

MIL-C-55653A(EL)  
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 SUPERSEDING  
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## MILITARY SPECIFICATION

### CONTROL, COMMUNICATION SYSTEM C-6533( )/ARC

This specification is approved for use by all Departments and Agencies of the Department of Defense.

#### 1. SCOPE

1.1 This specification covers one type of control which provides control of inter-communication, audio levels, switching of airborne radio sets and navigation devices and is designated Control, Communication System C-6533( )/ARC. (See 6.1 and 6.4)

#### 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 specification to the extent specified herein:

#### SPECIFICATIONS

##### FEDERAL

NN-P-71	Pallets, Material Handling, Wood, Double Faced, Stringer Construction.
PPP-B-585	Boxes, Wood, Wirebound.
PPP-B-601	Boxes, Wood, Cleated-Plywood.
PPP-B-621	Boxes, Wood, Nailed and Lock-Corner.
PPP-B-636	Box, Fiberboard.
PPP-F-320	Fiberboard; Corrugated and Solid, Sheet Stock (Container Grade), and Cut Shapes.
PPP-T-76	Tape, Pressure-Sensitive Adhesive Paper, (For Carton Sealing).
PPP-T-97	Tape, Pressure-Sensitive Adhesive, Filament Reinforced.
QQ-S-781	Strapping, Steel, Flat and Seals.

##### MILITARY

MIL-P-116

Preservation, Packaging Methods of

FSC 5821

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MIL-E-5272	Environmental Testing, Aeronautical and Associated Equipment, General Specification for.
MIL-E-5400	Electronic Equipment, Aircraft, General Specification for.
MIL-T-5422	Testing, Environmental, Aircraft Electronic Equipment.
MIL-M-13231	Marking of Electronic Items.
MIL-F-14072	Finish for Ground Signal Equipment.
MIL-S-19500	Semiconductor Device, General Specification for.
MIL-P-55110	Printed Wiring Boards.

## STANDARDS

## MILITARY

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-129	Marking for Shipment and Storage.
MIL-STD-147	Palletized Unit Loads (40 in. x 48 in. 4-Way Pallets).
MIL-STD-252	Wired Equipment, Classification of Visual and Mechanical Defects.
MIL-STD-454	Standard Requirements for Electronic Equipment.
MIL-STD-461	Electromagnetic Interference Characteristics Requirements for Equipment.
MIL-STD-462	Electromagnetic Interference Characteristics Measurement of.
MIL-STD-704	Electrical Power, Aircraft, Characteristics and Utilization of.
MIL-STD-781	Reliability Tests Exponential Distribution.
MIL-STD-810	Environmental Test Methods.

## DRAWING

## USAECOM

SC-GL-323362	Gage List, Control, Communication System C-6533( )/ARC.
SC-DL-596575	Control, Communication System C-6533( )/ARC.
SC-A-678010	Combined Burn-In/Reliability Requirements for Control, Communication System C-6533( )/ARC.

(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.)

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### 3. REQUIREMENTS. -

3.1 Description. - The Control C-6533( )/ARC is a light weight self-contained solid state unit containing switching facilities to switch audio output from up to eight receiver circuits with an audio level control for controlling all the receiver output circuits, plus two direct inputs without level control and two direct inputs with level control. Included is a six position selector switch which selects up to five radio sets for transmission and reception and an interphone (ICS) position for use when more than one control is interconnected within the airframe. The unit is flush mounted by means of dzus fasteners located on the sides of the panel mounting plate; operating controls and panel lamps are mounted on the front panel. The unit is capable of operating from a power source of  $27.5 \pm 0.5$  volts dc.

3.2 Construction. - The units on order shall be constructed in accordance with the following drawing and data list:

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3.2.1 Weight (See 4.13.1). - The weight of the completely assembled unit shall not exceed 1.9 lbs.

3.3 First Article. - When specified in the contract or purchase order, the contractor shall furnish First Article units as required. (See 4.3 and 6.2d)

### 3.4 Cleaning. -

3.4.1 Parts. - After fabrication, parts shall be cleaned in accordance with good commercial practice, or as specified in an applicable document. Cleaning processes shall have no deleterious effect. Corrosive material shall be removed completely before the parts are mounted on chassis, panels, etc.

3.4.2 Units. - After assembly, units shall be cleaned thoroughly and shall be free from particles of solder, flux, and other foreign material. In addition, when necessary, such cleaning shall also be performed before final assembly of the units.

3.5 Controls. - All movable controls shall operate properly without binding or other undue restriction. Controls shall not be assembled in a misaligned condition.

3.6 Finish, protective (See 4.4). - The equipment shall be given protective finish in accordance with MIL-F-14072 and the equipment drawings. This includes finish of hardware, such as handles, hinges, screws, etc., and necessary touch-up after mounting. The final paint film on Type I surfaces shall be Film B in accordance with MIL-F-14072.

