MIL-S-55588B(EL)

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Superseding
MIL-S-55588A(EL)
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MILITARY SPECIFICATION

SHELTER, ELECTRICAL EQUIPMENT S-333( )/TCC-65

1. SCOPE

1.1 Scope.- This specification covers the air or vehicular transportable shelter facility part of the Terminal, Telephone, AN/TCC-65( ) which is capable of providing secure multiplex terminal facilities of four groups of 12 channels for cable transmission or, with other assemblages, for radio transmission. (See 6.1 and 6.5)

1.2 Description.- Shelter, Electrical Equipment S-333( )/TCC-65 hereinafter called the shelter facility, includes a modified S-250( )/G Shelter and all racks, brackets, shelves, tie-downs, patch panel, other electrical components and wiring to enable installation and operation of the assemblage components of the AN/TCC-65( ).

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this document to the extent specified herein:

SPECIFICATIONS

MILITARY

MIL-P-116	Preservation, Methods of
MIL-C-3885	Cable Assemblies and Cord Assemblies (for use in Electronic and Associated Electrical Equipment)
MIL-W-6858	Welding, Resistance, Aluminum, Magnesium, Non-Hardening Steels or Alloys, Nickel Alloys, Heat-Resisting Alloys and Titanium, Spot and Seam
MIL-T-7928	Terminals, Lug and Splice, Crimp Style Copper
MIL-M-13231	Marking of Electronic Items

MIL-F-14072	Finishes for Ground Signal Equipment
MIL-W-45205	Welding, Gas, Metal-Arc & Gas, Tungsten-Arc, Aluminum Alloys, Readily Weldable, for Structures, Excluding Armor
MIL-S-55505	Shelter, Electrical Equipment (Containing Equipment) Packaging and Packing of

STANDARDS

MILITARY

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-252	Wired Equipment, Classification of Visual and Mechanical Defects
MIL-STD-461	Electromagnetic Interference Characteristics Requirements for Equipment
MIL-STD-1235	Single and Multilevel Continuous Sampling procedures & Tables for inspection by attributes

DRAWINGS

ELECTRONICS COMMAND

DL-SC-A-626400	Shelter, Electrical Equipment S-333()/TCC-65
SC-A-46691	RF Cable Assembly Test
SC-D-681007	Signal Assembly, Special Purpose, Electrical
SC-D-681008	Signal Entrance Assembly Wiring Diagram
SM-D-699635	Power Schematic Plate

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer. Both the title and number or symbol should be stipulated when requesting copies).

3. REQUIREMENTS

3.1 First Article of production.- Unless otherwise specified in the invitation for bids and contract, the contractor shall furnish one First Article of production of the shelter facility for approval. (See 4.3)

3.2 Construction.- The shelter facility shall be constructed in accordance with the drawings as listed on DL-SC-A-626400.

3.3 Electrical installation.-

3.3.1 Power system wiring and components.- Installation and wiring of power wires and components (including cable assemblies, receptacles, switches, meters, circuit breakers, neon lamps, fluorescent lamps, incandescent lamps, lighting fixtures, distribution assembly system and wiring components constituting a three wire electrical power distribution system) shall be in accordance with the drawings unless otherwise stated. The completed in-place power distribution system shall meet the following requirements:

3.3.1.1 Continuity of conductors.- There shall be point-to-point circuit continuity on all power-line circuits and the resistance of the continuous circuit shall not exceed 3 ohms when tested in accordance with 4.7.1 and 4.7.1.1.

3.3.1.2 Dielectric breakdown voltage.- The dielectric strength of insulation of all power wires, cables, and components shall withstand a potential of 500 volts DC applied continuously for not less than 30 seconds when tested in accordance with 4.7.1 and 4.7.1.2.

3.3.1.3 Insulation resistance.- The resistance of insulation between any two of three circuit conductors and also between each of the two ungrounded power-line conductors and shelter facility ground terminal shall not be less than 100 megohms when tested in accordance with 4.7.1 and 4.7.1.3.

3.3.2 Power distribution and operational functions.- Main power branch distribution and circuit switching functions thereof shall meet the operational requirements as denoted by the power system schematic plate, when tested in accordance with 4.7.2.

3.3.3 Signal (audio) system wiring and components.- Installation and wiring of signal wires, cables and wiring components (including binding posts, connectors, plugs, jacks, receptacles, switches, terminal strips, terminal blocks, and wiring devices) shall be in accordance with the drawings unless otherwise stated. The completed in-place signal system installation shall meet the following requirements:

3.3.3.1 Continuity and circuit resistance.- There shall be circuit continuity between both end terminations of all signal - line conductors and the resistance of the continuous circuit shall not exceed 5 ohms when tested in accordance with 4.7.3.1.

3.3.3.2 Dielectric breakdown voltage.- The dielectric strength of insulation of all signal wires, cables and components, shall withstand a potential of 500 volts DC applied continuously for not less than 5 seconds when tested in accordance with 4.7.3.2.

3.3.3.3 Insulation resistance.- The resistance of insulation between each signal-line conductor and all other signal-line conductors connected to ground shall not be less than 100 megohms when tested in accordance with 4.7.3.3.

3.3.4 Video system wiring and components.- Installation of video cables and components (including plugs, connectors, adapters, fittings, receptacles and lightning protectors) shall be in accordance with the drawings unless otherwise stated. The completed in-place video system installation shall meet the following requirements:

3.3.4.1 Continuity and circuit resistance.- There shall be circuit continuity between both end terminations of the inner conductor and between conductor shield and shelter facility ground of all video cable assemblies when tested in accordance with 4.7.4.1. The resistance of the continuous circuit shall not be more than 3 ohms.

3.3.4.2 Dielectric breakdown voltage.- The dielectric strength of insulation of all video cables, components and lightning protectors, shall withstand the following potentials when tested in accordance with 4.7.4.2.

a. 1500 volts DC applied continuously for not less than 30 seconds to all video cable assemblies terminated at the video entrance box with lightning protectors removed.

b. 1200 volts DC applied continuously for not less than 30 seconds to all video cable assemblies terminated at the video entrance box with lightning protectors in place.

c. 1500 volts DC applied continuously for not less than 5 seconds to all cable assemblies terminated at the video patch panel and the TD-204 or TD-754 connectors at the cable patch panel.

d. 500 volts DC applied continuously for not less than 5 seconds to all order wire cable assemblies terminated at the patch panel.

3.3.4.3 Insulation resistance.- The insulation resistance between each video conductor and all other video conductors connected to shelter facility ground shall not be less than 100 megohms when tested in accordance with 4.7.4.3.

3.3.5 Cable assemblies.- (See 4.4)

3.3.5.1 Cable assemblies, power and audio frequency.- All power and audio frequency cable and cord assemblies shall be fabricated in accordance with the drawings unless otherwise stated and shall meet the electrical and strength test requirements of MIL-C-3885.

3.3.5.2 Cable assemblies, radio frequency.- Radio frequency cable assemblies required for operation of major items of equipment in 6.1 shall be fabricated in accordance with the drawings unless otherwise stated and shall meet the requirements and tests as indicated in Drawing SC-A-46691.

3.3.6 Suppression of electromagnetic interference.- The motors in the ventilating equipment used in the shelter facility shall meet the emanation limits of MIL-STD-461 for tactical equipment, if other than those items defined by the drawings. (See 4.4)

3.4 System operation.- With all the operational equipment of the AN/TCC-65( ) assemblage installed, the operational requirements of all power, audio and radio frequency cable assemblies, switches, and patch panel, shall be met when tested in accordance with 4.8.

3.5 Vehicular transportation.- The shelter facility shall be capable of being transported over cross-country terrain, without any extra tieing, taping, etc., by military vehicles without sustaining any damage such as buckling, cracking, delamination, or other permanent deformation. (See 4.9)

3.6 Railroad transportation.- The shelter facility, without any extra tieing, taping, etc., shall be capable of being loaded, blocked, and braced on a flatcar for shipment by rail and shall be subjected to and withstand the test of paragraph 4.10 without sustaining any buckling, cracking, delamination, or other permanent deformation.

3.7 Drops, flat and rotational.- The shelter facility shall be capable of withstanding drops of 18 inches onto concrete. After all drop tests of 4.11.1 and 4.11.2 there shall be no buckling, cracking, delamination or other permanent deformation.

3.8 Watertightness.- The shelter facility shall be capable of withstanding the test of 4.12. During and after the test there shall be no leakage into the facility or its walls, floor, roof or doors.

3.9 Fording.- The shelter facility shall be capable of withstanding the tests of 4.13. During and after the test there shall be no leakage into the facility or its walls, floor, roof or doors.

3.10 Mounting inserts.- All mounting inserts shall be installed without the use of any auxiliary materials such as adhesive and, when installed, each insert shall be capable of withstanding the tensile load and the torque load referenced in 4.14. There shall be no damage or permanent distortion to the shelter mounting surface or insert head or threads and the inserts shall not have rotated from its original position. Insert threads shall be free of paint.

3.11 Cleaning.-

3.11.1 Parts.- After fabrication, parts shall be cleaned in accordance with good commercial practice or as specified in the applicable portions of Specification MIL-F-14072. Cleaning processes shall have no deleterious effect. Corrosive material shall be removed completely before the parts are assembled. After assembly, units shall be cleaned thoroughly and shall be free from particles of solder, flux, scale, and any other foreign material. In addition, when necessary, such cleaning shall also be performed before and after final assembly of the units.

3.11.2 Units.- After assembly, the equipment shall be cleaned thoroughly and shall be free from excess solder or flux, loose hardware, and other foreign material.

3.12 Finish.- The shelter facility shall be finished in accordance with Specification MIL-F-14072 and the equipment drawings. (See 4.4)

3.13 Marking.- (See 4.4)

3.13.1 General.- Marking shall conform to Specification MIL-M-13231 and the drawings.

3.13.2 Nameplates.- Shelter facility shall be provided with a nameplate in accordance with the drawings. Each nameplate shall be imprinted with a sequential serial number.

3.13.3 Aircraft loading data plate.- The shelter facility shall be provided with data plates in accordance with the drawings, imprinted with the dimensions which locate the center-of-gravity of the shelter facility and the assemblage in the three planes; the gross weight of the shelter facility and assemblage; and the bearing pressure on the bottom of the skids. The shelter assemblage is the shelter facility with operational equipments or dummy loads in place. The location of the centers-of-gravity shall be determined by the contractor using the first article of production.

3.13.4 Interior and exterior marking.- All interior and exterior markings shall be as defined on the drawings.

3.14 Riveting.- Riveted joints shall be tight, the joined parts shall be undamaged, and the rivet heads shall be properly seated and tight against their bearing surfaces.

3.15 Seal, water vapor.- All joints of the framing for the exhaust blowers, power, signal, and video entrance boxes, and any other framed openings shall be sealed to provide a barrier against the entrance of water vapor to the core material of the shelter panels and to the interior of the shelter. All joints and edges shall be assembled and sealed in a manner to prevent collection and retention of moisture. All exterior rivets, screws, and fasteners shall be dipped in sealer prior to installation. The sealer shall be a one-part sealant, Silicon Construction Sealant SE-1204, as made by General Electric Corporation or Silastic, 732 as made by Dow Corning, or equal using the manufacture recommended primer.

