a single beam, 5-inch CRT. In order to accommodate a wide variety of signal handling requirements, the main frame system is designed to operate with any one of the Fairchild Type 76-00 or 74-00 series plug-in units; hence the convertible characteristics classification. Since two vertical axis plug-ins may be utilized simultaneously, the oscilloscope may be used as an X-Y plotter. The main frame consists of all necessary power supplies, cathode ray tube circuitry, and facilities for plug-in unit operation. It has no self-contained horizontal or vertical deflection system and requires two plug-ins for proper operation. The main frame unit has a pass band of dc to 100 mc. The Oscilloscope, P/N 11065981, consists of a Fairchild Type 767H Oscilloscope, Fairchild Type 7602A Dual Trace Plug-in preamplifier, and Fairchild Type 7413A Dual Time Base Plug-in Generator.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics** A Cathode Ray tube provides visual display of input signals.**IV. Operating Voltage(s) Required**

A. AC 115v, 400 cps  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 7; Width 19; Depth 20  
 B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

**VI. Reference Sources**

TM 4935-381-31 Fairchild Instruction Manual Type 765 Oscilloscope

Functional Code Numbers: 113 141 144

510

MIL-HDBK-142A  
300020FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION

## I. Item Identification

A. Federal Nomenclature Oscilloscope  
 B. FSN 4935-821-0854 SB C. P/N PS83490062-1  
 D. Mfr. Name and Code Number Electronic Tube Corp. - 20183  
 E. Categorization Index No. 300020  
 F. Missile System MACE-B TM76B  
 G. Next Assembly P/N 258N9406000

## II. Measuring Capabilities

## A. Measurable Parameters

	Range	Units	Supporting Parameters
1.	See Section II.B.		
2.			
3.			
4.			

## B. Functional Description

The Electronic Tube Corporation Model K115R is a general purpose, rack-mounted type cathode ray oscilloscope with a 5-inch, single beam CRT. The circuitry of the vertical and horizontal deflection systems is self-contained. The vertical deflection system has a pass band of dc to 13 mc and a maximum deflection sensitivity of 0.05 v/cm. The horizontal deflection system provides 22 fixed calibrated sweep rates from 0.2 usec/cm to 2 sec/cm with provisions for extending the fastest sweep rate to 0.04 usec/cm through the use of the five times (5-X) multiplier. This system also provides an uncalibrated vernier control for the continuous adjustment of the sweep rate between the 22 calibrated steps and to extend the slow sweep range to 6 sec/cm. All input and output facilities are located on the rear panel.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

III. Readout Characteristics A Cathode Ray tube provides visual display of input signals.

## IV. Operating Voltage(s) Required

A. AC 103.5-126.5v. 54-66cps  
 B. DC \_\_\_\_\_

## V. Mechanical Characteristics

A. Dimensions (inches): Height 8 3/4; Width 19; Depth 19 7/8  
 B. Configuration: Portable    ; Rack Mounted x; Built into Next Assembly    .

## VI. Reference Sources

Air Force Drawing No. PS843900062  
Instruction Manual (Electronic Tube Corp.) Model K115R

Functional Code Numbers: 113 141 144

511

MIL-HDBK-142A

300021

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Oscilloscope  
 B. FSN 4935-809-2281 AD C. P/N G 303460 and 502  
 D. Mfr. Name and Code Number Tektronix Inc - 64959 and 92663  
 E. Categorization Index No. 300021  
 F. Missile System PGM 437  
 G. Next Assembly P/N G303650 AN/GRM-43

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.			
2.			
3.			
4.			

**B. Functional Description** The Tektronix Type 502 is a general purpose, portable type cathode ray oscilloscope with a 5-inch, dual beam cathode ray tube. The circuitry of each of the two vertical deflection systems and the horizontal deflection system is self-contained. Each vertical deflection system has pass bands of dc to 100 kc at 200 uv/cm sensitivity extending to dc to 1 mc at 0.2 v/cm sensitivity. The horizontal deflection system provides 21 fixed calibrated sweep rates from 1 usec/cm to 5 sec/cm with provisions for extending any sweep rate to 1 usec/cm calibrated or the fastest sweep rate to 0.05 usec/cm uncalibrated. The operation of the horizontal deflection system is such that each beam of the cathode ray tube is deflected at a common sweep frequency. X-Y curve tracing operation is provided by connecting the Upper beam vertical deflection system to the horizontal deflection plates resulting in equal horizontal and vertical deflection characteristics.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics** A Cathode Ray tube provides visual display of input signals.**IV. Operating Voltage(s) Required**

A. AC 110v, 60 cps  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 15; Width 11½; Depth 23½  
 B. Configuration: Portable X; Rack Mounted   ; Built into Next Assembly   .

**VI. Reference Sources**

Air Force Drawing No. G303460 A.F. T033D9-88-4-2 & 33D9-88-4-4  
Tektronix Instruction Manual Type 502

Functional Code Numbers: 113 141 144

MIL-HDBK-142A

300022

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Oscilloscope  
 B. FSN 4935-624-8773 AA                      C. P/N 177012-801  
 D. Mfr. Name and Code Number Hughes Aircraft Company-82577  
 E. Categorization Index No. 300022  
 F. Missile System FALCON  
 G. Next Assembly                     

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	<u>See Section II. B.</u>		
2.			
3.			
4.			

**B. Functional Description** Oscilloscope, P/N 177012-801 is a special purpose oscilloscope which is a part of the ALM-4E/ALM-4F and ALM-4G Missile Field Checkout equipment. The oscilloscope provides facilities for viewing certain checkout console and missile signals and comparing outputs of various signal generators. The oscilloscope is of the rack-mounted type with a 5-inch single beam cathode ray tube. A d'Arsonval meter is mounted on the front panel and is utilized as a null balance indicator. The oscilloscope contains a limited sweep circuit facility providing only for triggered sweeps of either 10 or 490 usec sweep duration and coincident unblanking pulses to the grid of the cathode ray tube. Vertical and horizontal deflection system amplifiers are also provided but specific information is classified - see reference sources. A high voltage and filament power supply is self-contained but all other operating power must be supplied from the next assembly.

**C. Additional Functional Capabilities**

Note:                     

**III. Readout Characteristics** A Cathode Ray tube provides visual display of input signals.**IV. Operating Voltage(s) Required**

A. AC                       
 B. DC +300v, +150v, -300v

**V. Mechanical Characteristics**

A. Dimensions (inches): Height Not specified Width                     ; Depth                       
 B. Configuration: Portable       ; Rack Mounted X; Built into Next Assembly       .

**VI. Reference Sources**

Air Force Technical Order T.O. 3309-30-112

Functional Code Numbers: 113 141 144



MIL-HDBK-142A  
300024FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION

## I. Item Identification

A. Federal Nomenclature Oscilloscope  
 B. FSN 4935-202-1008 C. P/N PC2-10428-1  
 D. Mfr. Name and Code Number Lockheed Aircraft Corp. - 06887 and 36659  
 E. Categorization Index No. 300024  
 F. Missile System Polaris  
 G. Next Assembly \_\_\_\_\_

## II. Measuring Capabilities

## A. Measurable Parameters

	Range	Units	Supporting Parameters
1.	See Section II.B.		
2.			
3.			
4.			

## B. Functional Description

The Hewlett-Packard Model (HO2-175A) is a general purpose, portable type, military cathode ray oscilloscope with a single beam, 5-inch CRT. In order to accommodate a wide variety of signal handling requirements both the vertical and horizontal deflection systems are designed to operate with Hewlett-Packard Model 175A and 178A series plug-in units. The self-contained main amplifier of the vertical deflection system has a pass band of dc to 50 mc and an approximate deflection sensitivity of 0.2 v/cm. The self-contained portion of the horizontal deflection system provides 24 fixed calibrated sweep rates from 0.1 usec/cm to 5 sec/cm, along with an uncalibrated vernier control for the continuous adjustment of the sweep rate between the calibrated steps and to extend the slow sweep range to 12.5 sec/cm. This system also provides one step of sweep magnification: X10, with a resulting degradation of sweep rate accuracy to  $\pm 5\%$ .

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

III. Readout Characteristics A Cathode Ray tube provides visual display of input signals.

## IV. Operating Voltage(s) Required

A. AC 103.5-126.5 or 207-253V: 50-60 cps

B. DC \_\_\_\_\_

## V. Mechanical Characteristics

A. Dimensions (inches): Height 12 1/2; Width 16 3/4; Depth 24 3/8B. Configuration: Portable \_\_\_\_\_; Rack Mounted X; Built into Next Assembly \_\_\_\_\_.

## VI. Reference Sources

Hewlett-Packard Instruction Manual Model 175A BUWEPs

Functional Code Numbers: 113 141 144

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MIL-HDBK-142A

300025

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

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**I. Item Identification**

A. Federal Nomenclature Oscilloscope  
 B. FSN 4935-953-0096 C, P/N 9997962  
 D. Mfr. Name and Code Number Western Electric Company - 64959  
 E. Categorization Index No. 300025  
 F. Missile System Nike-Hercules (Imp)  
 G. Next Assembly SNL J784-1: P/N 9980771

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.			
2.			
3.	<u>See Sect. II. B.</u>		
4.			

**B. Functional Description**

Oscilloscope OPN 9997962 is a special-purpose monitor oscilloscope which is part of waveform analyzer monitor, OPN 9980771 of the Nike-Hercules Air Defense Guided Missile System. The oscilloscope is of the rack-mounted type with a 3-inch single beam cathode ray tube. It provides visual monitoring of input signals to the waveform analyzer monitor. Internal controls are provided for vertical and horizontal positioning and for vertical input attenuation only. Internal focus and intensity controls are also provided. The vertical deflection system has a pass band of approximately 500 cps to 1 mc and a deflection sensitivity of approximately 4 v/cm. The horizontal deflection system has a pass band of approximately 10 cps to 250 kc and a deflection sensitivity of approximately 2.5 v/cm.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics** A cathode-ray-tube provides visual display on input signals.**IV. Operating Voltage(s) Required**

A. AC 120 vac; 400 cps  
 B. DC +250V, -250V

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 4 5/8; Width 6 3/4; Depth 14 5/8  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

**VI. Reference Sources**

Army Technical Manual TM 9-4940-252-34/1, -34/3  
Army Technical Manual TM 9-4940-252-35/1, -35/2

Functional Code Numbers: 113 144



MIL-HDBK-142A

300026

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**A. Federal Nomenclature OscilloscopeB. FSN 4935-975-9872 C. P/N 2315783D. Mfr. Name and Code Number Bureau of Naval Weapons - 10001E. Categorization Index No. 300026

F. Missile System \_\_\_\_\_

G. Next Assembly \_\_\_\_\_

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	<u>See Sect. II. B.</u>		
2.			
3.			
4.			

**B. Functional Description**

Oscilloscope, P/N 2315783, is a special purpose monitor oscilloscope utilized to compare selected input signals to a selected input reference signal. The monitor oscilloscope is of the rack-mounted type with a 2-inch, single beam cathode ray tube. The oscilloscope consists of a vertical deflection system amplifier, including an input attenuator switch, and a high voltage power supply only. Special purpose features included are a special 12 position signal selector switch and a special purpose transformer input circuit.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics** A Cathode-Ray tube provides visual display of input signals.**IV. Operating Voltage(s) Required**A. AC 115v.B. DC +45V, -28V**V. Mechanical Characteristics**A. Dimensions (inches): Height 9 3/4; Width 6 3/4; Depth 9 1/2B. Configuration: Portable\_\_\_\_; Rack Mounted\_\_\_\_; Built into Next Assembly X.**VI. Reference Sources**Naval Bureau of Weapons Drawing No.'s 2315783 and 2212462

Functional Code Numbers: 113 144

MIL-HDBK-142A

300027

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Galvanometer  
 B. FSN 4935-025-3513 C. P/N 8026510  
 D. Mfr. Name and Code Number Leeds and Northrup - 35529  
 E. Categorization Index No. 300027  
 F. Missile System Corporal II  
 G. Next Assembly SNL J 739-28: P/N 8897200

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	0-0.5	Micro amperes	Deflection: Linear to within 1%.
2.			
3.			
4.			

**B. Functional Description**

The Galvanometer, P/N 2430C 8026510, is a Leeds and Northrup Model 2430C Light Beam Galvanometer. It provides a basic sensitivity of 0.005 microamperes per mm. The critical damping resistance is 400 ohms.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics** A moving coil dc galvanometer in conjunction with a optical projection system indicates the current on a 100 mm linear scale, by means of a deflecting light spot.

**IV. Operating Voltage(s) Required**

A. AC 115v  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 9 1/4; Width 6 1/4; Depth 13 5/8  
 B. Configuration: Portable X; Rack Mounted    ; Built into Next Assembly    .

**VI. Reference Sources**

Department of the Army Technical Manual TM 9-9509-1-1-45

Functional Code Numbers: 121

215

MIL-HDBK-142A

300028

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**A. Federal Nomenclature Test SetB. FSN 4935-896-9641 C. P/N 1942412D. Mfr. Name and Code Number Bureau of Naval Weapons - 10001 and 80066E. Categorization Index No. 300028

F. Missile System \_\_\_\_\_

G. Next Assembly \_\_\_\_\_

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	<u>0-10</u>	<u>ma</u>	<u>Insertion Loss: 0-850 mvdc</u>
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____

**B. Functional Description**

The Test Set, P/N 1942412, is a pyrotechnics or squib tester operating at no voltage or from a internally contained 1.5vdc battery in series with 410 ohms. It provides a current meter, with additional facilities for selecting the limited current source in checking circuit continuity of sensitive devices at levels below 3 ma.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics** A d'Arsonval meter movement provides a readout of 0-10 ma or a linear scale.**IV. Operating Voltage(s) Required**A. AC None Required

B. DC \_\_\_\_\_

**V. Mechanical Characteristics**A. Dimensions (inches): Height 5; Width 5; Depth 4B. Configuration: Portable X; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_**VI. Reference Sources**Naval Bureau of Weapons Drawing No. 1942412

Functional Code Numbers: 121 21-

2-5

MIL-HDBK-142A

300029

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Test Set, Radio Frequency  
 B. FSN 4935-440-1625 C. P/N 8151850  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300029  
 F. Missile System Nike-Ajax-Hercules-Hercules (Imp.)  
 G. Next Assembly SNL J752: P/N 8514790 & SNL J783: P/N 9983977

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	-14 to +6	db	1 milliwatt referenced
2.	0 to 6	db	Accuracy $\pm 1\%$ full scale
3.			
4.			

**B. Functional Description**

The Radio Frequency Test Set, P/N 8151850, is an rf power meter. It contains a meter, an oscillator, and two thermistor balancing bridges, and when used with external thermistors can be used for rf power measurements. It also contains a wattmeter, P/N 011183, used to indicate rf power detected by external rf power meters calibrated from 0-6 db. See Categorization Index No. M 386 for specific information.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics** Two meters provide an analog readout of db on a non-linear scale.**IV. Operating Voltage(s) Required**

A. AC 6.3v ac  
 B. DC +300 v dc

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 10 1/2; Width 12 3/4; Depth 9 7/8  
 B. Configuration: Portable    ; Rack Mounted X; Built into Next Assembly    .

**VI. Reference Sources**

Department of the Army Technical Manual TM 9-4940-251-34/4 (c) &  
TM 9-4940-251-35/3 (c)

Functional Code Number: 133

520

MIL-HDBK-142A  
300030FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**I. Item Identification**

A. Federal Nomenclature Power Meter  
 B. FSN 4935-860-2400 C. P/N 9986043  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300030  
 F. Missile System Nike-Ajax. -Hercules  
 G. Next Assembly SNL Y018 & Y030: P/N 9143375

**II. Measuring Capabilities****A. Measurable Parameters**

	Range	Units	Supporting Parameters
1.	<u>Specific information is classified; see references listed below.</u>		
2.			
3.			
4.			

**B. Functional Description**

This item's basic measuring circuitry contains an oscillator, two thermistor-varied impedance bridges, an amplifier, and a detector. It is the type of rf power meter which compares the effect of rf power on unbalancing a bridge against the effect of a known source of frequency in establishing a bridge reference. In addition to the power measurement capability, this item has self-contained instrumentation for measuring the frequency of the input rf signal.

**C. Additional Functional Capabilities**None

Note: \_\_\_\_\_

III. Readout Characteristics No readout is provided for rf power. An external 0-6 db meter is required. Frequency readout is from a mechanical indicator whose value must be converted from a reference chart on the front panel.

**IV. Operating Voltage(s) Required**

A. AC 6.3V ac  
 B. DC 300 V dc (calibration control provided herein)

**V. Mechanical Characteristics**

A. Dimensions (inches): Height N/S; Width N/S; Depth N/S  
 B. Configuration: Portable    ; Rack Mounted x; Built into Next Assembly    .

**VI. Reference Sources**

Department of the Army Technical Manual TM 9-4935-253-20 (c) TM 9-4935-253-20 (C)  
MICOM Dwg. No. 9986043

Functional Code Number: 133

MIL-HDBK-142A

300031

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Meter, Radio Frequency  
 B. FSN 4935-730-7448 C. P/N 9986045  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300031  
 F. Missile System Nike-Ajax-Hercules & -Hercules (Imp.)  
 G. Next Assembly SNL Y004-04 & SNL J784- P/N 9993685, P/N 9990769, & P/N 9980070

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	<u>Specific information is classified.</u>		
2.	<u>See reference sources listed below.</u>		
3.			
4.			

**B. Functional Description**

The Radio Frequency Power Meter, P/N 9986045, provides facilities for complete frequency measurements and for power measurements if used with a readout device and proper thermistor adaptor. Specific information is Classified; See Reference sources listed below.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics****IV. Operating Voltage(s) Required**

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 7.5; Width 19; Depth 6.5  
 B. Configuration: Portable    ; Rack Mounted X; Built into Next Assembly    .