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3.7 Securing of parts. -

3.7.1 General. - Brackets, lugs, inserts, bolts, and other mounting arrangements shall retain items securely when subjected to specified service conditions.

3.7.2 Securing of parts by threaded fasteners. - Nylok or other screws and nuts with plastic devices and Loctite or similar sealants shall not be subjected to temperatures in excess of 250°F (as during baking of paint). Loctite or similar sealants shall be applied in accordance with the manufacturer's instructions.

3.8 Marking (See 4.4). -

3.8.1 General. - Marking shall conform to MIL-M-13231. Front panel marking shall be in accordance with equipment drawings.

3.8.2 Visibility. - Wherever practicable, parts shall be so mounted that their identification markings will be readily visible with minimum disassembly of the equipment.

3.8.3 Serial numbers. - The following unit(s) shall be serial numbered:

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3.9 Soldering. -

3.9.1 Solder. - Solder shall conform to the equipment drawings.

3.9.2 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 underheated. 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 unit. Insulation material that has been subjected to heating during the soldering operation shall be undamaged and parts fastened thereto shall not have become loosened.

3.10 Wiring and cabling. - Wiring and cabling shall be neat and sturdy.

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3.10.1 Cabling. - Insulated wires shall be formed into cables except where operation of the equipment would be adversely affected thereby or where it is physically impracticable as in the case where the resulting cables would be excessively large and would interfere with operation or maintenance.

3.10.2 Slack. - Wires and cables shall be as short as practical except that sufficient slack shall be provided for the following purposes:

a. To prevent undue stress on cable forms, wires, and connections, including connections to resiliently supported parts.

b. To enable parts to be removed and replaced during servicing without disconnecting other parts.

c. To provide for at least two replacements of the part to which the wire or cable is connected, except where uninsulated wires are used.

3.10.3 Protection. - Wires and cables shall be so placed and protected as to avoid contact, under specified service conditions, with rough or irregular surfaces or sharp edges.

3.10.4 Support. - Wire and cable shall be properly supported and secured to prevent undue stress on the conductors and terminals and undue change in position of the wire or cable (I) during and after subsection of the equipment to specified service conditions or (II) after service or repair of the equipment in a normal manner.

3.10.5 Clearance. - Clearance between solder connections or bare conductors, on terminal boards, relays, or other parts, shall be such that no accidental contact can occur between adjacent connections when subjected to specified service conditions.

3.10.6 Splicing. - Wires in a continuous run between two terminals shall not be spliced during the wiring operation.

3.10.7 Connections, general. - Before being soldered to terminal lugs or fixed terminals, wires shall be mechanically secured so that the connections are not dependent for strength on solder alone. Where practicable, wires soldered to fixed terminals shall be looped at least one-half turn but not more than three-quarters turn around the terminal before soldering. Bared ends of wire leads to be terminated in solder-type terminal lugs shall be tinned, silver plated, or lead-alloy coated. No varnish, lacquer, inspection paint, or other coating shall be applied to completed electrical connections.

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3.11 Printed wiring assemblies. - Printed wiring assemblies shall be processed for compliance with the requirements specified on the equipment drawings and MIL-P-55110 in order not to affect life and service ability of the assemblies.

3.12 Semiconductors (Transistors & Diodes) (See 4.4). - These electron devices (semiconductors and diodes) shall conform to MIL-S-19500 and the equipment drawings.

3.13 Tropicalization of materials. - Materials shall be treated as follows:

3.13.1 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.

3.13.2 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.

3.13.3 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.

3.13.4 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 6.2)

3.14 Service conditions (See 4.8). - The unit(s) shall meet the service conditions as specified in MIL-E-5400 for Class 1A equipment, after a warm up period of two (2) minutes, except as otherwise specified herein.

3.14.1 Temperature-altitude (See 4.8.1). - The unit(s) shall be subjected to and meet the temperature-altitude requirements with a non-operating minimum exposure of 24 hours at -65°F atmospheric pressure and 4 hours minimum exposure at 160°F atmospheric pressure. The unit(s) shall be continuously operable and conform to the requirements of 3.15.4, 3.15.5, 3.15.10, 3.15.11 and 4.8 from -65°F through 160°F with the following exceptions for the temperature range of -65°F through -25°F:

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- a. (3.15.4) Response, microphone amp. - Shall not vary more than +2.5 to -3.5db from the 1.0KHz level.
- b. (3.15.5) Distortion, microphone amp. - Shall not exceed 6.2 percent with a signal level of 0.6 volts and 12.5 percent with a signal level of 4.0 volts.
- c. (3.15.10) Response, headset amp. - Shall not vary more than +2.5 to -3.5db from the 1.0KHz level.
- d. (3.15.11) Distortion, headset amp. - Shall not exceed 12.5 percent.