3.16 Securing of parts.- Brackets, lugs, flanges, inserts, bolts, and other mounting arrangements shall retain components of the facility securely so that loosening, wear of mounting arrangements, or permanent separation of parts or components will not occur when the equipment is subjected to the specified drop and transport tests.

3.16.1 Screws, threaded devices, and related parts.- Screws, threaded devices and related parts shall be as defined by the drawings. Thread forming screws shall not be used.

3.17 Soldering.-

3.17.1 Solder and flux.- Solder and flux shall be as defined on the drawings.

3.17.2 Acid or acid salts.- No acid or acid salts shall be used in preparation for or during soldering; however, exception is permitted for preliminary tinning of electrical connections and for tinning of electrical connections and for tinning or soldering of mechanical joints not used to complete electrical circuits, but in no case shall acid or acid salts be used where they can come in contact with insulation material Where acid or acid salts are used, as permitted above, they shall be completely neutralized and removed immediately after use.

3.17.3 Process.- There shall be no sharp points or rough surfaces resulting from insufficient heating. The solder shall feather out to a thin edge, indicating proper flowing and wetting actions, and shall not be crystallized, overheated, or under heated. The minimum necessary amount of flux and solder shall be used for electrical connections. Any means employed to remove an unavoidable excess of flux shall not incur the risk of loose particles of flux, brush bristles, or other foreign material remaining in the equipment; flux being spread over a larger area; or damage to the equipment. Insulation material that has been subjected to heating during the soldering operation shall be undamaged and parts fastened thereto shall not have become loosened.

3.18 Tropicalization of material.- Canvas, webbing, wood, etc shall be treated to be resistant to moisture and fungi as indicated on the drawings and as follows:

3.18.1 Treating materials.- Treating materials containing a mercury-bearing fungicide shall not be used. The contractor shall determine that the treating material is compatible with the material or surface to be treated. Selection of treating materials shall be such that any increase in flammability of treated material will be held to the practical minimum.

3.18.2 Toxicity.- Treating materials shall cause no skin irritation or other injury to personnel handling the treated material during fabrication, transportation, operation, or maintenance of the equipment, or during use of the finished items when used for the purpose intended.

3.18.3 Flexibility.- Treatment shall not affect the flexibility of treated materials, to the extent that the equipment may fail to meet specified requirements when subjected to specified service conditions.

3.18.4 Statement of treatment.- The contractor shall submit for approval, to the contracting officer, a statement describing in detail the materials to be treated and the treating materials and processes that he proposes to use. (See 6.2e)

3.19 Welding.- Welded joints shall be as defined by the drawings and shall be such that grinding on the finished weld will be unnecessary except where grinding is on the drawings. Inert gas-shielded arch welding (MIG) using helium, argon, or a mixture of the two shall be used for arc welding of aluminum. Welds shall conform to MIL-W-6858 CL.B and MIL-W-45205 CL.B as applicable. All surfaces to be welded shall be cleaned in accordance with good commercial practice and shall be free of scale, paint, grease, and other foreign materials. Welds shall have thorough penetration and good fusion and shall be free of scabs, blisters, abnormal pock marks, cracks, voids, slag inclusions, and other harmful defects. Inert-gas-shielded arc welding shall be used for welding of aluminum except where spot welds are used. Welded assemblies shall be cleaned to remove any scale, oxidation products, and excess flux. Any acid used in cleaning shall be completely neutralized and removed. (See 4.4)

3.20 Wiring and cabling.- Wiring and cabling shall be in accordance with the drawings and shall be neat and sturdy.

3.20.1 Slack.- Wires and cables shall be as short as practical except that sufficient slack shall be provided:

a. To prevent undue stress on cable forms, wires, and connections.

b. To permit removal from rack of operational equipments, having wiring or cables to connectors at back of equipment, so that cable may be connected or disconnected.

c. To facilitate field repair of broken or cut wires.

d. To prevent chafing or breaking of wires due to repeated flexing of hinged parts.

3.20.2 Protection.- Wires and cables shall be so placed and protected as to avoid contact with rough or irregular surfaces or sharp edges. Wires shall not be bent sharply where they enter insulation material.

3.20.3 Splicing.- Wires in a continuous run between two terminals shall not be spliced during the wiring operation unless specifically indicated by the drawings.

3.20.4 Crimping of solderless terminal lugs.- Crimping of solderless terminal lugs shall be so accomplished that the connections will meet the resistance (voltage drop) and tensile strength requirements and tests of Specification MIL-T-7928. (See 4.4 and 4.15)

3.20.5 Identification of wiring.- Wiring shall be identified by color-coding and wire pair marking, as indicated on the drawings.

3.21 Interchangeability.- Like units, assemblies, subassemblies, and replaceable parts shall be physically and functionally interchangeable without modification of such items or of the equipment. (See 4.16). Individual items shall not be hand-picked for fit or performance. Reliance shall not be placed on any unspecified dimension, rating, characteristic, etc.

3.22 Workmanship.- The equipment shall be manufactured and assembled in accordance with the applicable portions of the following paragraphs:

3.2 Construction
3.3 Electrical installation
3.10 Mounting inserts
3.11 Cleaning
3.12 Finish
3.13 Marking
3.14 Riveting
3.15 Seal, water vapor
3.16 Securing of parts
3.17 Soldering
3.18 Tropicalization
3.19 Welding
3.20 Wiring and cabling
3.21 Interchangeability

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection.- Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the contractor may utilize either his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections deemed necessary to assure that supplies and services conform to prescribed requirements.

4.1.1 Contractor quality assurance.- The contractor shall provide and maintain a means of determining product conformance in accordance with the requirements specified herein or elsewhere in the contract. The Government, at its option, may perform any evaluation deemed necessary to assure the adequacy of the means employed and the effectiveness of the contractor's quality assurance methods and systems.

4.1.2 Government verification.- All quality assurance operations required of the contractor shall be subject to Government verification at scheduled or unscheduled intervals. Verification will consist of the following:

a. Surveillance of the contractor's operations to determine that practices, methods, and procedures of the contractor's quality assurance system are being applied and are, in fact, accomplishing the objectives of total compliance of the product with the requirements of this specification and the contract.

b. Government product inspections to determine compliance of the product with the specification requirements and the contract.

4.1.3 Accommodation and assistance.- The Government quality assurance representative shall have the right of access to any area of the contractor's or his subcontractor's premises where any part of the work is being performed. The Government quality assurance representative shall be afforded unrestricted opportunity to verify conformance of the product with specification requirements. The contractor shall make his inspection equipment and records available for use by the Government quality assurance representative for verification purposes. The contractor's personnel shall be made available for operation of such inspection equipment as required.

4.2 Classification of inspection.- Inspection shall be classified as follows:

a. First Article inspection (does not include preparation for delivery). (See 4.3)

b. Inspection covered by subsidiary documents. (See 4.4)

c. Quality conformance inspection.

(1) Quality conformance inspection of equipment before preparation for delivery. (See 4.5)

(2) Quality conformance inspection of preparation for delivery. (See 4.18)

4.3 First Article inspection.- This inspection will be performed by the contractor on the first article unless otherwise specified in the contract. (See 3.1) It shall consist of the inspection specified in the subsidiary documents covering the items listed in 4.4, and the inspection specified for Group A, Group B and Group C (See Tables III, IV and V respectively). The First Article inspection shall be performed in the order shown in Table I.

TABLE I - Order of First Article Inspection

Inspection
a. Mounting inserts
b. Power wiring
c. Signal wiring
d. Video wiring
e. System operation
f. Vehicular transportation
g. Rail transportation
h. Flat drop
i. Rotational drops
j. Watertightness
k. Fording

The last tests performed shall be a repeat of the power, signal and video wiring; and system tests. The remaining First Article tests specified for Groups A, B and C Inspections but not included in the above list shall be performed in any order satisfactory to the Contracting Officer's Technical Representative.

4.4 Inspection covered by subsidiary documents.- The following shall be inspected under the applicable subsidiary documents as part of the inspection of equipment before preparation for delivery:

Item	Where required
Cable assemblies	3.3.5
Suppression, EMI	3.3.6
Finish	3.12
Marking	3.13
Welding	3.19
Terminals	3.20.4

4.5 Quality conformance inspection of equipment before preparation for delivery.- The contractor shall perform the inspection specified in 4.4 and 4.5.1 through 4.5.4. This does not relieve the contractor of his responsibility for performing any additional inspection which is necessary to control the quality of the product and to assure compliance with all specification requirements. The Government will review and evaluate the contractor's inspection procedures and examine the contractor's inspection records as an element of Government verification. (See 4.1.2)

4.5.1 Group A inspection.- Equipment shall be assembled into discrete lots for quality conformance inspection, utilizing the criteria of MIL-STD-105 for determination of lot composition. Unless otherwise specified, the lot size shall be determined from Table II, as related to production rates necessary to meet delivery schedules of the contract.

The lot size shall be adjusted throughout the life of the contract as necessary to provide for changes in contract delivery schedules and production rates. Each unit of each lot of equipment shall be inspected for conformance to all the examinations and test requirements of Table III, Group A Inspection. The quality conformance of each lot shall then be subjected to a verification audit utilizing the procedures of MIL-STD-105 using the S-1 Special Inspection Level, Single sampling plans for normal inspection, and an Acceptable Quality Level (AQL) of 6.5%. Group A Inspection will be performed in any order which is satisfactory to the Government. (See 4.5.5)

Table II Lot Formation

Production Rate	Size of Lot
500 or more per month	One week's production
51 to 499 per month	Two week's production
0 to 50 per month	One month's production

Table III - Group A Inspection

Inspection	Rqr Para	Insp Para	AQL Major	AQL Minor
Visual and Mechanical	3.22	4.17	1.0	4.0
Electrical				**
Power wiring				
Continuity	3.3.1.1	4.7.1.1	1%	
Dielectric strength	3.3.1.2	4.7.1.2		
Insulation resistance	3.3.1.3	4.7.1.3	for	

Table III - Group A Inspection (contd)

Inspection	Rqr Para	Insp Para	AQL Major	AQL Minor
Power distribution	3.3.2	4.7.2 thru 4.7.2.3	the entire group of power	
Signal wiring				
Continuity & circuit resistance	3.3.3.1	4.7.3.1	signal and video wiring	
Dielectric strength	3.3.3.2	4.7.3.2		
Insulation resistance	3.3.3.3	4.7.3.3		
Video wiring				
Continuity & circuit resistance	3.3.4.1	4.7.4.1		
Dielectric strength	3.3.4.2	4.7.4.2		
Insulation resistance	3.3.4.3	4.7.4.3		

** All defects are major

4.5.2 Group B Inspection.- This inspection, including sampling, shall conform to Table IV and to the procedures for single sample plans of Standard MIL-STD-105, using the special inspection levels. Group B inspection shall be performed on production lots that have passed Group A inspection except for Mounting Inserts and interchangeability Inspection which are performed prior. (See 4.5.5) (See 4.5.1 for lot formation)

4.5.2.1 Group B sampling plans.- The Group B sampling plans, for the AQL's listed in Table IV shall be as follows:

AQL	Inspection level
4.0%	S-4
2.5%	S-4

4.5.2.2 Order of inspection within Group B.- Group B inspection shall be performed on the same equipment in the order in which they appear.