**VI. Reference Sources**

Department of the Army Technical Manual TM 9-1430-252-35.  
MICOM Dwg. No. 9986045

Functional Code Numbers: 133 142

MIL-HDBK-142A

300032

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Test Set, Radio  
 B. FSN 4935-535-4603 C. P/N 9003047  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300032  
 F. Missile System Nike-Ajax-Hercules & -Hercules (Imp.)  
 G. Next Assembly SNL J029-4B, J751, J782: P/N 9983982

**II. Measuring Capabilities****A. Measurable Parameters**

	Range	Units	Supporting Parameters
1.	0.00001-100,000 (time)	Seconds	1 v peak min. signal required
2.	0.00001-10,000 (period)	cps	0.2 v rms min. signal required
3.	10-120,000 (frequency)	cps	0.2 v rms min. signal required
4.			

**B. Functional Description**

The Radio Test Set, P/N 9003047, measures frequency, period and time interval. It contains all necessary input circuits and decimal counting units resulting in automatic display in direct reading form. It is a Dymec Model 2501 Electronic Counter.

**C. Additional Functional Capabilities**

NONE

Note: \_\_\_\_\_

**III. Readout Characteristics** Five decade columns consisting of banks of neon lighted numerals.**IV. Operating Voltage(s) Required**

A. AC 115/230v, 50-60 cps, 260 watts

B. DC NONE

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 10.5; Width 12.75; Depth 23  
 B. Configuration: Portable    ; Rack Mounted X; Built into Next Assembly    .

**VI. Reference Sources**

MICOM Dwg. No. 9003047

Functional Code Numbers: 141 142 145

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MIL-HDBK-142A

300033

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION**  
**MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Meter, Electrical Frequency  
 B. FSN 4935-739-2265 C. P/N 9157911  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300033  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL J753 P/N 9158718

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	<u>390-410</u>	<u>CPS</u>	<u>110 to 140 Volts</u>
2.			<u>Accuracy: .1% of indicated</u>
3.			
4.			

**B. Functional Description**

Meter, Electrical Frequency, P/N 9157911, is a panel mounted, vibrating reed type frequency meter, consisting of 21 reeds with one cycle between reeds. It is calibrated for use in a vertical position.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics** A vibrating reed indicator is utilized. The scale is graduated in ones from 390 to 410.**IV. Operating Voltage(s) Required**

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height 3 1/2; Width 3 1/2; Depth 3 1/8  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X.

**VI. Reference Sources**

MICOM Dwg. No. 9157911

Functional Code Number: 142

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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

A. Federal Nomenclature      Frequency Meter

B. FSN 4935-684-5558 HB C. P/N 132820

D. Mfr. Name and Code Number Voltron Products - 06117

E. Categorization Index No. 300034

F. Missile System ADM-20C

G. Next Assembly MDE 4441-15-25-27

### A. Measurable Parameters

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	350-450	hz	Voltage Range: 100 to 130 vac
2.			
3.			
4.			

### B. Functional Description

The Frequency Meter, P/N 132820, is a saturable core expanded scale 3 1/2" round militarized meter.

### C. Additional Functional Capabilities

**Note:**

III. Readout Characteristics A meter movement provides a readout on a linear scale with a red band overprint from 350 to 380 and from 420 to 450; a green band overprint from 380 to 420; centerscale 400 hz.

#### IV. Operating Voltage(s) Required

**A. AC None Required.**

B. DC

## V. Mechanical Characteristics

A. Dimensions (inches): ~~10238~~ Dia: 3 1/2 ; Width \_\_\_\_\_ ; Depth 4 5/8

B. Configuration: Portable       ; Rack Mounted       ; Built into Next Assembly X       .

## VI. Reference Sources

Air Force Drawing No. 132820

Functional Code Number: 142

225

FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION

## I. Item Identification

A. Federal Nomenclature Test Set ContinuityB. FSN 4935-072-9210 C. P/N 263373-9D. Mfr. Name and Code Number Aerojet-General Corp. - 05824E. Categorization Index No. 300035F. Missile System LGM25C TITAN IIG. Next Assembly P/N 262012-59 4935-754-5050

## II. Measuring Capabilities

## A. Measurable Parameters

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	<u>0-00</u>	<u>ohms</u>	<u>Midscale Resistance: 15 ohms</u>
2.			
3.			
4.			

## B. Functional Description

The Test Set Continuity provides a single range ohmmeter for circuit continuity checks.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

III. Readout Characteristics A d'Arsonval meter provides readout of ohms on a non-linear scale.

## IV. Operating Voltage(s) Required

A. AC 115v

B. DC \_\_\_\_\_

## V. Mechanical Characteristics

A. Dimensions (inches): Height 12; Width 9; Depth 8B. Configuration: Portable   ; Rack Mounted X; Built into Next Assembly   .

## VI. Reference Sources

Air Force Drawing No. 263373Functional Code Number: 21-

MIL-HDBK-142A  
300036FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION

## I. Item Identification

A. Federal Nomenclature Test Set, Interval Timer  
 B. FSN 4935-589-8289 C. P/N 8156577  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300036  
 F. Missile System Nike-Ajax-Hercules-Hercules (Imp.)  
 G. Next Assembly SNL J752: P/N 8514790 & J783: P/N 9983977

## II. Measuring Capabilities

## A. Measurable Parameters

	Range	Units	Supporting Parameters
1.	0-1000	seconds	
2.			
3.			
4.			

## B. Functional Description

The interval timer test set, P/N 8156577 is capable of testing motor driven and electronic timers. It consists of a motor-driven electric timer, a calibrated electronic time interrupt circuit, and associated switches, relays, and indicator lights facilitating control of the unit under test.

## C. Additional Functional Capabilities

None

Note: \_\_\_\_\_

III. Readout Characteristics A synchronous motor drives a mechanical time indicator.  
Front panel lamps indicate starting and stopping of testing cycle.

## IV. Operating Voltage(s) Required

A. AC 120V, 60 cps; 6.3v

B. DC +250V, -28V

## V. Mechanical Characteristics

A. Dimensions (inches): Height 7; Width 14-1/2; Depth 7-3/4  
 B. Configuration: Portable    ; Rack Mounted X; Built into Next Assembly    .

## VI. Reference Sources

Department of the Army Technical Manual TM 9-4940-251-34/4 (c) &  
TM 9-4940-251-95/3 (c)

Functional Code Numbers: 27-

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FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION

**I. Item Identification**

A. Federal Nomenclature Shop Equipment, Guided Missile, AN/MPM-52A  
B. FSN 4935-987-8705 C. P/N 9996505  
D. Mfr. Name and Code Number 00000  
E. Categorization Index No. 300037  
F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp.)  
G. Next Assembly N/A

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.	<u>See Functional Description below.</u>		
2.			
3.			
4.			

**B. Functional Description** The Guided Missile Shop Equipment is trailer-mounted and provides facilities for testing and maintaining in the general category of dc, IF, RF, and video amplifiers; RF and video detectors; APC units; bandpass filters; indicators and control panels; pulse generators; relay and resistor assemblies; power supplies; and synchro assemblies. The equipment provides semi-automatic testing of the above assemblies through a sequential bit transfer programming system. The capability for manual operation is also provided.

**C. Additional Functional Capabilities**NONENote:**III. Readout Characteristics** Failed and Passed indicators, analog and digital indicators, and an oscilloscope indicator are provided as display equipment.**IV. Operating Voltage(s) Required**

A. AC 120 V, 60 cps; 120 V, 400 cps.

B. DC NONE

**V. Mechanical Characteristics** N/A

A. Dimensions (inches): Height           ; Width           ; Depth             
B. Configuration: Portable; Rack Mounted; Built into Next Assembly.  
Transportable Trailer-Mounted.

**VI. Reference Sources**

Department of the Army Technical Manual TM 9-4940-252/34  
MICOM Dwg No. 9996505.

Functional Code Number: 27-

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300038FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**I. Item Identification**

A. Federal Nomenclature Shop Equipment, Guided Missile, AN/MPM 52A  
 B. FSN 4935-789-2963 C. P/N 9143033  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300038  
 F. Missile System Nike-Ajax, -Hercules, & Hercules (Imp.)  
 G. Next Assembly N.A.

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.			
2.			
3.			
4.			

**B. Functional Description**

Superceded by P/N 9996505. See Categorization Index No. M-008.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics****IV. Operating Voltage(s) Required**

A. AC \_\_\_\_\_

B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

**VI. Reference Sources**

MICOM Dwg. No. 9143033

Functional Code Number: 27

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300039

**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Power Meter, RF  
 B. FSN 4935-605-4733 C. P/N 8021576  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300039  
 F. Missile System Nike-Ajax  
 G. Next Assembly SNL Y018; P/N 8021742

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.			
2.			
3.			
4.			

**B. Functional Description**

Superseded by P/N 9986043. See Categorization Index No. M-496.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics****IV. Operating Voltage(s) Required**

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

**VI. Reference Sources**

MICOM Dwg. No. 8021576.

Functional Code Number: 133

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MIL-HDBK-142A  
300040FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION

## I. Item Identification

A. Federal Nomenclature Power Meter, Radio Frequency  
 B. FSN 4935-045-9865 C. P/N 9986044  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300040  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL Y30: P/N 9143375

## II. Measuring Capabilities

## A. Measurable Parameters

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.			
2.			
3.			
4.			

## B. Functional Description

Superseded by P/N 9986043. See Categorization Index No. M-496.

## C. Additional Functional Capabilities

Note: \_\_\_\_\_

## III. Readout Characteristics

## IV. Operating Voltage(s) Required

A. AC \_\_\_\_\_

B. DC \_\_\_\_\_

## V. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

## VI. Reference Sources

MICOM Dwg No. 9986044.

Functional Code Number: 133

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**FSC-4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
MEASURING EQUIPMENT DELINEATION**

300041

**I. Item Identification**

A. Federal Nomenclature Power Meter, Radio Frequency  
 B. FSN 4935-690-4628 C. P/N 8158111  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 300041  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL Y30: P/N 9143375

**II. Measuring Capabilities****A. Measurable Parameters**

	<u>Range</u>	<u>Units</u>	<u>Supporting Parameters</u>
1.			
2.			
3.			
4.			

**B. Functional Description**

Superseded by P/N 9986043. See Categorization Index No. M-496.

**C. Additional Functional Capabilities**

Note: \_\_\_\_\_

**III. Readout Characteristics****IV. Operating Voltage(s) Required**

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

**V. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_.

**VI. Reference Sources**

MICOM Dwg. No. 8158111

Functional Code Number: 133

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CATEGORY 40: THE ADAPTIVE AND SUPPLEMENTARY DEVICES CATEGORY

## 40.1 RETRIEVAL INSTRUCTIONS.

40.1.1 General instructions. There are three simple steps to be followed in retrieving the delineations contained in this test function category, and they can be summarized as follows: First, define the FUNCTIONAL CODE NUMBER which identifies the category in which data on the required item is located. Second, refer to the ADAPTIVE DEVICES-TABLE OF DELINEATIONS section of this document to determine which delineations are applicable to the code number defined in Step 1. Third, locate the applicable delineations which are indexed by CATEGORIZATION INDEX NUMBER in the ADAPTIVE DEVICES-DELINEATIONS section of this document.

40.1.2 Detailed instructions. Detailed instructions on following this three-step procedures are given below, along with examples of typical functional requirements which can be met by the items for which data is stored in this Functional Categorization System.

STEP 1. Define the FUNCTIONAL CODE NUMBER which identifies the category in which data on the required item is located. The FUNCTIONAL CODE NUMBER is always a three-digit number and is defined by specifying the functional capability of the required item in terms of:

- a. PERFORMANCE FACTOR.....FIRST DIGIT
- b. CONTROL PARAMETER.....SECOND DIGIT
- c. CHARACTERISTIC FACTOR.....THIRD DIGIT

The digits for the FUNCTIONAL CODE NUMBER are selected from Figure 4 on the next page.

EXAMPLE: The user has a requirement for a time delay circuit which:

- a. Transfers a signal without changing its waveform....FIRST DIGIT = 2
- b. Controls the basic parameter of time.....SECOND DIGIT = 2
- c. Delays the input signal for a given time.....THIRD DIGIT = 6

STEP 2. Refer to the ADAPTIVE DEVICES-TABLE OF DELINEATIONS and locate the one which is identified by the FUNCTIONAL CODE NUMBER defined in STEP 1. The CATEGORIZATION INDEX NUMBERS listed therein identify technical delineations on items with the required functional capabilities. For FUNCTIONAL CODE NUMBER 2.2.6, one CATEGORIZATION INDEX NUMBER will be found: 400082.

STEP 3. Locate the applicable documentation by searching the ADAPTIVE DEVICES-DELINEATIONS section of this document. The CATEGORIZATION INDEX NUMBERS found in STEP 2 identify the applicable delineation forms. The CATEGORIZATION INDEX NUMBER appears in the upper right hand corner of the delineation form.

40.1.3 Special instructions. The example used in the three-step retrieval procedure outlined above requires that three specific characteristics be defined in order to retrieve documentation applicable to the type of item desired. By referring to Figure 4, it can be seen that it is possible to leave one or two digits of the FUNCTIONAL CODE NUMBER undefined by specifying an "open capability" for a particular classification level. As the following examples show, this feature allows for either broadening or narrowing the scope of documentation which can be retrieved.

EXAMPLE 1: The user has a requirement for a device which amplifies the input voltage, and he is not concerned with whether there is a change of basic waveform. Therefore, he would define the FUNCTIONAL CODE NUMBER 0.1.1. This would lead to the retrieval of documentation stored in the two signal transfer Performance Factor Categories, the Controlled Parameter Category of amplitude, and the voltage Characteristics Factor Category.

EXAMPLE 2: The user has a requirement for an amplifier which will not change the basic waveform of the input signal, but he is not concerned with whether it amplifies current or voltage; therefore, he would define the FUNCTIONAL CODE NUMBER 2.1.0. This would lead to the retrieval of all documentation for voltage and current amplifiers which will transfer a signal without changing its basic waveform.

Levels of Classification		
Performance Factor Functional Capabilities	Controlled Parameter Functional Capabilities	Characteristic Factor Functional Capabilities
<div>First Digit</div> <p><u>Select:</u></p> <ul style="list-style-type: none"> <li>0. Open Capability</li> <li>1. Signal Transfer with Change of Basic Waveform</li> <li>2. Signal Transfer without Change of Basic Waveform</li> <li>3. Signal Dissipation</li> </ul>	<div>Second Digit</div> <p><u>Select:</u></p> <ul style="list-style-type: none"> <li>0. Open Capability</li> <li>1. Amplitude</li> <li>2. Time</li> </ul>	<div>Third Digit</div> <p><u>Select:</u></p> <ul style="list-style-type: none"> <li>0. Open Capability</li> <li>1. Voltage</li> <li>2. Current</li> <li>3. Concurrent or Series Pulse Group</li> <li>4. Duration</li> <li>5. Frequency</li> <li>6. Delay</li> </ul>

Figure 4. Digit Choices for Functional Code Numbers in the Adaptive and Supplementary Devices Category

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Functional Code Numbers 0.0.1 - 0.0.2

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
0.0.1	400001	400032	400049	400066
	400002	400033	400050	400067
	400003	400034	400051	400068
	400005	400035	400052	400069
	400006	400036	400053	400070
	400009	400037	400054	400071
	400010	400038	400055	400072
	400011	400039	400056	400073
	400013	400040	400057	400074
	400015	400041	400058	400075
	400016	400042	400059	400076
	400026	400043	400060	400077
	400027	400044	400061	400078
	400028	400045	400062	400079
	400029	400046	400063	400080
	400030	400047	400064	
	400031	400048	400065	
0.0.2	400074	400077	400079	400081
	400075	400078	400080	400082
	400076			

## Functional Code Numbers 0.0.3 - 0.1.0

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
0.0.3	400017			
0.0.4	400015	400018	400020	
0.0.5	400021	400024	400026	
0.0.6	400082			
0.1.0	400001	400028	400040	400052
	400002	400029	400041	400053
	400003	400030	400042	400054
	400005	400031	400043	400055
	400006	400032	400044	400056
	400009	400033	400045	400057
	400010	400034	400046	400058
	400011	400035	400047	400059
	400013	400036	400048	400060
	400015	400037	400049	400061
	400026	400038	400050	400062
	400027	400039	400051	400063

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Functional Code Numbers 0.1.0 - 0.1.1

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
0.1.0	400064	400069	400074	400079
	400065	400070	400075	400080
	400066	400071	400076	400081
	400067	400072	400077	
	400068	400073	400078	
0.1.1	400001	400028	400040	400052
	400002	400029	400041	400053
	400003	400030	400042	400054
	400005	400031	400043	400055
	400006	400032	400044	400056
	400009	400033	400045	400057
	400010	400034	400046	400058
	400011	400035	400047	400059
	400013	400036	400048	400060
	400015	400037	400049	400061
	400026	400038	400050	400062
	400027	400039	400051	400063

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Functional Code Numbers 0.1.1 - 0.2.6

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
0.1.1	400064	400068	400072	400076
	400065	400069	400073	400077
	400066	400070	400074	400078
	400067	400071	400075	400079
0.1.2	400074	400076	400078	400080
	400075	400077	400079	400081
0.1.3	No Items			
0.2.0	400015	400018	400022	400082
	400016	400020	400023	
	400017	400021		
0.2.1	400016			
0.2.3	400017			
0.2.4	400015	400018	400020	
0.2.5	400021	400022	400023	
0.2.6	400082			

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Functional Code Numbers 1.0.0 - 1.1.0

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
1.0.0	400001	400009	400016	400022
	400002	400010	400017	400023
	400003	400011	400018	400024
	400005	400013	400020	400025
	400006	400015	400021	
1.0.1	400001	400006	400011	400016
	400002	400009	400013	400024
	400003	400010	400015	400025
	400005			
1.0.2	No Items			
1.0.3	400017			
1.0.4	400015	400018	400020	
1.0.5	400021	400022	400023	
1.1.0	400001	400006	400013	400025
	400002	400009	400015	
	400003	400010	400024	
	400005	400011		

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Functional Code Numbers 1.1.1 - 1.2.5