The unit(s) shall be operable to a minimum altitude of 50,000 feet above sea level. Switches S3 through S9 shall also perform their required function (Mech. & Elect.) at extreme temperatures.

3.14.2 Relative humidity (See 4.8.2). - Up to 100 percent relative humidity including conditions wherein condensation takes place in the form of water. The unit(s) shall withstand these conditions during continuous operations, intermittent operations, short term operations or exposure in a non-operating condition.

3.14.3 Dust (See 4.8.3). - The unit(s) shall withstand exposure to dust particles as encountered in desert areas. After completion of the test, unit(s) shall meet the requirements of 4.8.

3.14.4 Vibration (See 4.8.4). - The unit(s) shall meet the vibration Curve III for helicopter equipment. The audio output level due to vibration modulation during transmitter talk operation shall not exceed a level of minus 40db from the zero (0)dbm transmitter audio output level for vibration frequencies from 5 to 149Hz and minus 35db for frequencies of 150Hz and above.

3.14.5 Shock (See 4.8.5). -

3.14.5.1 Benchhandling (See 4.8.5.1). - The unit(s) shall be capable of specified performance (4.8) after subjection to the required numbers of drops.

3.14.5.2 Equipment (See 4.8.5.2). - The unit(s) shall be capable of withstanding 18 shocks of 15G peak value and 12 shocks of 30G peak value, and then meeting specified performance (4.8).

3.14.6 Fungus (See 4.8.6). - The unit(s), after subjection to the fungus test, shall show no more than six (6) minute unrelated spots, each no greater than 0.015 square inch in area, of sparse microbial growth as

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evidenced by growth colonization (which includes branching and sporulation) on or within each cubic foot or fraction thereof, of equipment assembly volume when visually examined using a 10-power magnifier. Isolated instances of partial tubular germination shall not be included in this evaluation. (See 6.8 for definitions)

3.14.7 Salt fog (See 4.8.7). - The unit(s) shall be exposed to salt fog and shall show no evidence of corrosion as evidenced by any visible degradation that can be attributed to flaky, pitted, blistered or otherwise loosened finish.

3.14.8 Explosive proof (See 4.8.8). - The unit(s) shall not cause ignition of an ambient-explosive-gaseous mixture with air when operating in such an atmosphere.

3.14.9 Acceleration (See 4.8.9). - The unit(s) shall operate within the requirements of 4.8 during application of one (1) minute of six (6)G steady state acceleration, in turn, in each direction along each of its three (3) orthogonal axes.

3.14.10 Voltage protection, low and reverse (See 4.8.10). - The unit(s) shall be subjected to and meet the requirements of 3.15.1 and shall show no visual damage after being subjected to 29 volts dc reverse polarity and continuous operation at 17 to 29 volts dc.

3.15 Electrical requirements (See 4.9). -

3.15.1 Input power (See 4.9.1). - The unit(s) shall operate from normal 27.5 volt dc aircraft power as defined by MIL-STD-704, Category B. When the input current is measured with 29.0 Vdc input, 1.25 volts audio output at the headset pins and zero (0)dbm output on one (1) transmitter audio output line the input current shall not exceed 130 milliamps.

3.15.2 Output, interphone (See 4.9.2). - With the selector switch (S1) set to any position and the required input applied to a resistive pad connected to pins C and A (microphone input) the output across pin DD and ground shall be between 2.45 and 3.1 volts; this output shall be the same at any position of the selector switch (S1) when switch (S2) is set to HOT Mike position.

3.15.3 Sidetone (See 4.9.3). - With selector switch (S1) set to ICS position, switch (S2) to OFF position; pins B or E jumpered to ground and 1.0KHz signal at 0.6 volts applied to the required pad, the output voltage across pins TT and XX shall be -4.0 to -6.0db down from the level obtained across TT and XX, when 2.75 volts is applied to pin DD and ground.



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3.15.4 Response, microphone amp. (AR1) (See 4.9.4). - The frequency response shall not vary more than +1.0 to -2.0db from the 1.0KHz level at frequencies from 300 to 6000Hz. The slope of the asymptotic attenuation curve above 6000Hz and below 300Hz shall be no less than 6db per octave.

3.15.5 Distortion, microphone amp. (AR1) (See 4.9.5). - The total harmonic distortion shall not exceed three (3) percent with a signal level of 0.6 volts applied and five (5) percent with a signal level of 4.0 volts applied over the frequency range of 300 to 6000Hz.