Table IV - Group B Inspection

Inspection	Rqr Para	Insp Para	AQL % Def (see 4.5.2.1)
Mounting insert	3.10	4.14.2	4.0
Interchangeability	3.21	4.16	4.0
Watertightness	3.8	4.12	2.5
Fording	3.9	4.13	2.5

4.5.3 Group C inspection.- This inspection shall be as listed in Table V.

Table V - Group C Inspection

Inspection	Rqr Para	Insp Para
Solderless-terminal-lug connection	3.20.4	4.15
Construction verification	3.2	4.6
Mounting inserts	3.10	4.14.1
System operation	3.4	4.8
Vehicular transportation	3.5	4.9
Railroad transportation	3.6	4.10
Drops, Flat and Rotational	3.7	4.11

NOTE: The order of inspection of Group C with respect to Groups A and B shall conform to the order specified in 4.3. The order of inspection within Group C for all inspections listed shall be as listed in Table V.

Units subjected to Group C Drop Tests shall subsequently be subjected to and meet the watertightness and fording tests of 4.12 and 4.13.

4.5.3.1 Sampling for inspection of solderless-terminal-lug connections.- Five specimens of each combination of wire and terminal produced each week shall be prepared for inspection. A specimen is a 1 foot length of wire on which a terminal lug has been applied, using the same tools and procedures used in crimpling the terminal lugs in production.

4.5.3.2 Sampling for inspection of construction evaluation.- The Equipment Verification Review, in accordance with paragraph 4.6 shall be performed once on each part and assembly, randomly selected, and on their installation into one of first 10 shelter facilities produced. This inspection shall not be performed on the preproduction unit. This inspection shall be performed as the selected shelter is being assembled.

4.5.3.3 Sampling for inspection of Drop Tests.- One sample, representative of the first 10 units or fraction thereof produced, shall be subjected to the drop tests. This sample shall be the same unit previously subjected to the truck and railroad transportation tests of 4.5.3.4. Thereafter, one sample from each additional 150 units or fraction thereof produced shall be subjected to the drop tests.

4.5.3.4 Sampling for other inspection.- For inspection tests listed below, one unit shall be selected at random from the first 10 units of fraction thereof which have been produced, unless otherwise specified in the contract. Selection of the unit will be made by the Government.

a. Mounting inserts
b. System operation
c. Truck transportability
d. Railroad transportability

4.5.3.5 Noncompliance.- All quality conformance inspection shall be halted, including Group A and Group B inspections, upon the occurrence of any Group C failure. The contractor shall immediately report in writing each Group C failure occurrence, including details of the failure and characteristics affected. The contractor shall immediately investigate the cause of failure and further report the results of investigation and details of the proposed corrective action on the processes and materials, as applicable, and on all units of product which are mannufactured under the same conditions and which Government considers subject to the same failure. Reports shall be forwarded to the responsible technical activity designated in the contract with a

copy to the Government procurement quality assurance representative. After corrective action has been taken, additional sample units shall be subjected to Group C inspection (all inspections, or the inspections which the sample failed, at the option of the technical activity) and Group A and Group B inspections may be reinstituted. However, final acceptance and shipment will be withheld until Group C reinspection results have shown that the corrective action was effective and approved by the technical activity. (See "Delivery and Conditional Acceptance of Contract Items Subject to Group C Inspection" provisions elsewhere in the contract.)

4.5.4 Reinspection of conforming Group B and Group C sample units.- Unless otherwise specified, sample units which have been subjected to and passed Group B or Group C inspection, or both, may be accepted on contract, provided that they are resubjected to and pass Group C inspection after repair of all visible damage.

4.5.5 Alternate Group A Audit and Group B inspection procedures.- The Contractor may elect to use a continuous sampling and inspection plan instead of the lot inspection plans from MIL-STD-105. If this alternate is selected the procedure of implementation must be in accordance with MIL-STD-1235, "Single and Multilevel Continuous Sampling Procedures and Tables for Inspection by Attributes". Sampling plans for the AQLs listed in Table III Group A inspection and Table IV Group B inspection of this specification shall be selected from Tables VIII, IX and X of MIL-STD-1235 which are for f=½. The number of units in the Production Interval shall be the entire production quantity unless otherwise specified in the contract. Before starting production Contractor shall notify the contracting officer in writing which method he intends to use. The method may not be changed during production without written approval of the Government.

4.6 Construction verification.- The contractor shall perform an Equipment Verification Review (EVR), consisting of a complete technical audit of the equipment on order against the drawings (see 3.2) cited in the Technical Data Package (as supplemented by all approved engineering changes). EVR shall consists of the following:

a. An audit to establish that "as-built" shelter facilities, including individual part, their use in subassemblies, and assemblies (components), and their final installation into the shelter forming the shelter facility, are in accordance with the end product drawings.

b. An audit to establish that "as-built" shelter facilities, including parts, components and their installation, meet the acceptance requirements specified in the Technical Data Package for each shelter part, components, and shelter facility. The audit shall record all acceptance test methods used together with resulting verification test data.

c. Preparation of EVR report(s) containing the following information:

(1) Identification of parts, components, shelter facilities and details proving compliance with 4.6 a and b above.

(2) Discrepancies noted.

(3) Corrective action taken.

d. Two (2) copies of the EVR report shall be submitted no later than 15 days prior to the submission of the first production unit or lot to the Government technical organization cited in the contract. The results of the EVR shall be subject to verification by authorized Government personnel at the time the first unit or production lot is offered for acceptance. Government verification will be to the depth and extent necessary to demonstrate that the "as-built" hardware is in accordance with the cited drawings. Copies of the EVR reports shall be made available to Government personnel during the verification. The contractor shall provide the following:

(1) Segregation of parts, components of shelter facilities, to permit reviewing government personnel access for detailed inspection. The contractor shall also provide personnel to disassemble any parts of the shelter facility necessary to permit government review of the shelter facility, its components and their installation, and to reassemble parts after inspection.

(2) Have as required, responsible personnel from each functional department available for discussions in their respective areas.

(3) Adequate administrative support for the EVR.

4.7 Electrical installation tests.- The tests of 4.7.1 thru 4.7.4.3 shall be performed on each shelter facility. Before applying power to the shelter facility, an electrical ground at the power entrance box shall be made. Power to be supplied shall be 115 volts AC, 60 hertz, single phase.

4.7.1 Power systems and components installation tests.- Refer to the Power Schematic Plate Drawing SM-D-699635.

a. Remove or disconnect the following electrical loads:

(1) All fluorescent, incandescent and neon lamps.

(2) All fluorescent lamp starters.

(3) Both blower's cords.

b. Remove power distribution box cover panel and disconnect both conductors from the voltmeter terminals. Position or isolate disconnected leads so as not to short to each other or to shelter facility ground.

4.7.1.1 Continuity of conductors.- Continuity resistance which meets the requirements of 3.3.1.1 shall be performed on each power circuit in accordance with the following paragraphs. A calibrated low resistance reading ohmmeter or equivalent shall be used in performing the test.

a. Place the following controls in the ON position.

(1) Fluorescent lamp switch

(2) Incandescent cold start switch

(3) Blackout bypass switch

(4) Both blower switches

(5) All circuit breakers

b. Place Equipment/Heater 2 switch to Heater position.

c. Measure continuity resistance from pin 1 of power connector IN located at the power entrance box to the following:

(1) Brass (hot) contacts of all convenience, intercom, heater, equipment and blower power receptacles.

(2) Black wire termination at each fluorescent and incandescent lamps.

(3) Pin 1 of power connector OUT.

No continuity shall exist for each equipment receptacle. All other continuity resistance measurements shall meet the requirement of 3.3.1.1.

d. Place Equipment/Heater 2 switch to Equipment position.

e. No continuity shall exist to Heater 2 brass contact. Continuity shall exist to the brass contact of each equipment receptacle and the continuity resistance measurements shall meet the requirements of 3.3.1.1.

f. Replace Equipment/Heater 2 switch to Heater 2 position.

g. Place all controls listed under a above in the OFF position, except main circuit breaker.

h. Repeat steps c thru e above measuring continuity resistance from pin 2 of power connector IN to the silver contacts of each power receptacle, white wire termination at each fluorescent and incandescent lamp, and pin 2 of power connector OUT.

i. Place main circuit breaker in the OFF position.

j. Measure continuity resistance from pin 4 (ground) of power connector IN to the following:

(1) Ground terminal of each power receptacle

(2) Ground terminals located at power entrance box, video entrance box, power distribution box, equipment racks, and raceways.

(3) Pin 4 of power connector OUT.

Continuity resistance measurements shall meet the requirements of 3.3.1.1.

4.7.1.2 Dielectric breakdown voltage.- Dielectric strength tests which meets the requirements of 3.3.1.2 shall be performed on each power-line circuit in accordance with the following paragraphs. A non-destructive DC dielectric tester shall be used in performing the test.

NOTE. Take preventive measures that will preclude personnel from coming into contact with conductors under test during performance of ALL dielectric and insulation resistance tests. Discharge each conductor to ground following each test, to eliminate danger of shock.

a. Place all circuit controls listed under 4.7.1.1a in the ON position, except fluorescent lamp switch.

b. Test between pins 1 and 4 of power connector IN. Adjust tester for a value of not less than 500 volts DC output and maintain this potential for 30 seconds. The requirements of 3.3.1.2 shall be met.

NOTE.- Equipment/Heater 2 switch shall be in Equipment position for the first 15 seconds of the test and in Heater 2 position for the remaining 15 seconds.

c. Place fluorescent lamp switch in the ON position.

d. Repeat step b above with tester connected first across pins 1 and 2, and then across pins 2 and 4, of power connector IN.

4.7.1.3 Insulation resistance.- Insulation resistance which meets the requirement of 3.3.1.3 shall be made on each power-line circuit in accordance with the following paragraphs. A megohmmeter or equivalent shall be used in performing the test.

a. Place all circuit controls listed under 4.7.1.1a in the ON position, except blackout bypass switch; close shelter door securely.

b. Test between pins 1 and 4 of power connector IN. The output test voltage shall not be less than 100 volts DC nor more than 500 volts DC. Maintain this potential until the indicating meter has ceased fluctuating and indicates a steady or increasing insulation resistance. The requirements of 3.3.1.3 shall be met.

c. Place blackout bypass switch to ON position and close shelter door securely.

d. Repeat step b with tester connected first across pins 1 and 2, and then across pins 2 and 4, of power connector IN.