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
1.1.1	400001	400006	400010	400024
	400002	400007	400011	400025
	400003	400008	400013	
	400005	400009	400015	
1.1.2	No Items			
1.1.3	No Items			
1.2.0	400015	400017	400020	400022
	400016	400018	400021	400023
1.2.1	400016			
1.2.3	400017			
1.2.4	400015	400018	400020	
1.2.5	400021	400023	400025	
	400022	400024		



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Functional Code Numbers 1.2.5 - 2.0.0

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
1.2.5	400021	400022	400023	
2.0.0	400023	400039	400055	400069
	400024	400040	400056	400070
	400025	400041	400057	400071
	400026	400042	400058	400072
	400027	400043	400059	400073
	400028	400044	400060	400074
	400029	400045	400061	400075
	400030	400046	400062	400076
	400031	400047	400063	400077
	400032	400048	400064	400078
	400033	400049	400065	400079
	400034	400050	400066	400080
	400035	400051	400067	400081
	400036	400052	400068	400082
	400037	400053		
	400038	400054		

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Functional Code Numbers 2.0.1 - 2.0.4

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
2.0.1	400023	400038	400052	400066
	400024	400039	400053	400067
	400025	400040	400054	400068
	400026	400041	400055	400069
	400027	400042	400056	400070
	400028	400043	400057	400071
	400029	400044	400058	400072
	400030	400045	400059	400073
	400031	400046	400060	400074
	400032	400047	400061	400075
	400033	400048	400062	400076
	400034	400049	400063	400077
	400035	400050	400064	400078
	400036	400051	400065	400079
	400037			
2.0.2	400074	400076	400078	400080
	400075	400077	400079	400081
2.0.4	No Items			

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Functional Code Numbers 2.0.0 - 2.1.0

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
2.0.6	400082			
2.1.0	400023	400036	400049	400062
	400024	400037	400050	400063
	400025	400038	400051	400064
	400026	400039	400052	400065
	400027	400040	400053	400066
	400028	400041	400054	400067
	400029	400042	400055	400068
	400030	400043	400056	400069
	400031	400044	400057	400070
	400032	400045	400058	400071
	400033	400046	400059	400072
	400034	400047	400060	
	400035	400048	400061	

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## Functional Code Numbers 2.1.1 -2.2.6

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
2.1.1	400004	400035	400048	400061
	400023	400036	400049	400062
	400024	400037	400050	400063
	400025	400038	400051	400064
	400026	400039	400052	400065
	400027	400040	400053	400066
	400028	400041	400054	400067
	400029	400042	400055	400068
	400030	400043	400056	400069
	400031	400044	400057	400070
	400032	400045	400058	400071
	400033	400046	400059	400072
	400034	400047	400060	400073
	400074	400076	400078	400080
	400075	400077	400079	400081
2.2.0	400082			
2.2.4	No Items			
2.2.6	400082			

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Functional Code Numbers 3.0.0

TABLE OF DELINEATIONS

Functional Code Number	Categorization Index Number			
3.0.0	400083	400085	400087	400089
	400084	400086	400088	

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400001

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SELECTIVE TESTER DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Direct Current  
 B. F.N. 4935-829-6720 C. P/N 9980418  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400001  
 F. Missile System Nike-Ajax, - Hercules, &-Hercules (Imp.)  
 G. Next Assembly SNL J784-01: P/N 9993690

## II. Characteristics

A. Principal Function Amplification of negative pulses  
 B. Input Signal negative pulse  
 C. Output Signal positive pulse  
 D. Functional Description

This unit consisting of a differential amplifier, amplifier, and cathode follower will produce shape pulses by amplification of the trailing edge of the differentiated positive pulse output from the differential amplifier. An adjustment is provided to control gain by varying feedback voltage.

Note:

## III. Operating Voltage(s)

A. AC 6.3V, 400 cps  
 B. DC +250V, -250V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 5.56; Width 8.5; Depth 1.5  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals TM 9-4940-252-34/2 &  
TM 9-4940-252-35/1: MICOM Dwg No 9980418

MIL-HDBK-142A

400002

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Zero-Set  
 B. FSN 4935-440-3244 C. P/N 8150790  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400002  
 F. Missile System Nike-Ajax -Hercules, &-Hercules (Imp.)  
 G. Next Assembly SNL's J751-00 J782-00; P/N 9983983

## II. Characteristics

A. Principal Function Convert a-c voltage into positive and negative pulses  
 B. Input Signal a.c. voltage  
 C. Output Signal positive and negative pulses  
 D. Functional Description  
 The input is applied to both positive and negative clippers. The resulting positive and negative voltage are amplified individually and then squared by clamping. Both square wave outputs are applied to a single cathode follower from which the output is taken

Note:

## III. Operating Voltage(s)

A. AC 6.3V ac  
 B. DC +250V, +150V, -250V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3 15/32; Width 19; Depth 7 21/31  
 B. Configuration: Portable   ; Rack Mounted x; Built into Next Assembly   

## V. Reference Sources

Department of the Army Technical Manual TM 9-4940-250-34 &  
TM 9-4940-250-35: MICOM Dwg. No. 8150792

Functional Code Numbers: 111

247

MIL-HDBK-142A

400003

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Electronic Control  
 B. FSN 4935-829-6739 C. P/N 9980380  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400003  
 F. Missile System Nike Ajax, -Hercules, -Hercules (Imp.)  
 G. Next Assembly SNL J784-01; P/N 9980436

## II. Characteristics

A. Principal Function Develops a bias voltage (AGC)  
 B. Input Signal Reference voltage, signal generator output voltage  
 C. Output Signal Constant bias voltage  
 D. Functional Description  
 This unit compares a set reference voltage with a sample of the signal generator output voltage. The difference between the two voltages is amplified and used as an AGC voltage for the signal generator to maintain a constant selected output level. There is provision for a calibrating voltage to be applied to the amplifier.

Note: A frequency control tube is included in the unit.

## III. Operating Voltage(s)

A. AC 6.3 V 400 cps  
 B. DC + 150 V, -250 V +250V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 6.04; Width 8.50; Depth 1.50  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals TM 9-4940-252-34/2 & TM 9-4940-252-35/1  
MICOM Dwg Nos. 9980745 & 9980743

Functional Code Numbers: 111

248



MIL-SDBK-142A  
400004FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Intermediate  
B. FSN 4935-987-1280 C. P/N 10104890  
D. Mfr. Name and Code Number \_\_\_\_\_  
E. Categorization Index No. 400004  
F. Missile System Hawk  
G. Next Assembly \_\_\_\_\_

## II. Characteristics

A. Principal Function \_\_\_\_\_  
B. Input Signal 30MC Sinewave  
C. Output Signal 30MC Sinewave  
D. Functional Description \_\_\_\_\_

Used as a comparison standard to test the log IF amplifier of radar set  
AN/MPQ-35.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC \_\_\_\_\_  
B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 17 APP; Width 5 APP; Depth 1 APP  
B. Configuration: Portable X; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_

## V. Reference Sources

DATM TM9-4935-506-35/3

Functional Code Numbers: 211

245

MIL-HDBK-142A

400005

PSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES LABELING

## I. Item Identification

A. Federal Nomenclature Detector, Radio Frequency  
 B. P/N 4935-797-G089 C. P/N 9136769  
 D. Mfr. Name and Code Number Western Electric Co.  
 E. Categorization Index No. 400005  
 F. Missile System Nike-Hercules (Imp.)  
 G. Next Assembly P/N 8036066

## II. Characteristics

A. Principal Function Detection  
 B. Input Signal 220 cps voltage  
 C. Output Signal D. C. Voltage proportional to the amplitude of the input.  
 D. Functional Description

This unit will produce a negative DC voltage output proportional to the amplitude of the input signal. Two amplifiers precede the detecting element.

Note: Contains its own power supply

## III. Operating Voltage(s)

A. AC 120 V, 400 cps  
 B. DC

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 9 3/8; Width 8 1/4; Depth 5  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

Army TM 9-1430-250-20/6 & TM 9-1430-256-20/3



MIL-HDBK-142A

400007

PSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Direct Current  
 B. FSN 4935-928-6096 C. P/N 10177229  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 400007  
 F. Missile System Hawk  
 G. Next Assembly \_\_\_\_\_

## II. Characteristics

A. Principal Function \_\_\_\_\_  
 B. Input Signal \_\_\_\_\_  
 C. Output Signal \_\_\_\_\_  
 D. Functional Description \_\_\_\_\_

Amplifier reference voltage for regulator stage in 4 output power supply.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC From console  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

\_\_\_\_\_  
 \_\_\_\_\_

MIL-HDBK-142A

400008

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DETERMINATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Direct Current  
 B. FSC 4935-928-3724 C. P/N 10177230  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 400008  
 F. Missile System Hawk  
 G. Next Assembly \_\_\_\_\_

## II. Characteristics

A. Principal Function \_\_\_\_\_  
 B. Input Signal \_\_\_\_\_  
 C. Output Signal \_\_\_\_\_  
 D. Functional Description \_\_\_\_\_

Amplifier Sense and Reference voltages to drive power supply regulator  
 stage in 4 output power supply.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC From console  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

\_\_\_\_\_  
 \_\_\_\_\_

MIL-HDBK-142A

400009

PSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Detector, I.F.  
 B. FSN 4935-732-8018 C. P/N 9984886  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400009  
 F. Missile System Nike-Hercules (Imp.)  
 G. Next Assembly P/N 9143034

## Characteristics

A. Principal Function Detection  
 B. Input Signal 1 to 200 mc signal  
 C. Output Signal DC voltage proportional to the amplitude of the input.  
 D. Functional Description  
 The detector utilizes a semiconductor diode, IN475, to detect both modulated and unmodulated r.f. signals. It contains a RCL filtering network which removes high frequency components from the pulsating D.C. output.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC N.A.  
N.A.  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3/4"; Width 3-9/16; Depth \_\_\_\_\_  
 B. Configuration: Portable x; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_

## V. Reference Sources

MICOM Dwg. No. 9984886

254

MIL-HDBK-142A

400010

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Detector, R.F.  
 B. FSN 4935-778-0301 C. V/N 8035066  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400010  
 F. Missile System Nike-Hercules (Imp.)  
 G. Next Assembly \_\_\_\_\_

## II. Characteristics

A. Principal Function Amplify and demodulate  
 B. Input Signal Modulate R.F. (See Note)  
 C. Output Signal D.C. voltage proportional to the amplitude of the  
input modulation.  
 D. Functional Description:

The input R.F. enters the unit through a waveguide connection which contains an adjustable vane for level control. The signal is then detected by a semiconductor diode, amplified and then filtered. The output is D.C.

Note: Signal Frequency is classified - see TM 9-1430-250-20/6

## III. Operating Voltage(s)

A. AC 120V, 400 cps  
 B. DC -28V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 6-15/16; Width 14-7/8; Depth 14-3/8  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

MICOM Dwn No. 9993775

MIL-HDBK-142A

400011

**FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Detector, Radio Frequency  
 B. TSN 4935-699-2381 C. P/N 8156699  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400011  
 F. Missile System Nike-Ajax, -Hercules, -Hercules (Imp.)  
 G. Next Assembly P/N 9008074

**II. Characteristics**

A. Principal Function Detection  
 B. Input Signal R.F. signal (See Note)  
 C. Output Signal Pulsating D.C.  
 D. Functional Description

This unit is basically a waveguide into which a semiconductor device, IN23B, has been mounted as the detecting element. This diode will convert either a modulated or unmodulated radio frequency signal into an unfiltered, pulsating dc voltage.

Note: Input Signal Frequency is Classified - See TM 9-1430-250-20/6

**III. Operating Voltage(s)**

A. AC N.A.  
 B. DC N.A.

**IV. Mechanical Characteristics**

A. Dimensions (inches): Height 3-1/2; Width 2-13/16; Depth 1-1/4  
 B. Configuration: Portable x; Rack Mounted   ; Built into Next Assembly   

**V. Reference Sources**

MICOM Dwg. No. 8156699

Functional Code Numbers: 111

436



MIL-HDBK-142A

400012

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Intermediate  
B. FSN 4935-900-8375 C. P/N 10046670  
D. Mfr. Name and Code Number \_\_\_\_\_  
E. Categorization Index No. 400012  
F. Missile System Hawk  
G. Next Assembly \_\_\_\_\_

## II. Characteristics

A. Principal Function \_\_\_\_\_  
B. Input Signal \_\_\_\_\_  
C. Output Signal \_\_\_\_\_  
D. Functional Description \_\_\_\_\_

Operates as an amplifier, local oscillator, mixer, and rectifier in  
spectrum analyzer 10046502

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC From console  
B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_

## V. Reference Sources

DATM TM9-4935-506-35/3

Functional Code Numbers: 111 211

25)

MIL-HDBK-142A

400013

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Detector, Audio Frequency  
 B. FSN 4935-726-0593 C. P/N 30665-315  
 D. Mfr. Name and Code Number 94756  
 E. Categorization Index No. 400013  
 F. Missile System Minuteman  
 G. Next Assembly Programmer Fault locates test Center AN/GJM-19

## II. Characteristics

A. Principal Function Demodulation  
 B. Input Signal Modulated 400 cps voltage  
 C. Output Signal D.C. voltage  
 D. Functional Description

This unit consists of two 400 cps detectors, both of which one identical except that one has feedback provisions. A 400 cps voltage is used to control bridge type detecting networks. The detector removes the 400 cps component from the modulator input signal and provides an output which is a full wave rectification of the modulation.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC 25 V, 400 cps control voltage  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 6-1/4; Width 6; Depth 3/4  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

A.F. T.O. 33D9-74-12-14, Dwg No. 30665-315 and 30667-315

MIL-HDBK-142A

400014

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Converter, WaveformB. FCN 4935-679-9154 C. P/N 9140771

D. Mfr. Name and Code Number \_\_\_\_\_

E. Categorization Index No. 400014F. Missile System Hercules - Imp. Hercules

G. Next Assembly \_\_\_\_\_

## II. Characteristics

A. Principal Function \_\_\_\_\_

B. Input Signal \_\_\_\_\_

C. Output Signal \_\_\_\_\_

D. Functional Description The waveform converter receives tract range mark and range video input signals. The two signals are compared in the range gate channel of the waveform converter and any difference in the time relationship between the two is converted into a dc error voltage. The waveform converter also consists of three additional functional channels. The sweep expansion pulse channel produces a 3-microsecond negative gate pulse. The AGC gate channel produces a 0.4-microsecond negative pulse. The waveform converter consists of multivibrator, cathode, follower, pulse shaping, and driving circuits.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC 6.3VB. DC +250V, +150V, -250V, -28V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_

B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_

## V. Reference Sources

Department of the Army Technical Manual TM9-1400-250-35/4/2

MIL-HDBK-142A

400015

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Test Set Subassembly  
 B. FSN 4935-620-8135 C. P/N 9005619  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. Nike-Hercules  
 F. Missile System SNL Y30; P/M 9142925  
 G. Next Assembly \_\_\_\_\_

## II. Characteristics

A. Principal Function To amplify and rectify a video signal when a gate voltage is applied to the circuit.  
 B. Input Signal Video Signal  
 C. Output Signal \_\_\_\_\_  
 D. Functional Description

This unit will amplify an input signal, then pass it to a full wave bridge rectifier when a gate signal is applied. The output is taken directly from the bridge.

Note: Further information is classified: See references sources listed below

## III. Operating Voltage(s)

A. AC 6.3V  
 B. DC +300V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3-13/16"; Width 4-9/16"; Depth 9"  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM 9-4935-253-12: -20: & -34  
MICOM Dwg. No. 9005619

260

Functional Code Numbers: 111 124

MIL-HDBK-142A  
400016FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Comparator  
 B. FSN 4935-345-8018 C. P/N 10107267  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400016  
 F. Missile System Hawk  
 G. Next Assembly SNL & 122-05: P/N 10107284

## II. Characteristics

A. Principal Function Comparison of Frequency modulated signals

B. Input Signal Frequency modulated signals

C. Output Signal DC voltage

D. Functional Description

Data on this unit is classified. For information pertaining to this unit, see the reference sources listed below.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC \_\_\_\_\_

B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3-11/32; Width 5.381; Depth 3.350  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM 9-4935-501-12/3  
MICOM Dwg. No. 10107267

261

Functional Code Numbers: 121

MIL-HDBK-142A

400017

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Converter, Digital to Digital  
 B. FSN 4935-829-6736 C. P/N 9980039  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400017  
 F. Missile System Nike-Ajax -Hercules, -Hercules (Imp.)  
 G. Next Assembly SNL J748-1; P/M's 9998468 & 9998500

## II. Characteristics

A. Principal Function To convert 10 Line Digital information to 4 Line  
Digital information  
 B. Input Signal 9 line ground or no ground  
 C. Output Signal 4 line ground or -28 volt  
 D. Functional Description

The digital to digital converter converts 10-line digital information to 4-line digital information by applying ground potential to switching crystal diodes. Application of ground to an input indicates a unit, no ground is a zero. At the output, a ground is also a unit, but a zero is represented by a -28 volt output.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC \_\_\_\_\_  
 B. DC -28V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 1.26"; Width 3.94"; Depth 3.46"  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X

## V. Reference Sources

Department of the Army Technical Manual TM9-4940-252-34/3 &  
TM9-4940-252-35/2

262

Functional Code Number: 123

MIL-HDBK 142A  
400018FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Comparator, Signal  
 B. FSN 4935-797-9540 C. P/N 9980158  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400018  
 F. Missile System Nike Ajax. -Hercules. &-Hercules (Imp.)  
 G. Next Assembly SNL J784-01: P/N 9991367

## II. Characteristics

A. Principal Function Comparing phase shifts  
 B. Input Signal 500 kc reference pulse & positive input pulses  
 C. Output Signal DC error voltages  
 D. Functional Description  
 This unit compares the relationship between two input pulses, one of which is a reference pulse. This comparison is done by comparing the difference in the phase angle between a reference sine wave and a damped sine wave both of which are generated in the unit from the input pulses. The reference sine wave is developed from the reference pulse, inverted and shifted ninety degrees. The sine wave developed from the input pulse is compared against the reference sine wave in a transformer. Phase angle differences other than ninety degrees will develop positive or negative voltages depending on the direction of phase shift.

Note:

## III. Operating Voltage(s)

A. AC 6.3V, 29A 400 cps  
 B. DC -250V, +250V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 5.50; Width 8.500; Depth 3.062  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals TM 9-4940-252-34/3 & TM 9-4940-252-35/2  
MICOM Dwg no. 9980158

263

Functional Code Numbers: 124

MIL-HDBK-142A

400019

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Trigger Pulse  
 B. FSN 4935-440-1753 C. P/N 9154379  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 400019  
 F. Missile System Nike-Ajax, Nike-Hercules, Imp Hercules  
 G. Next Assembly \_\_\_\_\_

## II. Characteristics

A. Principal Function \_\_\_\_\_  
 B. Input Signal A positive 1 microsecond, 40 volt input pulse with a pulse repetition rate of 1,000 PPS.  
 C. Output Signal \_\_\_\_\_  
 D. Functional Description \_\_\_\_\_

The trigger pulse amplifier utilizes external trigger pulses to provide fixed and variable amplitude perknock pulse outputs, and fixed and variable amplitude sync pulse outputs.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_

## V. Reference Sources

DATM TM9-1400-35/4/2

564

Functional Code Number: 211



MIL-HDBK-142A

400020

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Detector, Radio Frequency  
 B. FSN 4935-622-1649 C. P/N 9009270  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400020  
 F. Missile System Nike-Hercules, -Hercules (Imp.)  
 G. Next Assembly P/N 9141141 and 8158832

## II. Characteristics

A. Principal Function Phase Comparison  
 B. Input Signal Two R.F. Signals of same frequency  
 C. Output Signal Square wave whose magnitude is proportional to the phase relationship of the input signals.  
 D. Functional Description

This unit compares the phase relationship between two r.f. signals and produces an output signal which is in the form of a low frequency square wave whose magnitude is proportional to the difference in the phase relationship between the two input signals.

Note:

## III. Operating Voltage(s)

A. AC 6.3 V, 400 cps  
 B. DC -250V, +250V, +150V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3-3/8; Width 5-1/8; Depth 13-5/36  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

MICOM Dwg. No. 9009270

265

MIL-HDBK-142A

400021

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Frequency Converter and Amplifier  
 B. FSC 4935-887-9025 C. P/N 9988588  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400021  
 F. Missile System Nike-Ajax, -Hercules & -Hercules (Imp.)  
 G. Next Assembly SNL J752; P/N 8514680

## II. Characteristics

A. Principal Function Converts 60 mc signals to 50 mc signals  
 B. Input Signal 60 mc pulses or CW signals  
 C. Output Signal 50 mc signal  
 D. Functional Description  
 This unit modulates the 60 MC input signal with a 110 MC voltage supplied by a crystal controlled oscillator. The 50 MC output is selected by a tuned grid circuit in the amplifier which follows the modulator. The converter has a bandwidth of  $\pm 2$ MC about the center frequency of 60 MC.

Note:

## III. Operating Voltage(s)

A. AC 6.3V. 400 cps  
 B. DC +150V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 4.82"; Width 9"; Depth 3.68"  
 B. Configuration: Portable; Rack Mounted   ; Built into Next Assembly   

## V. Reference Sources

Department of the Army Technical Manual TM9-4940-251-34 and  
TM 9-494--251-35 MICOM Dwg No. 9988588

266

Functional Code Numbers; 125

MIL-HDBK-142A

400022

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Detector, Audio Frequency  
 B. FSN 4935-678-0202 C. P/N 9062532  
 D. Mfr. Name and Code Number 00000, 81541  
 E. Categorization Index No. 400022  
 F. Missile System P/N 9083518  
 G. Next Assembly \_\_\_\_\_

## II. Characteristics

A. Principal Function Frequency detector  
 B. Input Signal 0-50 cps signal  
 C. Output Signal DC voltage  
 D. Functional Description

This detector converts changes in the frequency of its  
 input voltage into a pulsating DC output voltage whose magnitude  
 is proportional to the change in the input frequency.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 1 3/16; Width 1 17/32; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly X

## V. Reference Sources

MICOM Dwg No. 9062532

MIL-HDBK-142A

400023

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DETERMINATION

## I. Item Identification

A. Federal Nomenclature Frequency Divider  
 B. FSN 4935-970-0173 C. P/N 9993752  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400023  
 F. Missile System Nike-Ajax, -Hercules, and -Hercules (imp)  
 G. Next Assembly SNL J784-01; P/N 9997862

## II. Characteristics

A. Principal Function Frequency division  
 B. Input Signal Negative pulses 25 to 2.5 u sec, with a prf. of  
2000 to 20,000 cps  
 C. Output Signal negative pulses  
 D. Functional Description  
 This circuit will divide the input frequency by 10,000 & 1000. Frequency division is accomplished by beam-switching tubes and binary tube circuits. The unit also contains an amplifier which amplifies the negative input pulses and feeds it to output terminals.

Note:

## III. Operating Voltage(s)

A. AC 6.3V 400 cps  
 B. DC -250Vdc +250Vdc +150Vdc regulated

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3.062"; Width 8.500"; Depth 6.68"  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM9-4940-252-34/3 and TM9-4940-252-32/5  
MICOM Dwn No. 9993752.

268

Functional Code Numbers: 125 211

MIL-HDBK-142A

400024

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Intermediate Frequency  
 B. FSN 4935-829-6692 C. P/N 9137834  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400024  
 F. Missile System -Nike-Ajax - Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL's J029-4B, J029-4D

## II. Characteristics

A. Principal Function Amplify and detect 60 mc signal  
 B. Input Signal 60 mc signal  
 C. Output Signal Amplified input and detected input  
 D. Functional Description

This unit will amplify a 60 mc signal through a series of three pentode amplifiers. The output of the last amplifier is coupled to an output jack and to a detector. The video output from the detector is applied through a cathode follower to an output jack

Note: External bias must be supplied

## III. Operating Voltage(s)

A. AC 6.3V ac  
 B. DC +150V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3 29/32; Width 9 1/2; Depth 2 49/64  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM 9-4940-251-34 &  
TM9-4940-251-35; MICOM Dwg No. 9137834

565

Functional Code Numbers: 111 211

MIL-HDBK-142A

400025

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Audio Frequency  
 B. FSC 4935-732-7810 C. P/N 9980408  
 D. Mfr. Name and Code Number 000000  
 E. Categorization Index No. 400025  
 F. Missile System Nike-Ajax -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL 784-01; P/N 9993690

## II. Characteristics

A. Principal Function Amplification  
 B. Input Signal Audio Frequency Signal  
 C. Output Signal Amplified input and pulse  
 D. Functional Description  
 This audio frequency amplifier consists of two separate channels. One channel consists of two triode amplifiers and a cathode follower output stage. The other channel is a thyatron type coincidence amplifier which produces a narrow pulse when signals are impressed on both input grids.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC 6.3V, 400 cps  
 B. DC +150V, +250V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 5.547; Width 8.5; Depth 1.5  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM9-4940-252-34/2 &  
TM 9-4940-252-35/1: MICOM Dwg No. 9980408

270

Functional Code Numbers: 111 211

MIL-HDBK-142A

400026

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Attenuator  
 B. FSN 4935-751-9172 C. P/N 10046705  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400026  
 F. Missile System Hawk  
 G. Next Assembly SNL J756-22; P/N 10046507

## II. Characteristics

A. Principal Function Attenuation  
 B. Input Signal 0 to 50 mc signal  
 C. Output Signal Attenuated Input  
 D. Functional Description

This unit has an input and output impedance of 50 ohms. Attenuation is from 0 to 132 db in steps of 1db. Average power is 0-5 watts and maximum insertion loss is .4db.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC N.A.  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3 3/8"; Width 2 3/16"; Depth 7 7/8"  
 B. Configuration: Portable X; Rack Mounted   ; Built into Next Assembly   

## V. Reference Sources

MICOM Dwg No 10046705

271

Functional Code Number: 211

MIL-HDBK-142P

400027

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Regulator, Voltage  
 B. FSN 4935-612-3042 C. P/N 9007765  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400027  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL J751; J752; P/N 9137757; 9983928; 9983982

## II. Characteristics

A. Principal Function Provides voltage regulation  
 B. Input Signal +320 Vdc  
-320 Vdc  
 C. Output Signal +250 VDC 300 ma maximum  
-250 Vdc 250 ma maximum  
 D. Functional Description

This unit is a electronically controlled tube type power supply  
 regulator.

Note:

## III. Operating Voltage(s)

A. AC 6.3V, 400 cps  
 B. DC +320V, -320V, +250V, -250V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 6 3/4"; Width 8 1/2"; Depth 9"  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM 9-4940-250-34, &  
TM 9-4940-250-35 MICOM Dwg. No. 9007765

572

Functional Code Numbers: 211



MIL-HDBK-142A

400028

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Intermediate Frequency  
 B. FSN 4935-444-9697 C. P/N 9137692  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400028  
 F. Missile System Nike-Ajax, Hercules & -Hercules (Imp)  
 G. Next Assembly SNL's J029-4B J029-4D J752-00 J783-00: P/N 9137920

## II. Characteristics

A. Principal Function Amplification of 60 mc signals  
 B. Input Signal 60 mc signal  
 C. Output Signal amplified input  
 D. Functional Description

This unit will amplify 60 mc signals producing an output with a high signal-to-noise ratio. This unit consists of two grounded-grid transformer coupled amplifiers, one following the other.

Note:

## III. Operating Voltage(s)

A. AC 6.3V ac  
 B. DC +150V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM9-4940-251-35 &  
 TM9-4940-251-34

273

Functional Code Numbers: 211

MIL-HDBK-142A

400029

PSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELIMITATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Intermediate Frequency  
 B. FPN 4935-522-0841 C. P/N 9137795  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400029  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly 91377920

## II. Characteristics

A. Principal Function Amplify 60 mc signals  
 B. Input Signal 60 mc signal  
 C. Output Signal amplified input  
 D. Functional Description

This unit has a gain of 70 db with a band-width of 10 mc. It consists of six transformer-coupled amplifiers and a phase-shifting network capable of shifting the i-f signal by 120 degrees. The phase-shifting network is adjustable.

Note:

## III. Operating Voltage(s)

A. AC 6.3V ac  
 B. DC +150V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3 29/32; Width 12.532; Depth 2 27/64  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM9-4940-251-34 & TM9-4940-251-35  
MICOM Dwg No. 9137795

274

Functional Code Numbers: 211

MIL-HDBK-142A  
400030FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Audio Frequency  
 B. FSN 4935-734-5364 C. P/N 9179359  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400030  
 F. Missile System Hawk  
 G. Next Assembly SNL's J756-24, & Y121-00: P/N's 10065033 & 9196262

## II. Characteristics

A. Principal Function Amplify Audio Signals  
Audio Signal  
 B. Input Signal Amplified Input  
 C. Output Signal  
 D. Functional Description

This amplifier, which uses three transistors, has an operating range of 1 to 20 cps. Its input impedance is 1M ohms and its output impedance is 1 2 K ohms. The input is taken directly off the collector of the output transistor, and the output is taken directly off the collector of the output transistor. There are no adjustment controls.

Note:

## III. Operating Voltage(s)

A. AC  
 B. DC +75V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 2 3/16; Width 7/8; Depth 7/8  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

MICOM Dwg No 9177359

275

MIL-HDBK-142A

400031

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Intermediate Frequency  
 B. FSN 4935-736-0479 C. P/N 9987355  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400031  
 F. Missile System Nike-Hercules (Imp)  
 G. Next Assembly SNL's Y173-00 Y206-00; P/N 9976904 & 9999022

## II. Characteristics

A. Principal Function Amplification of 30 mc signal  
 B. Input Signal 30 mc signal  
 C. Output Signal Amplified input  
 D. Functional Description

This unit will amplify a 30 mc input signal through six identical amplifiers. An AGC signal from external circuitry must be supplied.

Note:

## III. Operating Voltage(s)

A. AC 6.3V ac  
 B. DC +120V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 4.82; Width 4.94; Depth 13.84  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM 9-1430-260-34  
MICOM Dwg No. 9987355

276

MIL-HDBK-142A

400032

**FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION**

**Item Identification**

A. Federal Nomenclature Attenuator, Fixed  
 B. FSN 4935-845-1962 C. P/N 9157256  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400032  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL J784-01: P/N 9990830

**II. Characteristics**

A. Principal Function Attenuation  
 B. Input Signal 1300 to 1600 mc signal  
 C. Output Signal Slightly attenuated input  
 D. Functional Description

This unit is an L band medium power waveguide type isolator. Minimum isolation is 20 db, maximum is 40 db. Peak power is 10 kw and average power is 25 w. The insertion loss is 1db maximum and the maximum V.S.W.R. is 1.20.

Note: \_\_\_\_\_

**III. Operating Voltage(s)**

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

**IV. Mechanical Characteristics**

A. Dimensions (inches): Height 1.812"; Width 1.875"; Depth 12"  
 B. Configuration: Portable x; Rack Mounted    ; Built into Next Assembly    

**V. Reference Sources**

MICOM Dwg No. 9157256

222

Functional Code Numbers: 211

MIL-HDBK-142A

400033

NSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Radio Frequency  
 B. FSN 4935-604-8951 C. P/N 9980170  
 D. MFR. Name and Code Number 00000  
 E. Categorization Index No. 400033  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL 784-01; P/N 9980413

## II. Characteristics

A. Principal Function Amplify signals in the region of 60 megacycles  
 B. Input Signal Radio frequency signals  
 C. Output Signal With an input of .3 volt, gain will be 12 db  
 D. Functional Description

This unit has a bandpass of 10 megacycles; 60 megacycles in the center frequency. The input impedance is 300 ohms and the output impedance is 50 ohms. The gain at center frequency is at least 12 db and at either end of the band it is at least 10 db. Two stages of amplification are provided.

Note:

## III. Operating Voltage(s)

A. AC 6.3V, 400 cps  
 B. DC +150V, +.5%

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 5.04; Width 1.5; Depth 8.5  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM9-4940-252-34/1 and TM-9-4940-252-35/2  
MICOM Dwg No. 9980170.

278

Functional Code Numbers: 211

MIL-HDBK-142A

400034

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Attenuator, Fixed  
 B. FSN 4935-887-1451 C. P/N 9157186  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400034  
 F. Missile System Nike-Hercules (Imp)  
 G. Next Assembly SNL J784-01: P/N 10167087

## II. Characteristics

A. Principal Function Attenuation  
 B. Input Signal 2 to 200 mc signal  
 C. Output Signal Attenuated input  
 D. Functional Description

This unit is an in line insertion type attenuator with a 72 ohms input and output impedance. It is designed for a frequency range of 2 to 200 mc with an attenuation of  $-6 \text{ db} \pm 0.1 \text{ db}$ .

Note:

## III. Operating Voltage(s)

A. AC N.A.  
 B. DC

## IV. Mechanical Characteristics

A. Dimensions (inches): Height .753 + .015"; Width 3/4"; Depth 3.464 + .040"  
 B. Configuration: Portable X; Rack Mounted   ; Built into Next Assembly   

## V. Reference Sources

MITCOM Dwg No. 9157186

275

Functional Code Numbers: 211

MIL-HDBK-142A

400036

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Video  
 B. FSN 4935-056-0160 C. P/N 10108007  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400036  
 F. Missile System Hawk  
 G. Next Assembly SNL J758-23: P/N 10108297

## II. Characteristics

A. Principal Function Voltage amplification  
 B. Input Signal A.C. Voltage  
 C. Output Signal Amplified input  
 D. Functional Description

This unit provides a 26 db voltage gain at 20 kc through two stages of amplification. It has a frequency response of  $\pm 3$  db from 10 cps to 1.5 mc. a 1 M ohms input impedance, and a 600 ohms output impedance at its cathode follower output.

Note:

## III. Operating Voltage(s)

A. AC 6.3V, 400 cps  
 B. DC +150V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 5 1/2; Width 4 45/64; Depth 11 3/8  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X

## V. Reference Sources

Department of the Army Technical Manual TM9-4935-506-3511  
MICOM Dwg. No. 10108007

280



MIL-HDBK-142A

400037

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Audio Frequency  
 B. FSN 4935-337-8603 C. P/N 8008987  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400037  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL J029-4B, J751-00, J782-00, Y004-02, Y028-00, Y176-00  
Y027-00; P/N's 8515320, 8515321, 9983982, 9138049,  
9993649, 9993656

## II. Characteristics

A. Principal Function Amplify input signal and operate (external) overload  
lamps.  
 B. Input Signal Audio frequency signal  
 C. Output Signal Amplified input and overload indicator signal  
 D. Functional Description

This unit consists of a pentode amplifier and two parallel cathode followers. The input signal is applied to the grid of the amplifier. The amplified signal is applied to an output connector and the grids of the cathode followers. The voltage developed across the cathode resistor is used to operate neon lamps. The lamps are not part of the circuit.

Note:

## III. Operating Voltage(s)

A. AC 6.3V ac  
+320V, +75V, -320V  
 B. DC

## IV. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM9-1430-251-35 and  
TM 9-4940-250-35: MICOM Dwg. No. 8009087

251

Functional Code Numbers: 211

MIL-HDBK-142A

400038

PSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Intermediate Frequency  
 B. FSN 4935-535-3532 C. P/N 8153406  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400038  
 F. Missile System Nike-Ajax, -Hercules & -Hercules (Imp)  
 G. Next Assembly SNL's J029-43 J752-CO J783-00 P/N 8153407

## II. Characteristics

A. Principal Function Amplification of 60 mc signal  
 B. Input Signal 60 mc signal  
 C. Output Signal Amplified input  
 D. Functional Description  
 This unit consists of two separate 60 mc amplifiers, each with provision for two inputs. One section consists of two grounded grid amplifiers, and the other section consists of a grounded grid amplifier and a conventional amplifier. An externally operated relay is incorporated to disable the first section by removing plate voltage and to re-route the output of the latter section to the output terminals of the first section. Each section has a gain of 8 db. One amplifier has an overall band width greater than 12 mc between the 2 db points. The other has the same band width between the 1db points.