4.7.2 Power distributional and operational function tests.- Power distributional and operational function tests which meet the requirements of 3.3.2 shall be performed on each power-line circuit in accordance with the following paragraphs:

4.7.2.1 Test preparation.- (See power schematic plate).

a. Replace or reconnect all electrical loads and line voltmeter removed or disconnected by 4.7.1a and b.

b. Replace power distribution box cover.

c. Place all circuit breakers and switches in the OFF position.

d. Place a 115 volt AC test lamp with grounding plug into all convenience, equipment, and heater power receptacles.

e. Open outer exhaust port covers of both blowers.

f. Insert AC line plugs of both blowers into their respective receptacles.

4.7.2.2 Test of line voltmeter and indicator lamp.-

a. Apply 115 volts AC (nominal), 60 cycles, single phase power to shelter facility at power connector IN. Power indicator neon lamp located near inside door entrance shall light and facility voltmeter at power distribution panel shall indicate power to the shelter.

b. Measure specific line voltage by connecting a calibrated AC voltmeter (0-150 volt scale) between pin 1 and 2 of power connector OUT.

c. Read voltage indicated on shelter facility voltmeter. The voltage read shall be within ±2% of the voltage measured by step b above.

d. Place main circuit breaker in the ON position.

4.7.2.3 Test of circuit breakers and switches.-

Circuit #1.- (Lights circuit breaker CB1)

a. Place circuit breaker CB1 in the ON position. Neon lamp above CB1 shall light.

b. Place blackout bypass switch and fluorescent lamp switch in the ON position. All fluorescent lamps shall light.

c. Place incandescent lamp switch in the ON position. All incandescent lamps shall light.

d. Place circuit breaker CB1 in the OFF position. All lamps mentioned in steps a thru c above shall extinguish.

e. Replace circuit breaker CB1 in the ON position to restore lights.

f. With shelter door open, place blackout bypass switch in the OFF position. All fluorescent and incandescent lamps shall extinguish.

g. Close shelter door. All fluorescent and incandescent lamps shall light.

h. Place fluorescent light switch in the OFF position. All fluorescent lamps shall extinguish.

i. Place incandescent light switch in the OFF position. All incandescent lamps shall extinguish.

j. Open door and restore lights by placing blackout bypass switch, fluorescent light switch, and incandescent light switch in the ON position.

Circuit #2.- (Blowers circuit breaker CB2)

a. Place circuit breaker CB2 in the ON position. Neon lamp above CB2 shall light.

b. Place roadside blower switch in the ON position. Roadside blower shall operate and shall exhaust air from shelter. The spring loaded exhaust port cover shall open by the force of the blower exhaust.

c. Repeat step b above for curbside switch and blower.

d. Place circuit breaker CB2 in the OFF position. Neon lamp above CB2 shall extinguish; both blowers shall cease to operate; and the spring loaded port covers shall close.

Circuit #3.- (Heater-1 circuit breaker CB3)

a. Place circuit breaker CB3 (bottom breaker of tandem) in the ON position. Lower neon lamp above tandem breaker and test lamp in heater-1 receptacle shall light.

b. Place circuit breaker CB3 in the OFF position. All lamps mentioned in step a above shall extinguish.

Circuit #4.- (Intercom circuit breaker CB4)

a. Place circuit breaker CB4 in the ON position. Neon lamp above CB4 and test lamp in intercom receptacle (located on rear wall) shall light.

b. Place circuit breaker CB4 in the OFF position. All lamps mentioned in step a above shall extinguish.

Circuit #5.- (Spare circuit breaker CB5)

a. Place circuit breaker CB5 in the ON position. Neon lamp above CB5 shall light.

b. Place circuit breaker CB5 in the OFF position. Neon lamp above CB5 shall extinguish.

Circuit #6.- (Equipment or Heater-2 circuit breaker CB6)

a. Place Equipment/Heater switch to Equipment position. Place circuit breaker CB6 in the ON position. Neon lamp above CB6 and all test lamps in equipment receptacles shall light. Neon lamp at Equipment/Heater switch indicating equipment position shall light. Heater-2 test lamp shall not light.

b. Place Equipment/Heater switch to Heater position. Neon lamp indicating Heater position shall light. Heater-2 test lamp shall light. All equipment test lamps shall extinguish. Neon lamp indicating equipment position shall extinguish.

c. Place circuit breaker CB6 in the OFF position. All lamps mentioned in steps a and b above shall go or remain out.

Circuit #7.- (Convenience circuit breaker CB7)

a. Place circuit breaker CB7 (upper breaker of tandem) in the ON position. Upper lamp above tandem breaker and test lamps in all conveinence receptacles shall light.

b. Place circuit breaker CB7 in the OFF position. All lamps mentioned in step a above shall extinguish.

Circuit #8.- (Main circuit breaker CB8)

a. Place Equipment/Heater switch to Equipment position. Place all circuit breakers and switches in the ON position. All lamps, except test lamp in heater-2 receptacle, shall light. Both blowers shall operate.

b. Place main circuit breaker in the OFF position. All lamps and blowers mentioned in step a above shall go out.

Circuit #9.- (Outside convenience circuit breaker CB9)

a. Place circuit breaker CB9 in the ON position. Test lamp in outside convenience shall light.

b. For remainder of tests, place main circuit breaker, and light circuit breaker, in the ON position and all other circuit breakers in the OFF position.

4.7.3 Signal (audio) system wiring and components installation tests .- Referenced Drawings SC-D-681007 and SC-D-681008.

4.7.3.1 Continuity of conductors.- Continuity resistance which meets the requirements of 3.3.3.1 shall be performed on each audio-line circuit in accordance with the following paragraphs. A low resistance continuity tester or equivalent shall be used. (An automatic tester may be used, subject to government approval).

a. Place all CABLE/BINDING POST channel switches in the BINDING POST position.

b. Connect tester between conductor A of cable assembly marked "SYSTEM 1 CHANNELS 1-4" and contact 2B of signal connector, system 1, located at signal entrance box. No circuit continuity shall exist.

c. Place channel switch S1 of system 1 to CABLE position. Circuit continuity shall now exist and meet the requirements of 3.3.3.1. Replace channel switch S1 to BINDING POST position.

d. Repeat steps b and c above for each of the remaining conductors of the same cable assembly to the corresponding contacts of the same signal connector; each time placing to CABLE position the channel switch correlating with the circuit being tested and replacing to BINDING POST position following test. (Refer to drawings in 4.7.3 for circuit path from audio to signal connectors).

e. Repeat steps b thru d above for cable assemblies marked "SYSTEM 1 CHANNELS 5-8" and "SYSTEM 1 CHANNELS 9-12" to the same signal connector as mentioned in step b above.

f. Repeat steps b thru e above for all remaining cable assemblies of systems 2 thru 4 corresponding to systems 2 thru 4 signal connector respectively.

g. Place all CABLE/BINDING POST channel switches in the CABLE position.

h. Connect tester between conductor A of cable assembly marked "SYSTEM 1 CHANNELS 1-4" and binding post 2B of system 1 located at signal entrance box. No circuit continuity shall exist.

i. Place channel switch S1 of system 1 to BINDING POST position. Circuit continuity shall exist and meet the requirements of 3.3.3.1. Replace channel switch S1 to CABLE position.

j. Repeat steps h and i above for each of the remaining conductors of the same cable assembly to the corresponding binding posts of system 1; each time placing to BINDING POST position the channel switch correlating with the circuit being tested and replacing to CABLE position following test. (Refer to drawings in 4.7.3)

k. Repeat steps h thru j above for the two remaining cable assemblies of system 1 to the corresponding binding posts of system 1.

l. Repeat steps h thru k above for all remaining cable assemblies of systems 2 thru 4 to the corresponding binding posts of systems 2 thru 4 respectively.

m. Connect phone/intercom parallel interconnecting cable assembly between the phone/intercom plugs located on signal entrance panel and raceway.

n. Connect tester between both unterminated phone wires located at telephone bracket. No continuity shall exist. Repeat for both unterminated intercom wires. No continuity shall exist.

o. Connect tester between following points. Circuit continuity shall exist and meet the requirements of 3.3.3.1:

(1) From phone A binding post located at power entrance box to:

(a) Binding posts 25A of systems 1 thru 4.

(b) Contacts 25A of systems 1 thru 4 signal connector.

(2) From phone B binding post located at power entrance box to:

(a) Binding posts 25B of systems 1 thru 4.

(b) Contacts 25B of systems 1 thru 4 signal connectors.

(3) From intercom A binding post located at power entrance box to:

(a) Binding posts 26A of systems 1 thru 4.

(b) Contacts 26A of systems 1 thru 4 signal connectors.

(4) From intercom B binding post located at power entrance box to:

(a) Binding posts 26B of systems 1 thru 4.

(b) Contacts 26B of systems 1 thru 4 signal connectors.

p. Disconnect phone/intercom interconnecting cable assembly and repeat steps o(1) thru o(4) above. No continuity shall exist.

q. Connect tester between phone A binding post at power entrance box and one of the unterminated phone wires to indicate circuit continuity.

r. Connect tester between phone B binding post at power entrance box and the other unterminated phone wire to indicate continuity.

s. Connect tester between intercom A at power entrance box and one of the unterminated intercom wires to indicate continuity.

t. Connect tester between intercom B at power entrance box and the other unterminated intercom wire to indicate continuity.

u. Circuit continuity measurements made in steps q, r, s and t above shall meet the requirements of 3.3.3.1.

4.7.3.2 Dielectric breakdown voltage.- Dielectric strength tests which meet the requirements of 3.3.3.2 shall be performed on each audio-line circuit in accordance with the following paragraphs. A non-destructive dielectric test instrument and suitable test jigs shall be used in performing the test (an automatic tester may be used, subject to government approval).

a. Using appropriate test jigs or test fixtures, connect the following to shelter facility ground terminal:

(1) All contacts, 1A thru 26B, of signal connectors systems 1 thru 4.

(2) All binding posts in the signal and power entrance boxes.

(3) All shields of the twelve audio connectors of systems 1 thru 4.

b. Place all CABLE/BINDING POST channel switches in the CABLE position.

c. Connect tester between shelter facility ground terminal and conductor A of cable assembly marked "SYSTEM 1 CHANNELS 1-4". Remove ground connection from contact 2B of signal connector, system 1.

d. Adjust tester to 500 volts DC output and maintain this potential for a continuous period of not less than 5 seconds. The requirements of 3.3.3.2 shall be met. Re-establish ground connection(s) to the contact(s) or binding post(s) under test.

e. Repeat steps c and d above for each of the remaining conductors of the same cable assembly; each time ungrounding the contact of signal connector correlating with the circuit being tested and reconnecting to shelter facility ground following completion of test. (Referenced drawings in 4.7.3)

f. Repeat steps c thru e above for each of the remaining cable assembly of systems 1 thru 4 corresponding to signal connectors 1 thru 4 respectively.

g. Place all CABLE/BINDING POST channel switches in the BINDING POST position.

h. Repeat steps c thru f substituting binding posts of systems 1 thru 4 for contacts of audio connectors 1 thru 4 respectively.

i. Connect tester between shelter facility ground terminal and Phone A binding post at power entrance box. Remove ground connections from contacts 25A of signal connectors 1 thru 4; binding posts 25A of systems 1 thru 4; and phone A binding post at power entance box.

j. Repeat step d above, with a potential of 250 volts DC output.

k. Repeat steps i and j above for the other Phone and Intercom binding posts at power entrance box, and shelter facility ground; each time ungrounding all contacts and binding posts correlating with the circuit being tested and reconnecting to shelter facility ground terminal following completion of test.