Note:

## III. Operating Voltage(s)

A. AC 6.3 ac  
 B. DC +120V (28V needed to operate the relay)

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3 11/64; Width 10 13/16; Depth 2 9/16  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM-9-4940-251-35 &  
TM 9-4940-251-34: MICOM Dwg No. 8153406

252

Functional Code Numbers: 211

MIL-HDBK-142A

400039

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Intermediate Frequency  
 B. FSC 4935-736-0494 C. P/N 9987148  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400039  
 F. Missile System Nike-Hercules (Imp)  
 G. Next Assembly SNL's Y173-00 Y206-00: P/N's 998326 & 9994073

## II. Characteristics

A. Principal Function Amplification of 30 mc signal  
 B. Input Signal 30 mc signal  
 C. Output Signal amplified input  
 D. Functional Description

This unit is a stagger lin-log amplifier which is designed to prevent signal limiting thereby preserving pulse-to-pulse amplitude variations for comparison of two successive pulses. The preservation of pulse-to-pulse relationship is accomplished by amplifying normal noncoherent signals and amplifying logarithmically strong noncoherent signals.

Note:

## III. Operating Voltage(s)

A. AC 6.1V ac  
 B. DC +250V, +170, +120, -150

## IV. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_

## V. Reference Sources

Department of the Army Technical Manual TM9-1430-260-34  
MICOM Dwg No. 9987149

283

Functional Code Numbers: 211

MIL-HDBK-142A

400040

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, D.C.  
 B. FSN 4935-739-2269 C. P/N 9016604  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400040  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNL's J784-01; P/N 10167101

## II. Characteristics

A. Principal Function To provide error and reference voltages  
 B. Input Signal Reference voltages and power supply output  
voltage samples.  
 C. Output Signal Error voltage  
 D. Functional Description

This d.c. amplifier will provide error and reference voltages to the control grids of series regulators of a power supply. A sample voltage from the power supply is applied to the control grid of the differential amplified and fed to a cathode follower, whose output can then be applied to the control grids of series regulator tubes. The difference voltage is also applied to the grid of a power amplifier which is used in series with the control grids of the series regulator.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC 6.3V  
 B. DC -150V, -250V, -300V, -100V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM 9-4940-252-35/1 &  
TM 9-4940-252-34/2; MICOM Dwg. No. 9016604

284

MIL-HDBK-142A

400041

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Audio or Radio Frequency  
 B. FSN 4935-739-6721 C. P/N 9176829  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400041  
 F. Missile System Hawk  
 G. Next Assembly SNL's J756-24 Y121-00: P/N's 10065033 & 9196262

## II. Characteristics

A. Principal Function Amplification  
 B. Input Signal Audio or Radio Frequency Signal  
 C. Output Signal Amplified input  
 D. Functional Description

This unit is a transistorized audio or radio frequency amplifier. It has a band width of 2 to 200 kc, a voltage gain of 20, and external feedback connection. The input impedance is 3K ohms and the output impedance is 5K ohms. There are no adjustment controls.

Note:

## III. Operating Voltage(s)

A. AC \_\_\_\_\_  
 B. DC +20V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3½; Width 7/8; Depth 7/8  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly x

## V. Reference Sources

MICOM Dwg No. 9176829

385

MIL-HDBK-142A

400042

**PSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Amplifier, Video  
 B. FSN 4935-875-9790 C. P/N 9981934  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400042  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL Y029-00: P/N 9981456

**II. Characteristics**

A. Principal Function Amplification  
 B. Input Signal Video signal, +1.5 volt pulse  
 C. Output Signal Amplified video signal. .25 usec pulse  
 D. Functional Description

This unit is consisted of two subunits:

1. A video amplifier with a gain of five, using two stages of amplification and a cathode follower for the output.
2. A blocking oscillator which triggers on a +1.5 volt input with an output of a .25 usec pulse, 75 volt amplitude.

Note: Both circuits are independent.

**III. Operating Voltage(s)**

A. AC 6.3V 400 cps  
 B. DC +300, +150V, +48V, +26V

**IV. Mechanical Characteristics**

A. Dimensions (inches): Height 3.30; Width 11.24; Depth 3.84  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly x

**V. Reference Sources**

MICOM Dwg Nos. 9981640, 9989691, 9981927, 9981934

286

MIL-HDBK-142A

400043

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Converter, Waveform  
 B. FSC 4935-712-8462 C. P/N 9980088  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400043  
 F. Missile System Nike-Ajax - Hercules - Hercules (imp)  
 G. Next Assembly SNL 784-01; P/N 9980218

## II. Characteristics

A. Principal Function Converts sawtooth wave into sweep voltages  
 B. Input Signal Positive sawtooth wave and negative gate voltage  
 C. Output Signal Positive going and negative going sweep voltage  
 D. Functional Description

This unit receives the sawtooth input, clamps it at ground potential with a gated switching tube. The gate voltage is in sync with the sawtooth waveform and is applied to the control grid of the switching tube.

Note:

## III. Operating Voltage(s)

A. AC 6.3V 400 cps  
-100V, -250V, +250V, +150V  
 B. DC

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 5.90; Width 8.500; Depth 3.062  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals TM9-4940-252-34/3 TM 9-4940-252-35/2  
MICOM Dwg No. 9980083

287

MIL-HDBK-142A

400044

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Attenuator, Variable  
 B. FSN 4935-797-0890 C. P/N 9136556  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400044  
 F. Missile System Nike-Hercules; (Imp)  
 G. Next Assembly SNL Y171: P/N 9141718

## II. Characteristics

A. Principal Function Attenuation  
 B. Input Signal Radio Frequency Pulses  
 C. Output Signal Attenuated Input  
 D. Functional Description

Further information is classified: See reference sources listed below.

Note:

## III. Operating Voltage(s)

A. AC N.A.  
 B. DC

## IV. Mechanical Characteristics

A. Dimensions (inches): Height                     ; Width                     ; Depth                       
 B. Configuration: Portable           ; Rack Mounted           ; Built into Next Assembly           

## V. Reference Sources

Dept of the Army Tech Manuals TM 9-1430-250-20/6 & TM9-1430-256-20/3  
 MICOM Dwg No. 9136556

288



MIL-HDBK-142A

400045

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Attenuator, Variable  
 B. FSN 4935-987-8999 C. P/N 9144759  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400045  
 F. Missile System Nike-Hercules (Imp)  
 G. Next Assembly SNL 172-00

## II. Characteristics

A. Principal Function Attenuation  
 B. Input Signal 8500 mc to 9600 mc  
 C. Output Signal Attenuated input  
 D. Functional Description

This unit is a solenoid operated attenuator with two operating positions that is designed for frequencies of 8500 mc to 9600 mc. In the attenuate position, the attenuation is 10 db with a VSWR of 1.20. In the other position, the insertion loss is a maximum of 0.25 db.

Note:

## III. Operating Voltage(s)

A. AC \_\_\_\_\_  
 B. DC A current of 2.75 amps is needed to operate the solenoid.

## IV. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

MICOM Dwg No. 9144759

289

MIL-HDBK-142A

400046

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Attenuator, Variable  
 B. FSN 4935-755-2984 C. P/N 9168080  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400046  
 F. Missile System Hawk  
 G. Next Assembly SNL J756-23: P/N 10108313

## II. Characteristics

A. Principal Function Attenuation  
 B. Input Signal 8.2 to 12.4 Kmc  
 C. Output Signal Attenuated input  
 D. Functional Description  
     Frequency Range: 8.2 to 12.4 Kmc  
     Attenuation: 0.5 to 20 db  
     VSMR: 1.15 maximum  
     Connections: VG-39/U modified as shown on MICOM Dwg. No. 9168080

Note:

## III. Operating Voltage(s)

A. AC N.A.  
 B. DC N.A.

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 2.187; Width 2.781; Depth 3.250  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

MICOM Dwg No. 9168080

290

MIL-HDBK-142A

400047

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Attenuator, Variable  
 B. FSN 4935-805-3641 C. P/N 9187748  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400047  
 F. Missile System Hawk  
 G. Next Assembly SNL W122-3; P/N 9195302

## II. Characteristics

A. Principal Function Attenuation  
 B. Input Signal X Band frequencies  
 C. Output Signal Attenuated input  
 D. Functional Description  
     Attenuation: .5 to 20 db  
     Insertion Loss: .5 db  
     Operating Frequency Range: X Band

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC N.A.  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 5 approx; Width 2 1/2 approx; Depth 5 1/2 approx  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM 9-4935-501-12/3  
MICOM Dwg. No. 9187748

291

FUNCTIONAL CODE NUMBERS: 211

MIL-HDBK-142A

400048

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Attenuator, Variable  
 B. FSN 4935-894-3153 C. P/N 9975621  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400048  
 F. Missile System Nike-Hercules (Imo)  
 G. Next Assembly SNL J029-4E: P/N 9143034

## II. Characteristics

A. Principal Function Attenuation  
 B. Input Signal 1.12 to 1.70 Kmc  
 C. Output Signal Attenuated input  
 D. Functional Description

Attenuation: 0 to 20 db  
 Frequency Range; 1.12 to 1.70 kmc  
 Insertion loss: 0.5 db  
 VSMR: 1.12  
 Connectors: Mates with UG 417 A/U

Note:

## III. Operating Voltage(s)

A. AC N.A  
 B. DC

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 10.531; Width 30; Depth 14.124  
 B. Configuration: Portable x; Rack Mounted; Built into Next Assembly

## V. Reference Sources

MICOM Dwg No 9975621

252

FUNCTIONAL CODE NUMBERS: 211

MIL-HDBK-142A

400049

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Attenuator and Plate (Installation)  
 B. FSN 4935-994-9983 C. P/N 9195302  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400049  
 F. Missile System Hawk  
 G. Next Assembly SNL Y122-03: P/N 9083518 & 9065280

## II. Characteristics

A. Principal Function Attenuation  
 B. Input Signal X Band Frequencies  
 C. Output Signal Attenuated Input  
 D. Functional Description  
     Attenuation: .5 to 20 db  
     Insertion Loss: .5 db  
     Operating Frequency Range: X Band

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC N.A.  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 4.2; Width Approx 1.6; Depth Approx 5.2  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Tech Manual TM9-4935-501-12/3  
MICOM Dwg No. 9195302

293

MIL-HDBK-142A

400050

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Attenuator, Fixed  
B. FSN 4935-981-4882 C. P/N 9997091  
D. Mfr. Name and Code Number 00000  
E. Categorization Index No. 400050  
F. Missile System Nike-Hercules (Imp)  
G. Next Assembly SNL Y206-00: P/N 9143034

## II. Characteristics

A. Principal Function Attenuation  
B. Input Signal 1.3 to 1.6 kmc  
C. Output Signal Attenuated Input  
D. Functional Description  
Frequency Range: 1.3 to 1.6 kmc  
VSWR: 1.35  
Attenuation: 10 db  
Impedance: 50 ohms

Note:

## III. Operating Voltage(s)

A. AC N.A.  
B. DC

## IV. Mechanical Characteristics

A. Dimensions (inches): Height .781; Width .781; Depth 8.250 ±.125  
B. Configuration: Portable ; Rack Mounted ; Built into Next Assembly X

## V. Reference Sources

MICOM Dwg No. 9997091

Functional Codes Numbers: 211

294

MIL-HDBK-142A

400051

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Attenuator, Variable  
 B. FSN 4935-978-4282 C. P/N 10056166  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400051  
 F. Missile System Lacrosse  
 G. Next Assembly SNL J740-02; P/N 8902509

## II. Characteristics

A. Principal Function Attenuation  
 B. Input Signal 34 to 36 kmc signal  
 C. Output Signal Attenuated input  
 D. Functional Description  
     1. Attenuation: 0 to 10 db  
     2. Frequency range: 34-36 kmc  
     3. Insertion loss: 0.20 db  
     4. VSWR: 1.25  
     5. Power range: 20 watts average  
                     40 kw peak  
     6. Connectors:  
         Input: MS 90055-600A  
         Output: MS 90057-599

Note:

## III. Operating Voltage(s)

A. AC N.A.  
 B. DC

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3; Width 6; Depth 1.25  
 B. Configuration: Portable ; Rack Mounted ; Built into Next Assembly x

## V. Reference Sources

MICOM Dwg 10056166

295

Functional Code Numbers: 211

MIL-HDBK-142A

400052

**FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Divider, Voltage, Capacitive  
 B. FSN 4935-534-1974 C. P/N 8034051  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400052  
 F. Missile System Nike Ajax, -Hercules, -Hercules (Imp)  
 G. Next Assembly SNL J29-4B, J29-4D; P/N 8169465

**II. Characteristics**

A. Principal Function Voltage divider  
 B. Input Signal 10 kc and above, 2000 volt max  
 C. Output Signal Same frequency, one one-hundredth to voltage  
 D. Functional Description

This unit is a test probe which is designed to be used with the  
Hewlett-Packard Voltmeter, Model 410B, (P/N 8169465).

Accuracy: Plus or minus 1%

Division Ratio: 100 to 1

Max. Voltage: 2000V

Frequency Range: 10 kc and above

Note: \_\_\_\_\_

**III. Operating Voltage(s)**

A. AC N.A.  
 B. DC \_\_\_\_\_

**IV. Mechanical Characteristics**

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable X; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_

**V. Reference Sources**

Hewlett-Packard catalogue (1959)  
MICOM Dwg. No 8034051

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Functional Code Numbers: 211



MIL-HDBK-142A

400053

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Comparator, Voltage  
 B. FSN 4935-604-9956 C. P/N 8151750  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400053  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL J029-4B: J751: P/N 8156684 & 8156685

## II. Characteristics

A. Principal Function Supplies + 100 and - 100 volt reference voltages  
 B. Input Signal None  
 C. Output Signal +100 volts at 20 ma and -100 volts at 10 ma  
 D. Functional Description  
 This unit compares a portion of its +100 volt output against a 10 volt reference cell. Voltage deviations are chopped, amplified, and compared in a detector which then in turn applies an error correction voltage to the grids of parallel cathode followers. The resulting change in current flow corrects the voltage deviation. The -100 volt circuit is similar in operation to the +100 volt circuit except that the +100 volt output is used for its reference.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC 6.3V, 115V, 60 cps  
 B. DC +250V, -250V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals TM 9-4940-250-35 & TM 9-4940-250-34

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Functional Code Numbers: 211

MIL-HDBK-142A  
400054FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Regulator, Voltage  
 B. FSN 4935-707-9869 C. P/N 8157186  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400054  
 F. Missile System Nike Ajax, -Hercules, -Hercules (Imp)  
 G. Next Assembly SNL J752: P/N 8514590, 8514370 & 8514120

## II. Characteristics

A. Principal Function Voltage Regulation  
 B. Input Signal -550V, -250V, -320V  
 C. Output Signal -200 volts at a max. of 250 milleamperes  
 D. Functional Description  
 This unit is a series-type regulator consisting of two amplifiers, two cathode followers, two series-regulators and a cold cathode regulator tube. Any change in the -200V output is amplified by the amplifiers and cathode followers. The amplified signal is placed on the control grids of the series regulators. This causes the conduction of the regulators to increase or decrease depending on the polarity of the signal. This causes the plate-to-cathode resistance to change which restores the output to -200V.

Note:

## III. Operating Voltage(s)

A. AC 6.3V 400 cps  
 B. DC -550V, -250V, -320V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 5 5/8; Width 9; Depth 5  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals TM 9-4940-250-34 & TM 9-4940-250-35  
MICOM Dwg No. 8157156

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400055

MIL-HDBK-142A

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier  
 B. FSN 4935-797-9538 C. P/N 9980456  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400055  
 F. Missile System Nike-Ajax, -Hercules, -Hercules (Imp)  
 G. Next Assembly SNL J784-01; P/N 9980769

## II. Characteristics

A. Principal Function Pulse amplification and generation of sharp positive missiles  
 B. Input Signal 1. A negative pulse to the pulse amplifier  
2. A positive pulse to the pulse generator  
 C. Output Signal 1. Amplified input  
2. Sharp positive pulse  
 D. Functional Description

This unit consists of two separate circuits, a pulse amplifier, and a blocking oscillator. The pulse amplifier will amplify a negative input pulse through the use of a parallel triode amplifier and a cathode follower output. The blocking oscillator produces sharp positive pulses at the frequency of the input pulses. Each circuit has its own input and output connections.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC 6.3V 400 cps  
 B. DC +250V - 250V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 8.5; Width 1.5; Depth 5.54  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals TM 9-4940-252-35/1 &  
TM 9-4940-252-34/2: Ordnance Dwg. No. 9980456

255

Function Code Number: 211

MIL-HDBK-142A  
400056FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier. Pulse  
 B. FSN 4935-740-6227 C. P/N 9983503  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400056  
 F. Missile System Nike-Ajax. -Hercules. -Hercules (Imp)  
 G. Next Assembly SNLJ784-01: P/N 9980171

## II. Characteristics

A. Principal Function Amplification  
 B. Input Signal Positive pulse variable in width from 0.1 to 1000 microseconds  
 C. Output Signal Amplified pulse-variable in amplitude, polarity and DC level.  
 D. Functional Description  
 This unit can receive pulses varying in width from 0.1 to 1000 microseconds and reform these pulses to an output adjustable in amplitude, polarity, and DC level. The rise time of a slow rising pulse can be decreased.

Note:

## III. Operating Voltage(s)

A. AC 6.3V, 400 cps.  
 B. DC +250V, +150V, +15V, -15V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 6.02; Width 8.500; Depth 3.062  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals, TM 9-4940-252-34/3, TM9-4940-252-35/2  
MICOM Dwg No. 9983503, 9984100, 9996434

300

Functional Code Numbers: 211

MIL-HDBK-142A

400057

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Zero Set  
 B. FSN 4935-593-8390 C. P/N 9983555  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400057  
 F. Missile System Nike-Ajax, -Hercules, -Hercules (Imp)  
 G. Next Assembly SNL J784-01; P/N 9983584

## II. Characteristics

A. Principal Function Detects small changes in dc voltage from ground potential  
 B. Input Signal DC voltage  
 C. Output Signal Voltage proportional to the input voltage  
 D. Functional Description  
 This amplifier detects small positive or negative voltage deviations from ground or zero potential. A mechanical chopper applies a ground 400 times per second to the input network. Voltage inputs different than ground are amplified and then used to charge an RC network. The chopper also operates on this network and develops an output voltage proportional to the input voltage.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC 6.3V 400 cps  
 B. DC +250V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 6.78; Width 8.5; Depth 1.5  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals TM-4940-252-34/3 & TM 9-4940-252-35/2  
MICOM Dwg No. 9983854

301

MIL-HDBK-142A

400058

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Audio Frequency  
 B. FSN 4935-962-7771 C. P/N 9991243  
 D. Mfr. Name and Code Number 80000  
 E. Categorization Index No. 400058  
 F. Missile System Nike-Ajax, -Hercules, -Hercules (imp)  
 G. Next Assembly SNL J784-01: P/N 9997862

## II. Characteristics

A. Principal Function Amplification  
 B. Input Signal 1 cps to 1 mc  
 C. Output Signal Amplified input  
 D. Functional Description

This unit has a midband voltage gain of approximately 40 db in two stages of amplification. There are provisions for feedback contained in the unit. The gain of the amplifier is approximately 15 db. when the feedback is used.

Note:

## III. Operating Voltage(s)

A. AC 6.3V 400 cps  
 B. DC +250, +150, -250

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 6.00; Width 8.500; Depth 1.500  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals TM-9-4940-252-35, TM 9-4940-252-34  
MICOM Dwg Nos. 9160724, 9991243

302

MIL- HDBK-142A

400059

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Electronic Control  
 B. FSN 4935-960-8724 C. P/N 9991161  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400059  
 F. Missile System Nike Ajax, -Hercules, & Hercules (Imp)  
 G. Next Assembly SNL J784-01; P/N 9980674

## II. Characteristics

A. Principal Function Amplification  
 B. Input Signal Two low-level dc voltages  
 C. Output Signal Error signal  
 D. Functional Description

This unit is capable of detecting the difference between two low level dc voltages and then developing an output that is proportional to that difference. The two low level dc voltages are chopped by an electro-mechanical chopper and then applied to the RC coupling network of the first amplifier. Voltage differences between the two dc inputs will cause alternate charging and discharging of the capacitor thereby impressing a difference voltage on the grid of the first amplifier. This difference voltage is amplified through a series of voltage amplifier which in turn drive a push-pull power amplifier.

Note: This unit supersedes P/N 9996237

## III. Operating Voltage(s)

A. AC 6.3 400 cps  
 B. DC +250, -250, +150

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 6.00; Width 8.500; Depth 3.062  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM 9-4940-250-35/1  
MITCOM Dwg Nos 9983957, 9991161 and 9983959

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MIL-HDBK-142A

400060

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION:  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier  
 B. FSN 4935-974-9853 C. P/N 9995926  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400060  
 F. Missile System Nike-Ajax, -Hercules, -Hercules (Imp)  
 G. Next Assembly SNL J784-01; P/N 9983584

## II. Characteristics

A. Principal Function Amplification (Unity gain)  
 B. Input Signal DC voltage or low frequency AC  
 C. Output Signal Same as the input  
 D. Functional Description  
 This unit consists of two identical unity gain amplifiers. Both amplifiers have provisions for two separate inputs each of which is applied to grids of triodes having a cathode resistor in common. Only the output of one of the triodes is used to drive the next stage. The other triode is used in a cathode follower configuration, and it applies its output signal to the other tube through the common cathode resistor.

Note: This unit supersedes 9983548

## III. Operating Voltage(s)

A. AC 6.3V 400 cps  
 B. DC +250V, +150V, -250V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 5.56; Width 8.5; Depth 1.5  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals TM9-4940-252-34/3 & TM 9-4940-252-35/2:  
Ord Dwg No. 9983902

304

Functional Code Numbers: 211



MIL-HDBK-142A

400061

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Radio Frequency  
 B. FSN 4935-967-9263 C. P/N 10167088  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400061  
 F. Missile System Nike Ajax, -Hercules, -Hercules (Imp)  
 G. Next Assembly SNLJ784-01; P/N 9980413

## II. Characteristics

A. Principal Function Amplification of low-level signals in the  
30 mc band  
 B. Input Signal 30 mc  
 C. Output Signal Amplified input and video signal  
 D. Functional Description

This unit is an I.F. amplifier which provides an IF signal and video signal output using three stages of amplification, transformer coupled, with a cathode follower for the output of the video signal. The first two stages are biased externally to change the reference level of the IF input signal.

Note:

## III. Operating Voltage(s)

A. AC 6.3V 400 cps  
 B. DC +150 V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 5.062; Width 8.500; Depth 3.062  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals TM9-4940-252-34/2 & TM 9-4940-252-35/1 MICOM Dwg Nos 9160756 & 10167088

305

MIL-HDBK-142A

400062

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Attenuator, Waveguide Assembly  
 B. FSC 4935-303-8047 C. P/N 8171359  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400062  
 F. Missile System Nike-Ajax, -Hercules, & Hercules (Imp)  
 G. Next Assembly SNL Y30, J783-00, J752: P/N 9008074

## II. Characteristics

A. Principal Function Attenuation  
 B. Input Signal 8500 mc to 9600 mc  
 C. Output Signal Attenuated input  
 D. Functional Description  
     Attenuation: 0.5 to 31 db  
     Insertion Loss: 0.5 db  
     Aver. Power: 0.502W

Note: Supersedes 8007796

## III. Operating Voltage(s)

A. AC N.A.  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

MICOM Dwg No. 8171359

306

Functional Code Number: 211

MIL-HDBK-142A

400063

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Attenuator Assembly  
 B. FSN 4935-561-7996 C. P/N 8172888  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400063  
 F. Missile System Nike-Hercules  
 G. Next Assembly SNL Y030-00: P/N 8520434; P/N 8520434, 8172883

## II. Characteristics

A. Principal Function Attenuation  
 B. Input Signal 8500 to 9600 mc  
 C. Output Signal Attenuated input  
 D. Functional Description

This unit is a solenoid operated attenuator with two operating positions for frequencies from 8500 mc to 9600 mc. With the solenoid activated: The attenuation is 45.0 db min., the V.S.W.R. not greater than 1.12.

Insertion loss with the solenoid deactivated is between 0.35 & 0.10 db.

Note:

## III. Operating Voltage(s)

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height app 5; Width app 4.9; Depth app 6.1  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

MICOM Dwg No. 8172888

307

Functional Code Numbers: 211

MIL-HDBK-142A  
400064

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

I. Item Identification

A. Federal Nomenclature Attenuator, Variable  
B. FSN 4935-788-1200 C. P/N 9082363  
D. Mfr. Name and Code Number 00000  
E. Categorization Index No. 400064  
F. Missile System Hawk  
G. Next Assembly SNL Y121-00, J756-24: P/N 9189263 & 10047168

II. Characteristics

A. Principal Function Attenuation  
B. Input Signal per code "A" (see note)  
C. Output Signal Attenuated input  
D. Functional Description

Attenuation: 1.0 to 20.0 db per Code "A"  $\pm$  125 mc/sec

VSWR: 1.25 per Code "A"  $\pm$  125 mc/sec.

Note: Code "A" as specified on Ordnance Dwg. No, 10105207

III. Operating Voltage(s)

A. AC N.A.  
B. DC

IV. Mechanical Characteristics

A. Dimensions (inches): Height 1 5/8"; Width 1 5/8"; Depth 2 1/2"  
B. Configuration: Portable ; Rack Mounted ; Built into Next Assembly x

V. Reference Sources

MICOM Dwg No. 9082363

305

MIL-HDBK-142A

400065

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Attenuator, Variable  
 B. FSN 4935-775-9968 C. P/N 9082531  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400065  
 F. Missile System Hawk  
 G. Next Assembly SNL J756-24, Y121-00; P/N 10047168, 9189266

## II. Characteristics

A. Principal Function Attenuation  
 B. Input Signal Per code "A" (see note)  
 C. Output Signal Attenuated input  
 D. Functional Description  
     VSWR: 2.0 at 0.7 MA Coil current  
     Frequency range; As per code "A"  $\pm 125$  MC  
     Insertion loss: Max; 0.5 db at 3.0 MA coil current  
                     Min; 7.7 db at 0.0 MA coil current

Note: Code "A" specified on Ordnance Dwg 10105207

## III. Operating Voltage(s)

A. AC N.A.  
 B. DC

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 2.235; Width 2.235; Depth 2.250  
 B. Configuration: Portable ; Rack Mounted ; Built into Next Assembly x

## V. Reference Sources

MICOM Dwg. No. 9082531

34

Functional Code Numbers: 211

MIL-HDBK-142A

400066

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Electronic Control  
 B. FSN 4935-015-9941 C. P/N 10393845  
 D. Mfr. Name and Code Number 00000, 82686  
 E. Categorization Index No. 400066  
 F. Missile System Sergeant  
 G. Next Assembly SNL U157-1: P/N 11065047

## II. Characteristics

A. Principal Function Amplification  
 B. Input Signal 400 cps signal  
 C. Output Signal Amplified input  
 D. Functional Description  
 Gain:  $2800 \pm 10\%$  - when used with 9130272 transformer and  
 4000 ohms load and 5 mv. input voltage.  
 Input Impedance: 10,000 ohms  
 Gain Stability:  $\pm 3$  db over temperature range of  $-55^{\circ}$   
 to  $-125^{\circ}\text{C}$ .  
 Phase Shift:  $0^{\circ} \pm 5^{\circ}$   
 Operating frequency:  $400 \pm 5$  cps

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC \_\_\_\_\_  
 B. DC +28V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3; Width Dia 1 1/4; Depth \_\_\_\_\_  
 E. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

MICOM Dwg No. 10393845

MIL-HDBK-142A

400067

**FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION**

**I. Item Identification**

A. Federal Nomenclature Amplifier  
 B. FSN 4935-285-3727 C. P/N 9157696  
 D. Mfr. Name and Code Number 18876  
 E. Categorization Index No. 400067  
 F. Missile System Nike-Hercules (Imp)  
 G. Next Assembly SNL J78402: P/N 10184776

**II. Characteristics**

A. Principal Function Amplification  
 B. Input Signal 50 cps to 90 mc signal  
 C. Output Signal Amplified input  
 D. Functional Description

Frequency range: 50 cps to 90 mc  
 Gain: 40 db  $\pm$  1db  
 Rise time: Less than 4 nsec and overshoot less than 5%  
 Input Impedance: 1 megohm paralleled by 15 pf  
 Output Impedance: 75 ohms  
 Distortion: Less than 5%

Note: \_\_\_\_\_

**III. Operating Voltage(s)**

A. AC 115  $\pm$  10 V, 60 cps to 400 cps  
 B. DC \_\_\_\_\_

**IV. Mechanical Characteristics**

A. Dimensions (inches): Height 3.25; Width 6.50; Depth 6.888  
 B. Configuration: Portable x; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_

**V. Reference Sources**

MICOM Dwg No. 9157696

3//

Functional Code Numbers: 211

MIL-HDBK-142A

400068

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Audio Frequency  
 B. FSN 4935-075-5313 C. P/N 11065976  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400068  
 F. Missile System Sergeant  
 G. Next Assembly SNL J760-1

## II. Characteristics

A. Principal Function Amplification  
 B. Input Signal 18 cps to 40 kc  
 C. Output Signal Amplified Input  
 D. Functional Description

Power Output: 75 watts  
 Input Impedance: 250,000 ohms  
 Output Impedance: 158.67, 16.8, and 4 ohms  
 Harmonic Distortion: Less than 1/2% over the range  
 20 cps to 20 kc

Note:

## III. Operating Voltage(s)

A. AC 105 to 130V 400 cps  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 7 3/4; Width 8; Depth 14 3/4  
 B. Configuration: Portable X; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_

## V. Reference Sources

MICOM Dwg No. 11065936

312

Functional Code Numbers: 211



MIL-HDBK-142A

400069

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Electronic Control  
 B. FSN: 4935-085-8528 C. P/N 10605969-3  
 D. Mfr. Name and Code Number 80000  
 E. Categorization Index No. 400069  
 F. Missile System Pershing  
 G. Next Assembly SNL 786-00 P/N 10570440-19

## II. Characteristics

A. Principal Function Amplification of 400 cps signals  
 B. Input Signal 400 cps signal  
 C. Output Signal Amplified input  
 D. Functional Description  
     Output voltage: 40 4V rms with an input greater than 50 mv  
     Input Impedance: 50K ohms  
     Output Impedance: 50 ohms  
     Distortion: Less than 20%  
     Voltage gain: 1000 with 20 mv input at 400 cps  
     Bandwidth: 3db down at 300 cps and 500 cps

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC \_\_\_\_\_  
 B. DC 28V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 2.16; Width 1.88; Depth 1.44  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

MICOM Dwg No. 10605969.

313

Functional Code Numbers: 211

MIL-HDBK-142A

400070

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier  
 B. FSN 4935-821-3747 C. P/N 004 8022  
 D. Mfr. Name and Code Number 07421  
 E. Categorization Index No. 400070  
 F. Missile System \_\_\_\_\_  
 G. Next Assembly \_\_\_\_\_

## II. Characteristics

A. Principal Function Amplification  
 B. Input Signal 215 to 260 mc  
 C. Output Signal Amplified input  
 D. Functional Description

This unit is a high gain low noise amplifier.

Frequency Range: 215-260 mc  
 Noise figure: 4db maximum  
 Gain: 20db  
 Passband Ripple: 2db  
 Input Impedance: 50 ohms nominal  
 Connectors: BNC  
 Output Impedance: 50 OHMS nominal

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC 6.3V  
 B. DC 200 to 300V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 4; Width 4½; Depth 2½  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

BuWens Dwg No. 0048822

314  
 Functional Code Numbers: 211

MIL-HDBK-142A

400071

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier  
 B. FSN 4935-202-1010 C. P/N PS2-10446-1  
 D. Mfr. Name and Code Number 06887, 36659  
 E. Categorization Index No. 400071  
 F. Missile System Polaris  
 G. Next Assembly \_\_\_\_\_

## II. Characteristics

A. Principal Function Amplification of two signals through  
separate channels  
 B. Input Signal dc - 50 mc signal  
 C. Output Signal amplified input  
 D. Functional Description

This unit is a dual 50 mc dual-trace amplifier  
 intended for use with the Hewlett Packard 175A oscilloscope.  
 It has five modes of operation; 1) A channel, 2) B channel,  
 3) chopped, 4) alternate, and 5) A&B  
 Sensitivity: 30 ~~mv~~/cm  
 Rise time: 7 nsec  
 Input Impedance: 1 meg shunted by 23 pf.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height \_\_\_\_\_; Width \_\_\_\_\_; Depth \_\_\_\_\_  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

HP Catalog #25 4-65 page 285

315

Functional code numbers: 211

MIL-HDBK-142A  
400072

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

I. Item Identification

A. Federal Nomenclature Amplifier, Electrical  
B. FNN 4935-968-0020 C. P/N 10607329-3  
D. Mfr. Name and Code Number 00000  
E. Categorization Index No. 400072  
F. Missile System Pershing  
G. Next Assembly SNL J789-1: P/N 10576980

II. Characteristics

A. Principal Function Amplification  
B. Input Signal 400 cps signal  
C. Output Signal Amplified input  
D. Functional Description  
Voltage Gain: 1000 3db independent of Load  
Signal frequency: 400 cps  $\pm$  20 cps  
Max. impedance: 50K ohms  
Output Power: 6 watts into 267 ohms  
3.5 watts into 450 ohms  
Type of output: Direct push-pull  
Max Signal Output: 60V rms

Note:

III. Operating Voltage(s)

A. AC  
B. DC 28V  $\pm$  10%

IV. Mechanical Characteristics

A. Dimensions (inches): Height 2.53; Width 1.88; Depth 1.44  
B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

V. Reference Sources

MICOM Dwg No. 10607329

316

Functional Code Numbers: 211

MIL-HDBK-142A

400073

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Regulator, Electrical  
 B. FSM 4935-974-1416 C. P/N 9978393  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400073  
 F. Missile System Nike Hercules  
 G. Next Assembly SNL J753-28 P/N 9978585

## II. Characteristics

A. Principal Function Voltage Regulation  
 B. Input Signal 100 to 130 volt, 400 cps  
 C. Output Signal 120 volts, 400 cps  
 D. Functional Description

This unit produces a 120 volt output with an  
 input of 100 to 130 volts.

Note:

## III. Operating Voltage(s)

A. AC N.A.  
 B. DC N.A.

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 10; Width 9; Depth 5  
 B. Configuration: Portable x; Rack Mounted   ; Built into Next Assembly   

## V. Reference Sources

MICOM Dwg No. 9978393

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Functional Code Numbers: 211

MIL-HDBK-142A  
400074

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

I. Item Identification

A. Federal Nomenclature Amplifier, Video  
B. FSN 4935-337-8305 C. P/N 8152808  
D. Mfr. Name and Code Number 00000  
E. Categorization Index No. 400074  
F. Missile System Nike Ajax, -Hercules, -Hercules (Imp)  
G. Next Assembly SNL J29-B, J752-00, J783-00; P/N 8157151

II. Characteristics

A. Principal Function Amplifies video signals  
B. Input Signal 200 kc to 200 mc  
C. Output Signal Amplified input  
D. Functional Description  
Gain: 15 db into 200 ohms load  
Impedance: input 200 ohms  
output 200 ohms  
Rise time: 0.003 micro sec  
Noise figure: Less than 6 db

Note: Unit contains own power supply

III. Operating Voltage(s)

A. AC 105 V to 125V 50 to 60 cycles, single phase 35W  
B. DC

IV. Mechanical Characteristics

A. Dimensions (inches): Height 5 1/2; Width 19; Depth 8 3/16  
B. Configuration: Portable    ; Rack Mounted x; Built into Next Assembly    

V. Reference Sources

Hewlett-Packard Catalogue, 1961 edition  
MICOM Dwg. No. 8152808

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Functional Code Numbers: 211

MIL-HDBK-142A

400075

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Audio Frequency  
 B. FSN 4935-441-4817 C. P/N 8151583  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400075  
 F. Missile System Nike-Ajax, -Hercules  
 G. Next Assembly SNL J784, J782, P/N 9155004, 9983982

## II. Characteristics

A. Principal Function Amplification  
 B. Input Signal Audio frequency  
 C. Output Signal Amplified Input  
 D. Functional Description

This unit uses a transformer-coupled input and output and contains a push-pull amplifier for the last stage of amplification. The power supply is contained in the unit.