4.7.3.3 Insulation resistance.- Insulation resistance which meets the requirements of 3.3.3.3 shall be performed on each audio-line circuit in accordance with the following paragraphs. A megohmmeter tester or equivalent shall be used in performing the test. (An automatic tester may be used, subject to government approval).

a. Repeat steps 4.7.3.2 a thru k above, except 4.7.3.2d, which shall be replaced by step b below.

b. Adjust tester to a value of not less than 100 nor more than 500 volts DC output. Maintain this potential until the indicating meter has ceased fluctuating and indicates a steady or increasing

insulation resistance. The requirements of 3.3.3.3 shall be met. Re-establish ground connection(s) to the contact(s) or binding post(s) under test.

4.7.4 Video system wiring and components installation.-

4.7.4.1 Continuity of conductors.- Continuity resistance which meets the requirements of 3.3.4.1 shall be performed on each video line in accordance with the following paragraphs. A calibrated low resistance reading ohmmeter or equivalent shall be used in performing the test.

a. Circuit continuity which meets the requirements of 3.3.4.1 shall exist when tested between the points specified in Table VI. The method of testing shall be inner conductor to inner conductor and shield to shield, unless otherwise specified.

TABLE VI

CONTINUITY MEASUREMENTS

FROM	TO	
PATCH PANEL MARKING	LOCATION	CABLE MARKING
SYS-1 TD-660 PCM OUT	TD-660 SYS-1	TD-660 PCM OUT SYS-1
SYS-1 TD-660 PCM IN	TD-660 SYS-1	MUX PCM IN SYS-1
SYS-1 TD-660 TIM IN	TD-660 SYS-1	MUX TIM IN SYS-1
SYS-1 TD-660 TIM OUT	TD-660 SYS-1	TIM OUT SYS-1
SYS-1 TD-660 ALT PCM OUT	TD-660 SYS-1	ALT PCM OUT SYS-1
SYS-1 TD-660 SYNC OUT XMTR	TD-660 SYS-1	SYNC OUT XMTR SYS-1
SYS-1 TD-660 SYNC IN	TD-660 SYS-1	SYNC IN SYS-1
SYS-1 TD-660 SYNC OUT RCVR	TD-660 SYS-1	SYNC OUT RCVR SYS-1
SYS-1 TD-204 PCM OUT	TD-204 SYS-1	COMB PCM OUT-1 SYS-1
SYS-1 TD-204 PCM IN	TD-204 SYS-1	COMB PCM IN-1 SYS-1
SYS-1 TD-204 TIM IN	TD-204 SYS-1	COMB TIM IN SYS-1
SYS-1 TD-204 TIM OUT	TD-204 SYS-1	COMB TIM OUT-1 SYS-1
SYS-1 TD-204 PCM IN-2	TD-204 SYS-1	COMB PCM IN-2 SYS-1
SYS-1 TD-204 PCM OUT-2	TD-204 SYS-1	COMB PCM OUT-2 SYS-1
SYS-1 TD-204 TIM OUT-2	TD-204 SYS-1	COMB TIM OUT-2 SYS-1
O.W. SYS-1 TD-204	TD-204 SYS-1	TD-154/TD-204 PATCH THRU SYS-1
A		A
B		B

TABLE VI (contd)

CONTINUITY MEASUREMENTS

FROM		TO
PATCH PANEL MARKING	LOCATION	CABLE MARKING
O.W. SYS-1 TD-204	TD-204 SYS-1	TD-154/TD-204 PATCH THRU SYS-1
C		C
D		D
E		E
F		F
G		G
H		H
SYS-1 TD-204 IN	TD-204 SYS-1	TD-204 FROM CABLE SYS-1
SYS-1 TD-204 OUT	TD-204 SYS-1	TD-204 TO CABLE SYS-1
SYS-1 VIDEO ENT IN	VID ENT BOX	VIDEO SYS-1 (M)
SYS-1 VIDEO ENT OUT	VID ENT BOX	VIDEO SYS-1 (F)

b. Repeat step a above substituting SYS-2 thru SYS-4 respectively for SYS-1.

4.7.4.2 Dielectric breakdown voltage.- Dielectric strength tests which meets the requirements of 3.3.4.2 shall be made on each video line in accordance with the following paragraphs. A non-destructive DC dielectric tester shall be used in performing the test.

a. Remove all lightning protector elements at video entrance box.

b. Apply test potential of 3.3.4.2a for not less than 30 seconds between each of the following pin connections and terminal ground located at the video entrance box. The requirements of 3.3.4.2 shall be met.

(1) IN(MALE), SYS-1
(2) OUT(FEMALE), SYS-1
(3) IN(MALE), SYS-2
(4) OUT(FEMALE), SYS-2

(5) IN(MALE), SYS-3
(6) OUT(FEMALE), SYS-3
(7) IN(MALE), SYS-4
(8) OUT(FEMALE), SYS-4

c. Replace lightning protector elements removed by step a above.

d. Repeat step b above applying test potential of 3.3.4.2b.

e. Apply test potential of 3.3.4.2c for not less than 5 seconds between the inner conductor and shield of each connector at the Video Patch Panel and each TD-204 or TD-754 connector at the Cable Patch Panel. The requirements of 3.3.4.2 shall be met.

f. Apply test potential of 3.3.4.2d for not less than 5 seconds between each pin indicated below and all other pins connected to the shield of each connector at the Order Wire Patch Panel: Pins A, B, C, D, E, F, G and H. The requirements of 3.3.4.2 shall be met.

4.7.4.3 Insulation resistance.- Insulation resistance tests which meets the requirements of 3.3.4.3 shall be made on each video line in accordance with the following paragraphs. A megohmmeter or equivalent shall be used in performing the test.

a. Repeat steps 4.7.4.2 a thru f except that the test potential shall be not less than 100 nor more than 500 volts DC applied continuously until the indicating meter has ceased fluctuating and indicates a steady or increasing insulation resistance.

b. The requirements of 3.3.4.3 shall be met.

4.8 Systems test.- Install operational equipment in their respective rack locations and connect all signal and video cables to designated receptacles and connectors as shown in the signal schematics. Connect applicable power cables to all operating equipments. (See Figure 1 for block diagram) (See 3.4).

a. At video patch panel make the following cable connections using video patch cords:

TD-660 SYS-1	TD-204 SYS-1
PCM OUT	PCM IN
PCM IN	PCM OUT
TIM IN	TIM OUT
TIM OUT	TIM IN

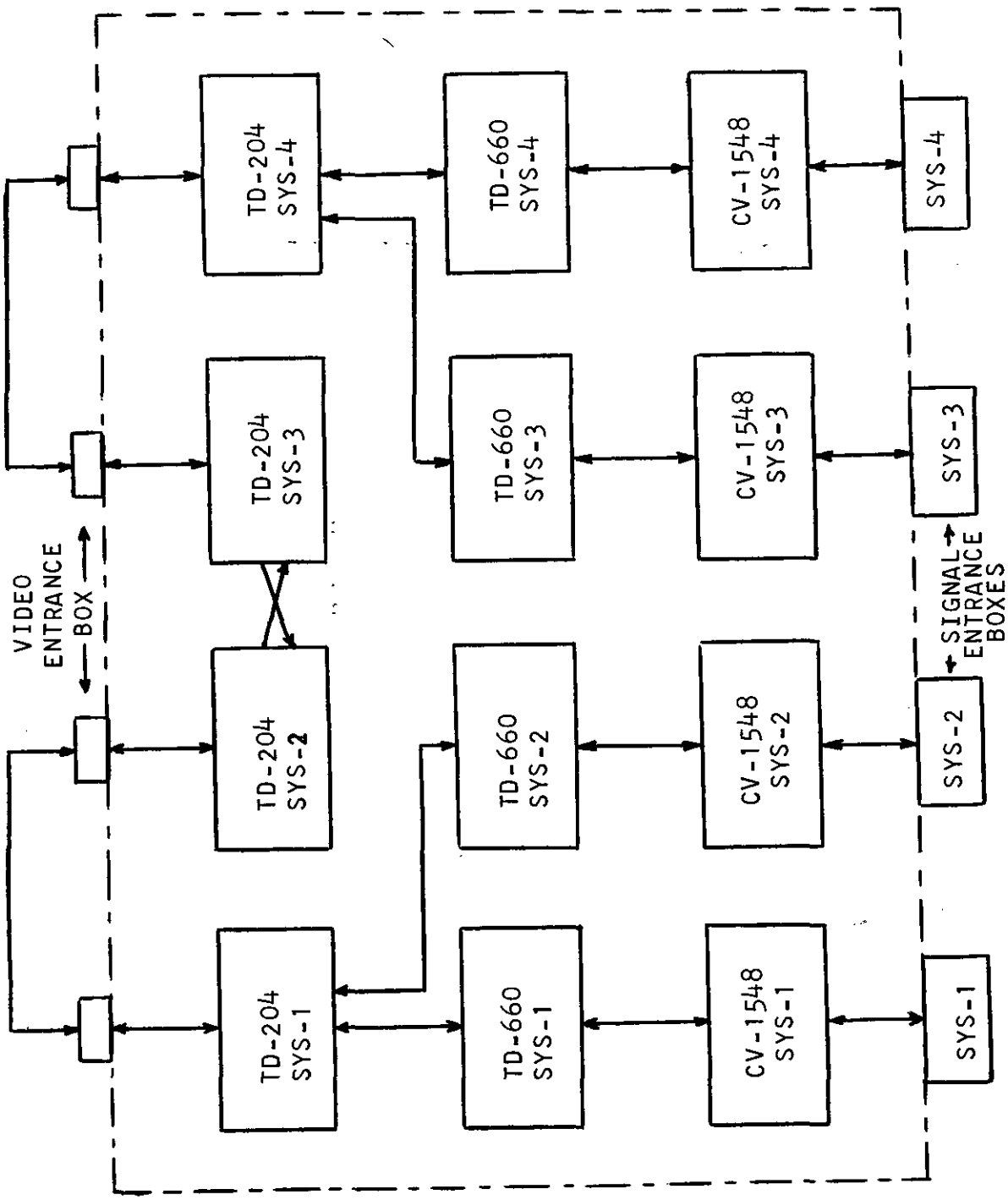


FIGURE 1 SYSTEMS TEST

TD-660 SYS-2	TD-204 SYS-1
PCM OUT	PCM IN-2
PCM IN	PCM OUT-2
TIM IN	TIM OUT-2
TD-660 SYS-4	**TD-204 SYS-4**
PCM OUT	PCM IN
PCM IN	PCM OUT
TIM IN	TIM OUT
TIM OUT	TIM IN
TD-660 SYS-3	**TD-204 SYS-4**
PCM OUT	PCM IN-2
PCM IN	PCM OUT-2
TIM IN	TIM OUT-2
TD-660 SYS-1	**TD-660 SYS-2**
SYNC OUT XMTR	SYNC IN
TD-660 SYS-4	**TD-660 SYS-3**
SYNC OUT XMTR	SYNC IN
TD-204 SYS-2	**TD-204 SYS-3**
PCM OUT	PCM IN
PCM IN	PCM OUT
TIM IN	TIM OUT
TIM OUT	TIM IN

b. At order wire patch panel make the following cable connection using CABLE REPEATER patch cord: SYS-2 to SYS-3

c. At cable patch panel make the following cable connections using CABLE patch cords:

VID ENT IN	TD-204 IN
SYS-1	SYS-1
SYS-2	SYS-2
SYS-3	SYS-3
SYS-4	SYS-4
VID ENT OUT	**TD-204 OUT**
SYS-1	SYS-1
SYS-2	SYS-2
SYS-3	SYS-3
SYS-4	SYS-4

d. Interconnect system 1 and system 2 video connectors at video entrance box using cable assembly CX-11230/G or equivalent. Repeat for systems 3 and 4 video connectors.

e. Connect cable assemblies CX-4566/U(25 ft) to each signal connector at signal entrance box. Connect unterminated ends of the cable assemblies to four junction boxes J-1077A/U.

f. Place all channel switches at signal entrance panel to CABLE position.

g. Connect telephone sets TA-312/PT to pair 1 of each junction box.

h. Perform the following preliminary operating procedures on each Converter CV-1548/G:

(1) Operate the 2W/4W channel switches to 2W.

(2) Operate the power switch to ON. The power indicator lamp shall light and the 20~ neon lamp on panel 18A2 shall glow.

(3) Operate the meter selector switch through each of the following positions and observe that the TEST ALIGN meter indicates as listed below:

Switch position	Meter indication	Corrective action
-	Yellow area	Replace ½ ASB fuse
+	Yellow area	Replace 1½ A fuse
20~ DRIVE	Yellow area	-
20~	Yellow area	-
1600~	Green area	Adjust ADJ 1600 control on panel 18A2

i. Perform the following preliminary operating procedures on each Multiplexer TD-660/G, unless otherwise specified:

(1) Operate switches I, II, III and IV to OFF.

(2) Operate the AUX switch to OUT.

(3) Operate the MASTER/SLAVE switch of systems 1 and 4 to MASTER; and of systems 2 and 3 to SLAVE.

(4) Operate the 2W-4W switch to 2W.

(5) Operate the 6CH/12CH switch to 12CH.

(6) Operate the AC power switch to ON. The power indicator lamp shall light. Ignore the frame alarm lamps and the audible alarm. To silence the alarms depress the BUZZER OFF switch.

(7) Operate the selector switch I to each of the positions listed below and observe the TEST ALIGN meter for proper meter indications.

Switch position	Meter indication
+7	Yellow
+12	Hairline
+4	Green
-12	Green
-6	Green
-4	Green

(8) If the TEST ALIGN meter indications do not correspond to the above, perform the +12 volt adjustment as follows and if the meter indications are still incorrect replace applicable fuse.

(a) Operate selector switch I to +7 and observe that the TEST ALIGN meter indicates yellow.

(b) Operate selector switch I to +12.

(c) Loosen the locknut on the +12V control.

(d) Adjust the +12V control for a hairline reading on the TEST ALIGN meter.

(e) Tighten the +12V control locknut.

(9) Operate selector switch I to the SWIII position.

(10) Operate selector switch III to the OSC position. The TEST ALIGN meter should indicate in the green area, signifying the tone oscillator is functioning properly.

j. Perform the following operating procedures on each Multiplexer TD-204/U, unless otherwise specified.

(1) Operate TALK-OFF-SIG switch and CABLE POWER switch to OFF.

(2) Operate the TRAFFIC SEL switch of systems 1 and 4 to 24; and systems 2 & 3 to 48AR.

(3) Operate the NORM OPR-ZERO SET-READ switch to NORM OPR.

(4) Operate both MILE switches to ¼.

(5) Operate the TONE-OFF switch to OFF.

(6) Operate the AC POWER switch to ON. The AC POWER and ALARMS NO CABLE CUR indicators light and the buzzer may sound. To silence the alarms depress the BUZZER OFF switch. NOTE: All operating equipments should be functioning properly at this point.

(7) Operate METER SELECT switch to the following positions and check for proper indications on the TEST ALIGN meter.

Position	Indication
TIMING IN	GREEN
PCM IN-1	GREEN
PCM IN-2	GREEN

(8) Perform the following order wire communication checks:

(a) Connect Headset H-91( )/U to the HEADSET connector of each TD-204/U.

(b) Momentarily operate the TALK-OFF-SIG switch of system 1. The CALL indicator shall light and the buzzer shall sound at all other TD-204/U's.

(c) Repeat step (b) for system 4.

(d) Place TALK-OFF-SIG switch to TALK. Communicate between all headsets.

k. Perform the following operational checks and adjustments on each TD-660/G.

(1) Check for proper indications on the TEST ALIGN meter.

Switch position	Meter indication
PCM IN	GREEN
TIM IN	GREEN
SYNC IN	GREEN (only at slave units)
NOISE GEN	YELLOW

(2) Perform the following automatic gain level checks between systems 1 and 4 Multiplexers.

(a) Operate selector switch I to the SWIII position.

(b) Operate selector switch III to the MEAS position.

(c) Operate selector switch IV of both multiplexers simultaneously to each channel position (1 through 12) and observe the TEST ALIGN meter for hairline indications.

(d) At each misadjusted channel, adjust the AG control until a hairline indication is observed on the TEST ALIGN meter.

NOTE: The channel AG controls are located on the face panel of the three 11A5 panels. Channel controls are identified by numbers stenciled on the perforated front cover. The top line of numbers applies to 12-channel operation; the bottom line applies to 6-channel operation. The top AG control on the 11A5 panels represents the lowest-numbered channel; the bottom AG control represents the highest-numbered channel.

(3) Repeat step (2) above for systems 2 and 3.

(4) Perform the following two-way speech test.

(a) Operate all selector switches to OFF.

(b) Connect Handset H-156/U to the TALK MONITOR receptacle of each TD-660/G.

(c) Operate selector switch III to TALK.

(d) Starting at channel 1 position of selector switch IV, perform a two-way speech test for each channel in sequence, observing that each channel gives satisfactory speech quality. (Communication shall be between systems 1 and 4; and between systems 2 and 3)

1. Perform the following 24-channel operational check:

(1) At junction boxes ring phone of system 1 from phone of system 4; ring phone of system 4 from phone of system 1; establish communications between the phones.

(2) Repeat step (1) for systems 2 and 3 phones.

(3) Repeat step (1) and (2) with phones connected across each odd binding post pair thru pair 23 on each junction box.

(4) Set all channel switches on signal entrance panel to BINDING POST position.

(5) Connect phones across binding post pair 2WT/R CH-1 systems 1 and 4.

(6) Ring between the phones; establish communication between the phones.

(7) Repeat steps (5) and (6) for systems 2 and 3 binding posts.

(8) Repeat steps (5) thru (7) for each remaining 2WT/R channel.

(9) Arrange switches in all CV-1548/G's and TD-660/G's for 4-wire operation.

(10) Repeat automatic gain level adjustments of TD-660/G's under step k(2)

(11) Connect phone across binding post pair 2WT/R, CH-1, system 1; connect another phone across binding post pair 4WT/R, CH-1, system 4. Receive communications at phone of system 1 from phone of system 4.

(12) Connect phone across binding post pair 4WT/R, CH-1, system 1; connect another phone across binding post pair 2WT/R, CH-1, system 4. Receive communications at phone of system 4 from phone of system 1.

(13) Repeat steps (11) and (12) for systems 2 and 3.

(14) Repeat steps (11) thru (13) for each remaining 4-wire channel.

(15) Place all channel switches at signal entrance panel to CABLE position.

(16) At systems 1 and 4 junction boxes, receive communications at phone of system 1 from phone of system 4 with the following phone connections:

PHONE SYS-1 Binding Post Pair on Junction Box	PHONE SYS-4 Binding Post Pair on Junction Box
1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24

(17) Receive communications at phone of system 4 from phone of system 1 with the following phone connections:

PHONE SYS-1 Binding Post Pair on Junction Box	PHONE SYS-4 Binding Post Pair on Junction Box
2	1
4	3
6	5
8	7
10	9
12	11
14	13
16	15
18	17
20	19
22	21
24	23

(18) Repeat steps (16) and (17) for systems 2 and 3.

4.9 Vehicular transportation test.- The shelter facility shall be secured (and blocked to prevent shifting) to a government furnished 1½ ton, M-715, truck and transported over the specially prepared course described in 4.9.1 for 10 laps at each of the speeds 5 mph, 10 mph, 15 mph and 18-20 mph. A lap is defined as traversing the course in one direction. The facility shall meet the requirements of paragraph 3.5 after completion of the test. (Note: The shelter facility shall be loaded to simulate the AN/TCC-65( ) using live and dummy loads (See 6.2b for this test).

4.9.1 Vehicular transportation course.- The course for the military truck transportation test shall have twelve (12) 4-inch by 8-inch timbers placed 25 feet apart on the 8-inch face and with the 4-inch face fully above ground. The top edges shall have 1 x 1 inch chamfers. The sixth and twelfth timbers shall be placed at 45 degrees to the travel, and all other timbers shall be placed perpendicular to the direction of travel. The timbers shall be long enough to span the vehicle passing over them and shall be anchored down securely by any effective means. The surface on which the timbers are placed shall be hard and level.

4.10 Rail transport, impact test.- The shelter facility loaded as specified in paragraph 4.9, secured to a flatcar (the test flatcar) and coupled to two other flatcars shall be impacted by a loaded gondola car. The test shall be performed on a straight and level stretch of track. The test flatcar with its timber blocking and shelter facility tiedown slings, shall be as specified in Figure 2 and shall meet the provisions of the test as specified in paragraph 4.10.1. The test flatcar (less the shelter facility) and the two empty flatcars coupled to it shall each weigh 45,000 to 55,000 pounds. The loaded gondola car shall meet the provisions of the test as specified in paragraph 4.10.2 and shall have a total weight of 165,000 pounds. The loaded gondola car totaling 165,000 pounds traveling at 9 miles per hour (or equivalent energy conditions acceptable to the government technical representative) shall be impacted against the stationary loaded test car coupled to the two empty flatcars all with brakes off. The test shall consist of four impacts. Two impacts with the shelter facility positioned longitudinally on the flatcar, one from each end of the shelter facility and two impacts with the shelter facility positioned transversely on the flatcar, one from each side of the shelter facility. The lashing, blocking and wedges holding the shelter facility in place

shall be tight at the start of each run. If the blocking is torn loose or the lashing is broken during impact, the run shall be repeated. After each impact the shelter facility shall meet the requirements of paragraph 3.6.