Note: This unit supersedes E8151200

## III. Operating Voltage(s)

A. AC 208V, 400 cps, 3 phase  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 10 15/32; Width 12 3/4; Depth 17 1/2  
 B. Configuration: Portable \_\_\_\_\_; Rack Mounted \_\_\_\_\_; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals TM 9-4940-250-34, TM9-4940-250-35  
MICOM Dwg No. 8151583

J-5

Functional Code Numbers: 211

MIL-MDBK-142A

400076

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Audio Frequency  
 B. FSN 4935-791-8171 C. P/N 9155139  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400076  
 F. Missile System Nike-Ajax, -Hercules  
 G. Next Assembly SNL Y008-00, Y090-00

## II. Characteristics

A. Principal Function Amplification  
 B. Input Signal DC error voltage  
 C. Output Signal Amplified input  
 D. Functional Description

This unit amplifies DC voltage inputs and supplies sufficient power capable of driving a servo motor. A maximum output of  $\pm 28$  volts will be supplied with a plus or minus 0.5 volt input.

Note: This unit supersedes P/N 8150074

## III. Operating Voltage(s)

A. AC 6.3, 400 cps  
 B. DC +250, -250, -28

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 5 5/16; Width 7 1/2; Depth 7 1/2  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM9-1440-250-10  
MTCOM Dwg. Nos. 9155139, 8012088, 8011281, 8009232

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MIL-HDBK-142A

400077

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Multivibrator  
 B. FSN 4935-968-4215 C. P/N 10167163  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400077  
 F. Missile System Nike-Ajax, -Hercules & -Hercules (Imp)  
 G. Next Assembly SNL J784-01: P/N 9991430

## II. Characteristics

A. Principal Function Phase inversion and relay energization  
 B. Input Signal 0 to 30,000 cps to the amplifier and negative pulse to the multivibrator.  
 C. Output Signal Input with unity gain  
 D. Functional Description

This unit contains two different circuits which operate independently of each other. One of the circuits is an amplifier and the other is a monostable multivibrator. The amplifier is a unity gain phase inverter for input signals whose frequency varies from 0 to 30 kc and within amplitude limits of -50 to + 50 volts. The input signal is fed through three stages of amplification. Two cathode followers connected in parallel provide a cathode voltage which is used as an output signal and as feedback to the first stage of amplification. The multivibrator, when keyed by a negative pulse, energizes a relay contained in the unit. The relay has two sets of normally open contacts. One set provides a circuit path for an external circuit and the other set discharges a capacitor to provide a negative pulse output.

Note: Supersedes 9995827, 9999766, & 9159432

## III. Operating Voltage(s)

A. AC 6.3  
 B. DC +250, -250, +150V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 5.52; Width 8.5; Depth 1.5  
 B. Configuration: Portable     ; Rack Mounted     ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manuals TM9-4940-252-34/2 & TM 9-4940-252-35/1  
MICOM Dwg Nos. 10167163 and 9155180

321

Functional Code Numbers: 211

MIL-HDBK-142A  
400078FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Audio Frequency  
 B. FSN 4935-788-2993 C. P/N 10042725  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400078  
 F. Missile System Hawk  
 G. Next Assembly SNL J756-22; P/N 10046510

## II. Characteristics

A. Principal Function Voltage amplification  
 B. Input Signal Audio frequency signal  
 C. Output Signal Amplified input  
 D. Functional Description

This unit is a single stage paraphase amplifier. The output of the paraphase sections feed the primary of an output transformer which has a low impedance secondary. It has a frequency response of 100 cps to 20 kc  $\pm$  8db

Note:

## III. Operating Voltage(s)

A. AC 6.3V 400 cps  
 B. DC +300; -150V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 5 1/8; Width 4 3/4; Depth 11 1/2  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM9-4935-506-35/1.  
MICOM Dwg No 10042725

322

Functional Code Numbers: 211

MIL-HDBK-142A

400079

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Audio or Radio Frequency  
 B. FSN 4935-604-9153 C. P/N 9160833  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400079  
 F. Missile System Nike-Ajax -Hercules & -Hercules (Imp)  
 G. Next Assembly SNL J784001; P/N 9997862

## II. Characteristics

A. Principal Function Power amplification of audio frequencies.  
 B. Input Signal Audio or Radio Frequench signal  
 C. Output Signal Amplified input  
 D. Functional Description

This unit will amplify audio or radio frequency signals and will develop approximately 7.5 watts of output power into resistive loads of 75 to 500 ohms. It has a frequency range of 1 cps to 1 mc. The circuit consists of a phase inverter and push-pull parallel power amplifiers.

Note:

## III. Operating Voltage(s)

A. AC \_\_\_\_\_  
 B. DC +250 vdc, -250 vdc, 6.3vdc

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 6.80"; Width 8.50"; Depth 3.062"  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM9-4940-252-35/1 TM 9-4940-252-34/2  
MICOM Dwg No's 9160584 and 9160833.

323

Functional Code numbers: 211 212

MIL-HDBK-142A  
400080FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Transducer, Impedance  
 B. FSN 4935-791-8191 C. P/N 8153470  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400080  
 F. Missile System Nike, -Ajax, -Hercules, - Hercules (Imp)  
 G. Next Assembly SNL J762; P/N 8514690

## II. Characteristics

A. Principal Function Impedance Matching  
 B. Input Signal a-c signal  
 C. Output Signal a-c signal  
 D. Functional Description

This cathode follower type impedance matching device provides a 200 ohms input impedance and an effective output impedance for a 50 or 75 load

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC 6.3V  
 B. DC +250 V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 3 13/32"; Width 5"; Depth 4 7/8"  
 B. Configuration: Portable    ; Rack Mounted    ; Built into Next Assembly    <sup>x</sup>

## V. Reference Sources

Department of the Army Technical Manual TM9-4940-251-34 & TM9-4940-251-35  
MICOM Dwg No. 8153470

324

MIL-HDBK-142A

400081

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Electronic Control  
 B. FSN 4935-337-8605 C. P/N 8009619  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400081  
 F. Missile System Nike-Ajax, -Hercules, & -Hercules (Imp)  
 G. Next Assembly SNS's Y004-2, Y008-00, Y028-00, Y090-00, Y176-00, Y207.

P/N's 9993641, 9000326

## II. Characteristics

A. Principal Function Power amplification  
 B. Input Signal 400 cps voltage  
 C. Output Signal 400 cps voltage  
 D. Functional Description

This unit is a 400 cps power amplifier with a low impedance output and an overall gain of unit. The 400 cps input is applied to the grid of a voltage amplifier which drives paraphase power amplifiers whose plates are connected to the output transformer.

Note:

## III. Operating Voltage(s)

A. AC 6.3V ac  
 B. DC +250V

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 1 37/64; Width 6 1/4; Depth 3 7/8  
 B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

## V. Reference Sources

Department of the Army Technical Manual TM 9-1430-251-35 & TM 9-1430-258-20

325

Functional Code Numbers: 212

MIL-HDBK-142A  
400082

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

I. Item Identification

A. Federal Nomenclature Network, Pulse Delay  
B. FSN 4935-446-2983 C. P/N 10054802  
D. Mfr. Name and Code Number 00000  
E. Categorization Index No. 400082  
F. Missile System Lacrosse  
G. Next Assembly SNL J740-01; P/N 10055486

II. Characteristics

A. Principal Function Pulse Delay  
B. Input Signal Pulse  
C. Output Signal Delayed Input  
D. Functional Description

This unit achieves a pulse delay of 1/2 micro's through the use of passive network. Nominal distortion is 2%.

Note: \_\_\_\_\_

III. Operating Voltage(s)

A. AC N.A.  
B. DC \_\_\_\_\_

IV. Mechanical Characteristics

A. Dimensions (inches): Height 2 1/2; Width 2 9/16; Depth 12 11/16  
B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

V. Reference Sources

Department of the Army Technical Manual TM9-4935-404-14/10  
MICOM Dwg No. 10054802

MIL-HDBK-142A

400083

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Dummy Load, Electrical  
 B. FSN 4935-986-9742 C. P/N 9172499  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400083  
 F. Missile System Hawk  
 G. Next Assembly SNL J756-27: P/N 9189387

## II. Characteristics

A. Principal Function To simulate loading effects which are normally presented to a radar modulator by the magnetron.  
 B. Input Signal Radar Pulse  
 C. Output Signal n.a  
 D. Functional Description  
This unit uses twelve 600 ohms wire-wound resistors connected in parallel and provide a termination of 50 ohms. Power dissipation is 4500 watts. Peak load voltage is 12 Kilovolts.

Note: An adjustable output for monitoring is provided

## III. Operating Voltage(s)

A. AC 115V 400 cps for operation of blower motor  
 B. DC N.A.

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 13 5/8; Width 14"; Depth 30"  
 B. Configuration: Portable x; Rack Mounted   ; Built into Next Assembly   

## V. Reference Sources

Department of the Army Technical Manual TM9-4985-515-35  
MICOM Dwg No. 9172499

327

Functional Code Numbers: 300

MIL-HDBK-142A  
400084

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

I. Item Identification

A. Federal Nomenclature Dummy Load, Electrical  
B. FSN 4935-604-8546 C. P/N 9980056  
D. Mfr. Name and Code Number \_\_\_\_\_  
E. Categorization Index No. 400084  
F. Missile System Nike-Hercules (Imp)  
G. Next Assembly SNL J784-01: P/N 9997843

II. Characteristics

A. Principal Function provides a continuous variable load for testing  
power supplies  
B. Input Signal N.A.  
C. Output Signal N.A.  
D. Functional Description

This circuit provides a load capacity of 0-440 ma. The circuits of the dummy load consist of four electron tubes which serve as variable loads. The loading is varied by applying a variable bias to the control grids. (This unit does not contain the bias supply).

Note: \_\_\_\_\_

III. Operating Voltage(s)

A. AC 6.3V 400 cps 4.8A  
B. DC \_\_\_\_\_

IV. Mechanical Characteristics

A. Dimensions (inches): Height 3.06"; Width 8.50"; Depth 6/62"  
B. Configuration: Portable    ; Rack Mounted x; Built into Next Assembly    

V. Reference Sources

Department of the Army Technical Manual TM9-4940-252-34/3 & TM9-4940-252-35/3  
MICOM Dwg 9980056

328

Functional Code Numbers: 300



MIL-HDBK-142A

400085

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Dummy, Load, Electrical  
 B. FSN 4935-533-3311 C. P/N 8155914  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400085  
 F. Missile System Nike Ajax, -Hercules  
 G. Next Assembly SNL J029-4B, J752, J783, P/N 8150590

## II. Characteristics

A. Principal Function Variable load  
 B. Input Signal B + voltage, audio frequency signal, and bias  
 C. Output Signal N/A  
 D. Functional Description  
 This unit is used as a variable load impedance for testing low voltage power supplies. Jacks are provided to read the load current and connections to internally located plate resistors and cathode are supplied to have various load conditions. There are jacks for an audio frequency signal input and negative grid bias input to vary the load.

Note: This unit supersedes 8157074

## III. Operating Voltage(s)

A. AC 6.3  
 B. DC

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 17 5/8; Width 23 5/8; Depth 6 17/32  
 E. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly X

## V. Reference Sources

Department of the Army Technical Manuals TM 9-4940-251-34 & TM 9-4940-251-35  
MICOM Dwg No. 8155914

329

Functional Code Numbers: , 300

MIL-HDBK-142A  
400086

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

I. Item Identification

A. Federal Nomenclature Dummy Load, Electrical  
B. FSN 4935-829-6733 C. P/N 9980084  
D. Mfr. Name and Code Number 00000  
E. Categorization Index No. 400086  
F. Missile System Nike Ajax, -Hercules, -Hercules (Imp)  
G. Next Assembly SNL J784-01 P/N 9997843

II. Characteristics

A. Principal Function Variable Load  
B. Input Signal Positive or negative voltage, variable frequency sine wave, variable bias voltage  
C. Output Signal N.A.  
D. Functional Description  
This unit provides a variable load for testing power supplies from 0-440 milliampere capacity. A variable bias voltage is applied to the grids of the load tubes to vary the load offered to the supply. A available frequency sine wave can be applied to check the ripple response of the power supply.

Note:

III. Operating Voltage(s)

A. AC 6.3V, 4.8A, 400 cps  
B. DC

IV. Mechanical Characteristics

A. Dimensions (inches): Height 6.62; Width 8.500; Depth 3.062  
B. Configuration: Portable   ; Rack Mounted   ; Built into Next Assembly x

V. Reference Sources

Department of the Army Technical Manuals TM9-4940-252-35/2 & TM9-4940-252-34/3  
MICOM Dwg No. 9980084

330

Functional Code Numbers: 300

MIL-HDBK-142A

400087

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Dummy Load, Electrical  
 B. FSN 4935-839-5718 C. P/N 9984876  
 D. Mfr. Name and Code Number 00000  
 E. Categorization Index No. 400087  
 F. Missile System Nike Hercules (Imp)  
 G. Next Assembly SNL J762, J29: P/N 9985436

## II. Characteristics

A. Principal Function Dummy Load  
 B. Input Signal dc to 3000 mc  
 C. Output Signal N.A.  
 D. Functional Description  
 Impedance: 75 ohms  
 Power Dissipation: Aver. 1w  
 Peak 1kw

Note: Resistor type

## III. Operating Voltage(s)

A. AC N.A.  
 B. DC

## IV. Mechanical Characteristics

A. Dimensions (inches): Height .687; Width .687; Depth 1.325  
 B. Configuration: Portable x; Rack Mounted    ; Built into Next Assembly    

## V. Reference Sources

MICOM Dwg No 9984876

33

MIL-HDBK-142A

400088

FSC 4935 ELECTRICAL-ELECTRONIC TESTING EQUIPMENT CATEGORIZATION  
ADAPTIVE AND SUPPLEMENTARY DEVICES DELINEATION

## I. Item Identification

A. Federal Nomenclature Amplifier, Intermediate  
 B. FSN 4935-987-1280 C. P/N 10104890  
 D. Mfr. Name and Code Number \_\_\_\_\_  
 E. Categorization Index No. 400088  
 F. Missile System Hawk  
 G. Next Assembly \_\_\_\_\_

## II. Characteristics

A. Principal Function \_\_\_\_\_  
 B. Input Signal 30 mc sine wave  
 C. Output Signal 30 mc sine wave  
 D. Functional Description \_\_\_\_\_

Used as a comparison standard to test the log lf amplifier  
 of Radar Set AN/MPQ-35.

Note: \_\_\_\_\_

## III. Operating Voltage(s)

A. AC \_\_\_\_\_  
 B. DC \_\_\_\_\_

## IV. Mechanical Characteristics

A. Dimensions (inches): Height 17 approx; Width 5 approx; Depth 4 approx  
 B. Configuration: Portable x; Rack Mounted \_\_\_\_\_; Built into Next Assembly \_\_\_\_\_

## V. Reference Sources

TM9-4935-506-35/3

332

Functional Code Numbers: 211

CUSTODIANS:

Army-MI  
Navy-OS  
Air Force-70

PREPARING ACTIVITY:

Army-MI

REVIEW ACTIVITIES:

Army  
Navy  
Air Force

DOD PROJECT NUMBER:

4935-0028

TABLE 1:

## CROSS REFERENCE BY FEDERAL STOCK NUMBER

FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
015-9941	10393845	40	400066	075-5346	11065985	10	100023
018-9837	9157515	20	200005	075-5347	11065986	10	100022
019-3029	10167755	20	200004	075-5348	11065987	10	100020
025-3513	8026510	30	300027	075-9127	11065988	10	100021
034-7088	NA5-15203	10	100019	078-4364	10395325	30	300018
045-9865	9986044	30	300040	083-8245	9993860	20	200037
053-2551	10167172	30	300016	084-8403	9993134	20	200015
056-0160	10108007	40	400036	085-9528	10605969-3	40	400069
060-9947	10-20938-2	10	100018	086-4132	10607235-1	30	300015
064-6467	9993989	20	200055	086-6038	5-92485-000	30	300003
070-0595	G366341	20	200024	086-8418	9995803	20	200068
072-9210	263373-9	30	300035	202-1008	PC2-10428-1	30	300024
075-531	11065976	40	400068	202-1010	PS2-10446-1	40	400071
075-5327	11065982	10	100026	202-1011	PS2-10447-1	20	200080
075-5328	11065981	30	300019	285-3727	9157696	40	400067
075-5344	11065983	10	100025	303-8047	8171359	40	400062
075-5345	11065984	10	100024	306-2151	8016602	20	200013

TABLE I:

## CROSS REFERENCE BY FEDERAL STOCK NUMBER

FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
308-0263	8021493	20	200011	440-1753	9154379	40	400019
308-2702	8007720	20	200010	440-3242	9139938	20	200058
308-2703	8007722	30	300005	440-3244	8150790	40	400002
328-5932	10105119	30	300006	440-9640	PS640900219-1	20	200002
328-6065	10105120	20	200095	441-2072	8157362	30	300009
331-0615	8023747	20	200003	441-2104	9143322	20	200044
331-2200	8021480	10	100032	441-2105	9142834	20	200086
337-8305	8152808	40	400074	441-4817	8151583	40	400075
337-8603	8008987	40	400037	444-9697	9137692	40	400028
337-8605	8009619	40	400081	496-2983	10054802	40	400082
345-8015	10064047	40	400089	446-6045	8151770	30	300008
345-8018	10107267	40	400016	446-6084	9138256	20	200051
439-8211	8153130	20	200035	446-6085	9140030	30	300014
439-8212	8156967	20	200060	446-6123	8151360	20	200061
439-8213	8514340	20	200085	472-8890	9154976	20	200041
439-8220	8151260	20	200042	475-1194	9988963	10	100001
440-1625	8151850	30	300029	475-5386	8514550	20	200081