4.10.1 Test flatcar.- The wooden planking of the test flatcar bed shall be in good condition. All 6 x 6 inch blocking shall be secured to the bed of the flatcar using 10 inch spikes on 12 inch centers. The blocking along the door end and opposite end of the shelter shall fit tightly against the corner castings along the full length of the castings except as necessary to clear the towing shackles, this shall be accomplished by means of power sawed notches. The blocking along the other two sides of the shelter shall fit tightly against the corner castings, along the full length of the castings. These four blocking members shall not be notched or shimmed to contact the trim along the sides of the shelter. The 4 x 4 and 2 x 4 inch blocking shall be nailed to the bed of the flatcar as shown in the figure referred above. All other blocking shall be firmly secured as shown in the figure. Lashing shall consist of four wire rope slings, each including 3/8 inch diameter 6 x 19, flexible steel, preformed wire rope (having a breaking strength of 10,600 pounds minimum), a turnbuckle, two hooks, with thimbles and fasteners as required; the breaking strength of the sling shall be 9000 pounds minimum. Before each impact, each sling shall be taut (600 - 800 pounds tension).

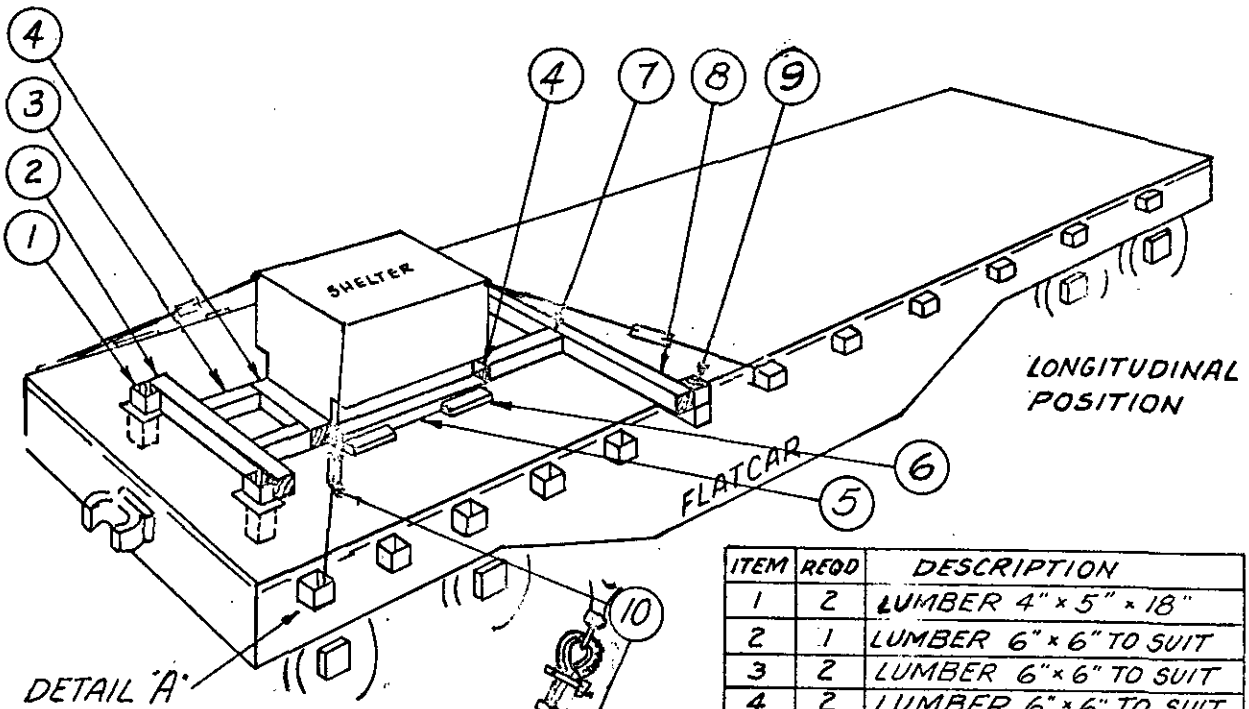
4.10.2 Loaded gondola car.- The load in the loaded gondola car shall be one of the following:

a. A coarse size of either coal, crushed stone, gravel, crushed concrete or metal scrap (other than sheet metal, metal shavings or other springly forms of metal).

b. Chunk, slab, block or plate forms of the preceding acceptable materials, constrained to prevent shifting.

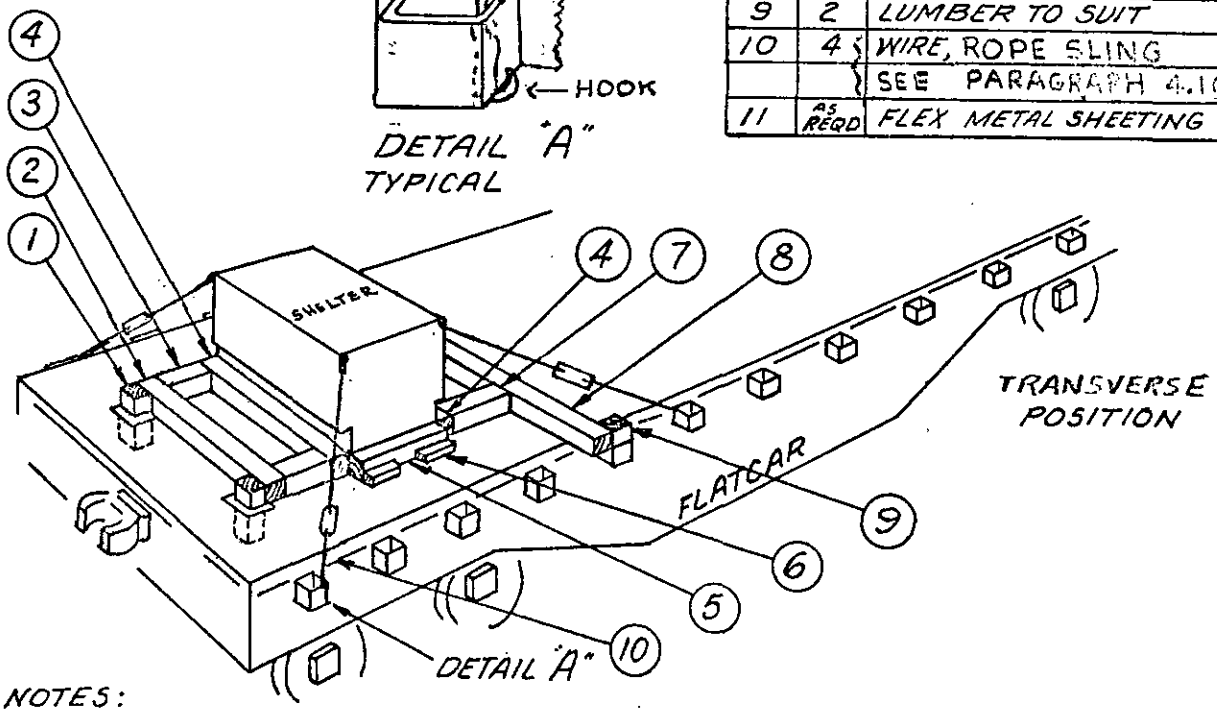
4.11 Drop tests.-

4.11.1 Flat drop.- The shelter facility loaded as in 4.9 shall be lifted 18 inches from the ground and allowed to fall freely with the skids impacting onto a hard substantial concrete surface. The test shall be performed once. Upon completion of this drop, the facility shall meet the requirements of 3.7.



ITEM	REQD	DESCRIPTION
1	2	LUMBER 4" × 5" × 18"
2	1	LUMBER 6" × 6" TO SUIT
3	2	LUMBER 6" × 6" TO SUIT
4	2	LUMBER 6" × 6" TO SUIT
5	2	LUMBER 4" × 4" TO SUIT
6	4	LUMBER 2" × 4" × 14"
7	2	LUMBER 6" × 6" TO SUIT
8	1	LUMBER 6" × 6" TO SUIT
9	2	LUMBER TO SUIT
10	4	WIRE, ROPE SLING SEE PARAGRAPH 4.10
11	AS REQD	FLEX METAL SHEETING

DETAIL "A" TYPICAL



NOTES:

1- THE BLOCKING LUMBER SHALL BE NOTCHED TO ACCOMODATE TOWING EYES, BOLTS AND RIVET HEADS.

2- THE BLOCKING LUMBER SHALL BE RIGIDLY FASTENED TO THE FLOOR OF THE FLATCAR.

FIGURE 2

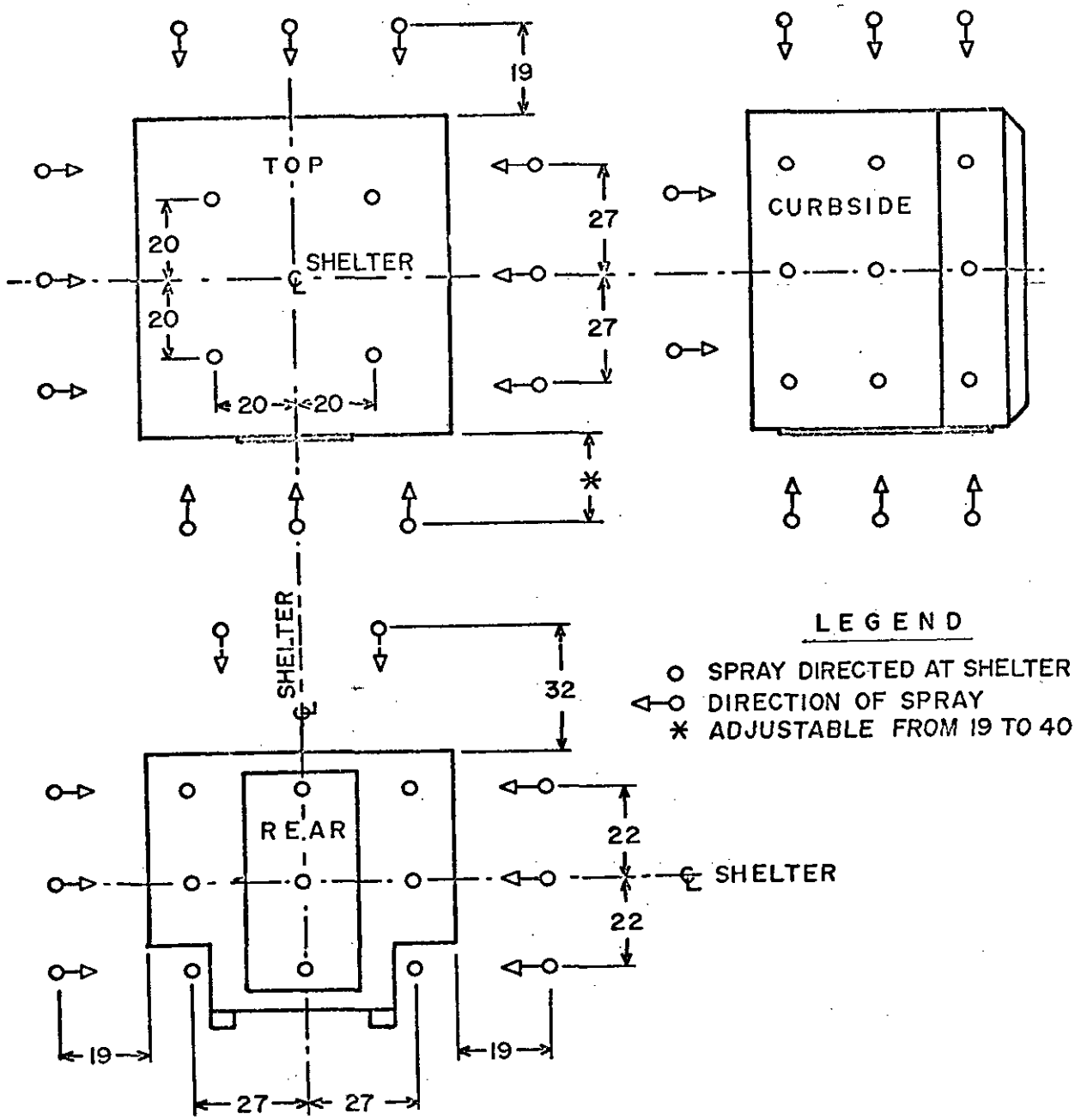
4.11.2 Rotational Drop.- The shelter facility loaded as in 4.9 shall have one skid (or the knuckles of the skids) resting on a nominal 4 inch high timber. The outer edge of the opposite skid (or the opposite knuckles of the skids) shall be raised 18 inches and the shelter facility shall be allowed to fall freely onto a hard substantial concrete surface. This impact shall be performed four times, once for each bottom edge of the shelter facility. On completion of these drops, the shelter facility shall meet the requirements of 3.7.

4.12 Watertightness test.- The shelter facility, without the use of any additional external sealing, caulking, taping, etc. shall be subjected to the following two part test (NOTE: Perform tests with inside covers of entrance boxes removed).

a. Each of the five exposed surfaces of the shelter facility, with covers closed, shall be sprayed with water from nozzles, model G 29SQ (or GG29SQ) as made by Spraying Systems Co., Bellwood, Illinois, or equal, pointing directly at the surface and arranged to provide uniform coverage of the surface. Each end panel shall be tested using nine nozzles, each side using nine nozzles, and the roof using four nozzles. Each nozzle shall operate at a pressure of forty psig at the nozzle, and shall be located nineteen inches from the panel with the exception of the roof nozzles which shall be at a distance of thirty-two inches. All of the five surfaces shall be simultaneously subjected to the test of this paragraph unless otherwise specified by the contracting officer. (See Figure 3 for nozzle location). Each panel shall be sprayed for a period of 20 minutes. (If the watertightness test is to be followed by the fording test of 4.13, the bottom row of nozzles may be eliminated with the exception of the nozzles facing the door end panel). Upon completion of the above test, the shelter facility shall meet the requirements of 3.8. To determine that no water has entered the shelter panels, holes shall be made at points to be determined by the Government at the time of testing. After this determination, the holes shall be sealed with rivets and sealer.

b. Open all covers to operating position (with exception of the exhaust blower vent covers at the front of the shelter, the door vent panel at the rear of the shelter and the air conditioning duct port covers on the curbside wall) and repeat a above.

4.13 Fording test.- The shelter facility shall be immersed in water for 1 hour to a depth of 26 inches (measured from the bottom of the skids) and meet the requirements of 3.9. No special fording kits



NOTES

1 NOZZLES SHALL BE PERPENDICULAR TO SHELTER SURFACE.
2 UNLESS OTHERWISE SHOWN ALL DIMENSIONS SHALL BE TAKEN FROM INDICATED CENTER LINES.
3 GAGES SHALL BE PERMANENTLY INSTALLED IN PIPING TO INDICATE PRESSURE AT REMOTE NOZZLES.
4 ROADSIDE NOZZLE LOCATIONS SAME AS CURBSIDE.
5 FRONT NOZZLE LOCATIONS SAME AS REAR.
6 DIMENSIONS ARE IN INCHES.

NOZZLE LOCATIONS

FIGURE 3

shall be used. The shelter shall be restrained from floating by external tiedowns. To determine that no water has entered the shelter panels, holes shall be made at points to be determined by the Government at the time of testing. After this determination, the holes shall be sealed with rivets and sealer.

4.14 Mounting insert tests.-

4.14.1 Preproduction and Group C insert test.- Four of each size insert shall be randomly selected for test. Each selected insert shall be tested with an axial load followed by a torque load in accordance with Table VII. After test, the requirements of 3.10 shall be met. Failure of any insert shall be caused for rejection of the sample shelter facility. This test shall be conducted prior to installation of brackets, racks, etc.

4.14.2 Production insert test.- Five of each size insert (if the total quantity of any size is less than five, all of that size shall be tested) shall be randomly selected for test in each sample shelter facility. Each selected insert shall be tested in accordance with Table VII. After test, the requirements of 3.10 shall be met. Failure of any insert shall be cause for rejection of the sample shelter facility. This test shall be conducted prior to installation of brackets, racks, etc.

TABLE VII - Mounting Inserts Loads

Insert size	Preproduction and Group C Test		Production Test	
	Axial(lbs)	Torque(in.-lbs)	Axial(lbs)	Torque(in.lbs)
5/16-18	2000	100	1000	100
1/4-20	1300	60	650	60
#10-32	600	23	300	23

4.15 Testing of solderless terminal-lug connections.- Connections made with solderless terminal-lugs shall be tested for conformance to 3.20.4.

4.16 Inspection for interchangeability.- The dimensions listed below shall be gaged or measured to determine compliance with the physical interchangeability requirements of 3.21. When a dimension is not within specified or design limits, it shal be considered a defect.

a. Size and mounting dimensions of brackets and mounting plates.

b. Size and mounting dimensions of racks, patch panels and cabinets.

4.17 Visual and mechanical inspection.- The shelter facility shall be examined for the defects listed in Standard MIL-STD-252, the requirements of 3.22 and Table VIII.

TABLE VIII - Classification of Visual & Mechanical Defects

Classification	Defects
Major	1. Mounting plates missing or mislocated.
	2. Aircraft loading data plate, instruction or nameplate omitted, incorrect or illegible.
	3. Welds - cracked or porous.
	4. Sealer improperly applied (holes, separations, or lack of adhesion).
	5. Mounting inserts missing or mislocated.
	6. Burrs or sharp edges in wire duct not removed.
	7. Equipments or bracketry loose or missing.
	8. Doors, etc. inoperative.
	9. Electrical receptacles, switches, connectors, wire ducts or other electrical components loose, improperly located or inoperative.
	10. Locking or holding devices missing or inoperative.
	11. Gaps between sections or wire duct exceed 1/16".
	12. Gaskets, missing.
Minor	1. Doors, not easily operable.
	2. Fastening devices difficult to operate.
	3. Finish - abrasions or scratches.
	4. Burrs and sharp edges on bracket not removed.
	5. Screws loose.
	6. Gaskets, completely and securely adhered.

4.18 Quality conformance inspection of preparation for delivery.- Preparation for delivery shall be inspected in accordance with Specification MIL-P-116 to determine conformance to the requirements of Section 5.

4.19 Rough handling test (preparation for delivery).- When rough handling test in accordance with Specification MIL-P-116 is required by the contract, the following functional tests shall be conducted to determine freedom from operational malfunction caused by rough handling:

Paragraph 4.7	Power and Signal wiring
Paragraph 4.17	Visual and mechanical

5. PREPARATION FOR DELIVERY

5.1 Preservation and packaging.- Preservation, packaging, and packing of the shelter facility shall be in accordance with applicable requirements of Specification MIL-S-55505.

6. NOTES

6.1 Intended use.- The Shelter, Electrical Equipment S-333( )/TCC-65 is the shelter facility portion of the AN/TCC-65( ) and it is used to house the operational equipments including:

a. 4 ea TD-660( )/U Multiplexer

b. 4 ea TD-204( )/G Multiplexer or TD-754( )/G Multiplexer

c. 4 ea CV-1548( )/G Converter, Telephone Signal

d. 1 ea TA-312( )/PT Telephone

e. 2 ea H-91( )/U Headset-Microphone

f. 2 ea H-156( )/U Handset

g. 1 ea LS-147( )/FI Intercom

h. 4 ea Security Equipment TSEC/KG - 27( ) (Optional)

forming the telephone terminal.

6.2 Ordering data.- Procurement documents should specify the following:

a. Title, number, and date of this specification and any amendment thereto.

b. Preproduction and Group C inspection of the shelter facility requires use of contractor fabricated dummy loads for the communications security equipments (4 ea) and government furnished live loads (converter and telephone component) unless otherwise specified in the bid request and contract.

c. A list of government furnished equipments required as part of the S-333( )/TCC-65 on order.

d. A list of equipments to be government loaned for testing purposes.

e. Submission of the statement referenced in 3.18.4 as soon as possible after award of contract. This statement should be submitted to the contracting officer.

6.3 Inspection.- Inspection is the examination or testing, or both, of supplies to determine compliance with applicable requirements. Sampling is an element of inspection.

6.3.1 Examination.- Examination consists of simple, generally nondestructive determinations of compliance, without use of special testing equipment.

6.3.1 Testing.- Testing consists of determinations of compliance, using technical means.

6.4 Group C inspection.- Approval to ship may be withheld, at the discretion of the government, pending the decision from the contracting officer on the adequacy of corrective action. (See 4.5.3.5)

6.5 Nomenclature.- The parenthesis in the nomenclature will be deleted or replaced by a letter identifying the particular design, for example: S-333R/TCC-65. The contractor should apply for nomenclature in accordance with the applicable clause in the contract.

6.6 Verification inspection.- Verification by the government will be limited to the amount deemed necessary to determine compliance with the contract and will be limited in severity to the definitive quality assurance provisions established in this specification and the contract. The amount of verification inspection by the government will be adjusted to make maximum utilization of the contractor's quality control system and the quality history of the product.

Custodian:
Army - EL

Preparing Activity:
Army - EL

Project No. 5805-A187

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U.S.Army Electronics Command
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SPECIFICATION ANALYSIS SHEET

Form Approved
Budget Bureau No. 22-R255

INSTRUCTIONS: This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.

SPECIFICATION MIL-S-55588B(EL) SHELTER, ELECTRICAL EQUIPMENT S-33( )/TCC-65

ORGANIZATION

CITY AND STATE

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A. GIVE PARAGRAPH NUMBER AND WORDING.

B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3. IS THE SPECIFICATION RESTRICTIVE?

☐ YES ☐ NO *(If "yes", in what way?)*

4. REMARKS *(Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)*

SUBMITTED BY *(Printed or typed name and activity - Optional)*

DATE

DD FORM 1 JAN 66 1426

REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED.

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