TABLE I:  
CROSS REFERENCE BY FEDERAL STOCK NUMBER

FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
522-0665	8155140	20	200072	589-8289	8156577	30	300036
522-0655	8155140	30	300007	593-8131	9154965	20	200069
522-0716	8514650	20	200052	593-8182	9983651	20	200091
522-0841	9137795	40	400029	593-8191	9980774	20	200057
522-0842	9980822	20	200090	593-8390	9983555	40	400057
533-3311	8155914	40	400085	604-8387	8151460	20	200043
534-1974	8034051	40	400052	604-8546	9980056	40	400084
535-3532	8153406	40	400038	604-8951	9980170	40	400033
535-3533	8153480	20	200078	604-8991	9980767	20	200045
535-3534	8514190	40	400035	604-9153	9160833	40	400079
535-3537	8514360	20	200048	604-9666	8151340	20	200046
535-3539	8514370	20	200062	604-9956	8151750	40	400053
535-4603	9003047	30	300032	604-4732	8016551	20	200009
561-7996	8172888	40	400063	605-4733	8021576	30	300039
563-3499	9000007	20	200088	612-3042	9007765	40	400027
569-1756	8171572	20	200039	613-8832	9004247	20	200050
589-8288	9155237	20	200094	620-8135	9005619	40	400015



TABLE I:

## CROSS REFERENCE BY FEDERAL STOCK NUMBER

FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
620-9323	9032951	30	300010	712-9217	G290572-1	20	200023
621-3301	8158147	30	300013	722-2066	30700-315	20	200027
621-5273	8158148	20	200029	726-0593	30665-315	40	400013
622-1649	9009270	40	400020	730-7411	9981050	10	100003
624-8773	177012-801	30	300022	730-7448	9986045	30	300031
646-8448	9007869	20	200084	732-7810	9980408	40	400025
652-1231	PS640900171-1	20	200031	732-7820	9980154	20	200076
679-9154	9140771	40	400014	732-8018	9984886	40	400009
684-5558	132820	30	300034	734-5364	9177339	40	400030
688-5604	GS59017	10	100038	736-0479	9987355	40	400031
688-5605	GS59019	10	100039	736-0488	9987233	20	200001
688-9138	21115-305	20	200020	736-0494	9987148	40	400039
690-4628	8158111	30	300041	737-0523	10046501	20	200006
699-2381	8156699	40	400011	738-1434	9158797	30	300004
707-9869	8157186	40	400054	739-2265	9157911	30	300033
707-9893	9142999	30	300012	739-2269	9016604	40	400040
712-8462	9980088	40	400043	739-6721	9176829	40	400041

TABLE 1:  
CROSS REFERENCE BY FEDERAL STOCK NUMBER

FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
739-6756	10045200	20	200047	786-4062	10011346	10	100034
740-6227	9983503	40	400056	787-6584	10047168	20	200007
751-9145	10046503	20	200008	787-7342	9196218	10	100029
751-9172	10046705	40	400026	787-7343	9188060	10	100010
755-2984	9168080	40	400046	787-7344	9188069	20	200028
768-2300	GS59057	20	200017	787-7362	9188025	10	100037
773-6896	9163388	20	200087	788-1200	9082363	40	400064
774-6236	9140745	20	200053	788-2954	10046917	20	200033
774-9390	9140520	20	200066	788-2993	10042725	40	400079
775-0198	9140517	20	200070	789-2963	9143033	30	300038
775-0206	9140531	20	200075	790-4767	9188063	10	100028
775-9968	9082531	40	400065	790-4768	9188058	10	100008
778-0301	8036066	40	400010	790-4770	9188053	20	200032
778-0415	9140245	10	100004	790-4771	9188062	10	100011
783-6779	9160329	10	100033	790-7938	9140269	10	100041
784-9734	PS837000040-1	30	300011	790-7939	9140503	10	100004
784-7737	PS837000039-1	30	300002	791-8171	9155139	40	400076

TABLE I:

## CROSS REFERENCE BY FEDERAL STOCK NUMBER

FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
791-8188	9188059	10	100009	806-3012	GA10660	10	100040
791-8191	8153476	40	400080	807-7611	10045270	20	200019
793-1954	9143938	20	200097	809-2281	G303460	30	300021
793-1960	9141288	10	100006	811-6945	GS59013	40	400006
794-8712	9143324	20	200083	812-2696	PS640900215-1	20	200026
795-0466	9143818	20	200022	821-0854	PS83490062-1	20	200020
797-0889	9136769	40	400005	821-3747	0048022	40	400070
797-0890	9136556	40	400044	821-3838	0300021	10	100013
797-7332	9154974	20	200065	829-6692	9137834	40	400024
797-9498	9160806	20	200077	829-6720	9980418	40	400001
797-9537	9980120	20	200073	829-6733	9980084	40	400086
797-9538	9990456	40	400055	829-6736	9980038	40	400017
797-9540	9980158	40	400018	829-6739	9980380	40	400003
803-4491	10105118	20	200096	829-7480	8151070	20	200059
805-3641	9187748	40	400047	837-1801	258H9912520-49	30	300023
806-0934	9988562	20	200025	839-5718	9984876	40	400088
806-1026	9988567	20	200049	845-1962	9157256	40	400032

TABLE 1:

## CROSS REFERENCE BY FEDERAL STOCK NUMBER

FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
858-3321	10062289	10	100042	950-9630	5-92632-107	20	200012
858-3346	10062274	10	100035	953-0096	9997962	30	300025
860-2400	9986043	30	300030	953-0097	9997744	20	200014
874-3337	9981298	10	100031	955-6583	804E4100000-009	30	300017
875-9790	9981934	40	400042	956-8021	1960980-4	10	100016
886-1242	10036826	10	100005	960-8721	9996176	20	200087
887-1451	9157186	40	400034	960-8723	9991184	20	200092
887-9025	9988588	40	400021	960-8724	9991161	40	400059
893-2016	9981031	20	200074	961-4184	9991185	20	200089
894-3153	9975621	40	400048	961-6132	1361020	10	100012
894-9660	10046508	20	200021	962-7760	9997863	20	200034
895-6536	9156025	10	100021	962-7761	9997968	20	200054
896-9641	1942412	30	300028	962-7771	9991243	40	400058
900-8375	10046670	40	400012	962-7772	9991107	20	200056
928-3724	10177230	40	400008	962-7776	9991179	20	200030
928-6096	10177229	40	400007	962-8233	9998208	10	100030
930-5853	10111869	20	200018	963-7054	0083023	10	100015

TABLE I:

## CROSS REFERENCE BY FEDERAL STOCK NUMBER

FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	FSN 4935-	PART NUMBER	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
967-9165	9995819	20	200082	986-8899	0083024	10	100017
967-9263	10167088	40	400061	986-9742	9172499	40	400083
968-0020	10607329-3	40	400072	987-1280	10104890	40	400004
968-4215	10167163	40	400077	987-3170	9991714	10	100036
970-0173	9993752	40	400023	987-6987	0083026	10	100014
974-1416	9987393	40	400073	987-8705	9996505	30	300037
974-9583	9995926	40	400060	987-8999	9941759	40	400045
974-9617	9995953	20	200063	991-6635	9993241	20	200071
974-9618	9995903	20	200067	992-4503	9989793	20	200079
975-6480	5-93411-201	10	100027	994-9983	9195302	40	200079
975-9872	2315783	30	300026				
977-0923	9995818	20	200093				
997-5567	9993862	20	200038				
977-5568	9993858	20	200036				
978-0637	10018708	20	200040				
978-4282	10056166	40	400051				
981-4882	9997091	40	400050				

TABLE II:  
CROSS REFERENCE BY PART NUMBER

PART NUMBER	FSN 4935	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	PART NUMBER	FSN 4935	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
C290572-1	712-9217	20	200023	0093023	963-7054	10	100015
G366341	070-0595	20	200024	0093024	986-8899	10	100017
GA10660	806-3012	10	100040	0093026	997-6987	10	100014
GS59013	811-6945	40	400006	10-20938-3	060-9847	10	100018
GS59018	688-5604	10	100039	132920	681-5559	30	300034
GS59019	689-5605	10	100039	1361 020	961-6132	10	100012
GS59057	768-2300	20	200017	1912412	896-9641	30	300028
NA5-15203	034-7098	10	100019	1960980-4	956-8021	10	100016
P52-10446-1	202-1010	40	400071	21115-305	688-9138	20	200020
P52-10447-1	202-1011	20	200090	263373-9	072-9210	30	300035
P5640900171-1	652-1231	20	200031	30665-315	726-0593	40	400013
P5640900215-1	812-2696	20	200026	30700-315	722-2066	20	200027
P5640900219-1	440-9640	20	200002	5-92485-000	086-6038	30	300003
P5837000039-1	784-7737	30	300002	5-92632-107	950-9630	20	200012
P5837000040-1	784-7734	30	300011	5-93411-201	975-6480	10	100027
0300021	821-3838	10	100013	8007720	308-2702	20	200010
0048022	821-3747	40	400070	8007722	308-2703	30	300005

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## CROSS REFERENCE BY PART NUMBER

PART NUMBER	FSN 4935	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	PART NUMBER	FSN 4935-	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
8008987	337-8603	40	400037	8151583	441-4817	40	400075
8009619	337-8605	40	400081	8151750	604-9956	40	400053
8016551	605-4732	20	200009	8151770	446-6045	30	300008
8016602	306-2151	20	200013	8151850	440-1625	30	300029
8021480	331-2200	10	100032	8152808	337-8305	40	400074
8021493	308-0263	20	200011	8153130	439-8211	20	200035
8021576	605-4733	30	300039	8153406	535-3532	40	400038
8023747	331-0615	20	200003	8153470	791-8191	40	400080
8026510	025-3513	30	300027	8153480	535-3533	20	200078
8034051	534-1974	40	400052	8155140	522-0665	20	200072
8036066	778-0301	40	400010			30	300007
8150790	440-3244	40	400002	8155914	533-3311	40	400085
8151070	829-7480	20	200059	8156577	589-8289	30	300036
8151260	439-8220	20	200042	8156699	699-2381	40	400011
8151340	604-9666	20	200046	8156967	439-8212	20	200060
8151360	446-6123	20	200061	8157186	707-9869	40	400054
8151460	604-8387	20	200043	8157362	441-2072	30	300009

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## CROSS REFERENCE BY PART NUMBER

PART NUMBER	FSN 4935	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	PART NUMBER	FSN 4935-	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
8158111	690-4628	30	300041	9007869	646-8448	20	200084
8158147	621-3301	30	300013	9009270	622-1649	40	400020
8171359	303-8047	40	400062	9016604	739-2269	40	400040
8171572	569-1756	20	200039	9032951	620-9323	30	300010
8172888	561-7996	40	400063	9082363	788-1200	40	400064
8158148	621-5273	20	200029	9082531	775-9968	40	400065
8514190	535-3534	40	400035	9136556	797-0890	40	400044
8514340	439-8213	20	200085	9136769	797-0889	40	400005
8514360	535-3537	20	200048	9137692	444-9697	40	400028
8514370	535-3539	20	200062	9137795	522-0841	40	400029
8514550	475-5386	20	200081	9137834	829-6692	40	400024
8514650	522-0716	20	200052	9138256	446-6084	20	200051
9000007	563-3499	20	200088	9139938	440-3242	20	200058
9003047	535-4603	30	300032	9140030	446-6085	30	300014
9004247	613-8832	20	200050	9140245	778-0415	10	100004
9005619	620-8135	40	400015	9140269	790-7938	10	100041
9007765	612-3042	40	400027	9140503	790-7939	10	100005



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## CROSS REFERENCE BY PART NUMBER

PART NUMBER	FSN 4935	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	PART NUMBER	FSN 4935-	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
9140517	775-0198	20	200070	9154974	797-7332	20	200065
9140520	774-9390	20	200066	9154976	472-8890	20	200041
9140531	775-0206	20	200075	9155139	791-8171	40	400076
9140745	774-6236	20	200053	9155237	589-8288	20	200094
9141288	793-1960	10	100006	9156025	895-6536	10	100007
9142834	441-2105	20	200086	9157186	887-1451	40	400034
9142998	875-6400	30	300001	9157256	845-1962	40	400032
9142999	707-9893	30	300012	9157515	018-9837	20	200005
9143033	789-2963	30	300038	9157696	285-3727	40	400067
9143322	441-2104	20	200044	9157911	739-2265	30	300033
9143324	794-8712	20	200083	9158797	738-1434	30	300004
9143388	773-6896	20	200087	9160329	783-6779	10	100033
9143818	795-0466	20	200022	9160806	797-9498	20	200077
9143938	793-1954	20	200097	9160833	604-9153	40	400079
9144759	987-8999	40	400045	9168080	755-2984	40	400046
9154379	440-1753	40	400019	9172499	986-9742	40	400083
9154965	593-8111	20	200069	9176829	739-6721	40	400041

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## CROSS REFERENCE BY PART NUMBER

PART NUMBER	FSN 4935	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	PART NUMBER	FSN 4935-	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
9177359	734-5364	40	400030	9980088	712-8462	40	400043
9187748	805-3641	40	400047	9980120	797-9537	20	200073
9188025	787-7362	10	100037	9980154	732-7820	20	200076
9188053	790-4770	20	200032	9980158	797-9540	40	400018
9188058	790-4768	10	100008	9980170	604-8951	40	400033
9188059	791-8188	10	100009	9980380	829-6739	40	400003
9188060	787-7343	10	100010	9980408	732-7810	40	400025
9188062	790-4771	10	100011	9980456	797-9538	40	400055
9188063	790-4767	10	100028	9980767	604-8991	20	200045
9188069	787-7344	20	200028	9980774	593-8191	20	200057
9195302	994-9983	40	400049	9980822	522-0842	20	200090
9196218	787-7342	10	100029	9981031	893-2016	20	200074
9975621	894-3153	40	400048	9981050	730-7411	10	100003
9978393	974-1416	40	400073	9981298	874-3337	10	100031
9980038	829-6736	40	400017	9981934	875-9790	40	400042
9980056	604-8546	40	400084	9983503	740-6227	40	400056
9980084	829-6733	40	400086	9983555	593-8390	40	400057

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## CROSS REFERENCE BY PART NUMBER

PART NUMBER	FSN 4935	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	PART NUMBER	FSN 4935-	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
9983651	593-8182	20	200091	9991184	960-8723	20	200092
9984876	839-5718	40	400088	9991185	961-4184	20	200089
9984886	732-8018	40	400009	9991243	962-7771	40	400058
9986043	860-2400	30	300030	9991714	987-3170	10	100036
9986044	045-9865	30	200040	9993134	084-8403	20	200015
9986045	730-7448	30	300031	9993241	991-6635	20	200071
9987148	736-0494	40	400039	9993752	970-0173	40	400023
9987233	736-0488	20	200001	9993858	977-5568	20	200036
9987355	736-0479	40	400031	9993860	083-8245	20	200037
9988562	806-0934	20	200025	9993862	977-5567	20	200038
9988567	806-1026	20	200049	9993989	064-6467	20	200055
9988588	887-9025	40	400021	9995803	086-8418	20	200068
9989963	475-1194	10	100001	9995818	977-0923	20	200093
9989793	992-4503	20	200079	9995819	967-9165	20	200082
9991107	962-7772	20	200056	9995903	974-9618	20	200067
9991161	960-8724	40	400059	9995926	974-9583	40	400060
9991179	962-7776	20	200030	9995953	974-9617	20	200063

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## CROSS REFERENCE BY PART NUMBER

PART NUMBER	FSN 4935	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	PART NUMBER	FSN 4935-	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
9996176	960-8721	20	200064	10046705	751-9172	40	400026
9996505	987-8705	30	300037	10046917	788-2954	20	200033
9997091	981-4882	40	400050	10047168	787-6584	20	200007
9997744	953-0097	20	200014	10054802	446-2983	40	400082
9997863	962-7760	20	200034	10056166	978-4282	40	400051
9997968	962-7761	20	200054	10062274	858-3346	10	100035
9998209	962-8233	10	100030	10062289	858-3321	10	100042
10011346	786-4062	10	100034	10064047	345-8015	40	400089
10018708	978-0637	20	200040	10104890	987-1280	40	400004
10036826	886-1242	10	100002	10105118	803-4491	20	200096
10042725	788-2993	40	400078	10105119	328-5932	30	300006
10045200	739-6756	20	200047	10105120	328-6065	20	200095
10045270	807-7611	20	200019	10107267	345-8018	40	400016
10046501	737-0523	20	200006	10108007	056-0160	40	400036
10046503	751-9145	20	200008	10108866	017-8928	20	200016
10046508	894-9660	20	200021	10111869	930-5853	20	200018
10046670	900-8375	40	400012	10167088	967-9263	40	400061

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## CROSS REFERENCE BY PART NUMBER

PART NUMBER	FSN 4935	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER	PART NUMBER	FSN 4935-	CATEGORY NUMBER	CATEGORIZATION INDEX NUMBER
10167163	968-4215	40	400077	11065987	075-5348	10	100020
10167172	053-2551	30	300016	11065988	075-9127	10	100021
10167755	019-3029	20	200004	804E4100000-009	955-6583	30	300017
10177229	928-6096	40	400007				
10177230	928-3724	40	400008				
10393845	015-9941	40	400066				
10395325	078-4364	30	300018				
10605769-3	085-9528	40	400069				
10607329-3	968-0020	40	400072				
10607235-1	086-4132	30	300015				
11065976	075-5313	40	400068				
11065981	075-5328	30	300019				
11065982	075-5327	10	100026				
11065983	075-5344	10	100025				
11065984	075-5345	10	100024				
11065985	075-5346	10	100023				
11065986	075-5347	10	100022				