3.15.6 Attack and release time, AGC (See 4.9.6). - With 1.0KHz applied to pins C and A, the attack time shall be not more than 0.2 seconds and the release time shall be not more than 7.0 seconds  $\pm 20$  percent.

3.15.7 Breakpoint and slope, AGC (See 4.9.7). - With 1.0KHz applied to the pad connected to pins C and A and when the linearity of the input-output curve varies 1.0db (this will be the breakpoint) the input signal level shall be between 0.2 and 0.5 volts. Increase the input signal level from 0.5 to 5.0 volts, the slope of the input-output curve from the breakpoint shall be three (3)db maximum change in output for a 20db change in input.

3.15.8 Audio output, microphone amp. (AR1) (See 4.9.8). - With a 1.0KHz signal at a level of 0.6 volts applied to the pad connected to the microphone input, the output on the indicated output line shall be 0.39 volts  $\pm 10$  percent.

3.15.9 Audio output, headset amp. (AR2) (See 4.9.9). - With a 1.0KHz signal applied in turn to each pin as specified and the signal level is set to obtain 1.25 volts at the headset output with R34 set to full clockwise position the input level shall be between 1.0 and 2.75 volts.

3.15.10 Response, headset amp. (AR2) (See 4.9.10). - The frequency response shall not vary more than +1.0 to -2.0db from a 1.0KHz reference level at frequencies from 300 to 6000Hz. The slope of the asymptotic attenuation curve above 6000Hz and below 300Hz shall be no less than 6db per octave.

3.15.11 Distortion, headset amp. (AR2) (See 4.9.11). - When frequencies over the range of 300 to 6000Hz are applied with the required input voltages to audio output lines the total harmonic distortion at the headset amp. output shall not exceed ten (10) percent.

3.15.12 Isolation, monitor switches/audio lines (See 4.9.12). - With 1.0KHz applied to the specified audio inputs and 1.25v output at the headset amplifier the output shall not exceed 1.25 millivolts when the monitor

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switch is set to "OFF" position and the selector switch (S1) is set to any other audio input line. With 2.75v, 1.0KHz applied to any audio input line, monitor switches to ON position the audio level on any other audio line shall be less than 2.75 millivolts, except when the input signal is applied to one NAV line the signal shall be less than 27.5 millivolts on the other NAV line.

3.15.13 Isolation, transmitter lines (See 4.9.13). - With a 2.75 volts, 1.0KHz level applied to any audio input line and the headset amp. output set for 1.25 volts the voltage level at each transmitter audio output line shall not exceed 2.75 millivolt with pin B jumpered to ground. When 0.6 volts, 1.0KHz level applied to pins C and A, pin B is jumpered to ground, and the output at pin DD is 2.75 volts the voltage level at each transmitter audio output line shall be less than 0.87 millivolt.

3.15.14 Transient protection (See 4.9.14). - The unit(s) shall meet specified requirements after subjection to a plus 80 volt pulse and a negative 80 volt pulse for 0.2 second duration three (3) times within one (1) minute.

3.15.15 Headset amp., unterminated (See 4.9.15). - The headset amp. output shall be stable (no oscillation) when pins TT and XX are unterminated and the monitor and selector switches are placed to any position and the volume control is rotated to any position from full CCW to CW.

3.15.16 Transmitter control (See 4.9.16). - With selector switch S1 set to positions 1 through 5, pin B jumpered to ground, and a DC voltage applied to specified pins the transmitter control lines shall withstand 1.0 amps through the lines without any degradation.

3.16 Electromagnetic interference (See 4.10). - The unit(s) shall be subjected to and meet requirements CE 01, CE 03, CS 01, CS 02, CS 06, RE 02, and RS 03 of MIL-STD-461 for Class 1C except as indicated herein.

3.16.1 Audio susceptibility, CS 01 (See 4.10.1). - The unit(s) shall comply with the general CS 01 requirements except that the level of applied interfering signal shall be as specified in Figure 5, of MIL-STD-704. The unit(s) headset (TT/XX) output shall not exceed the maximum noise level as follows: 1.27mv between 30Hz and 174Hz, and between 526Hz and 150KHz; 5.0mv between 175Hz and 525Hz. The interphone (DD/Z) output shall not exceed the maximum noise level as follows: 5.0mv between 30Hz and 200Hz; 2.75mv between 201Hz and 150KHz. In addition, this requirement also applies to the interphone output in that no change greater than +3db in interphone output shall be experienced with a 1.0KHz input signal adjusted for 3.0 volts applied to pins C and A through the 5000 ohm to 5.0 ohm pad.

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3.16.2 Conducted susceptibility CS 02 (See 4.10.2). - The requirements of CS 02 shall apply except that all RF signals be modulated 30 percent AM at 1KHz. The success criteria for this requirement shall be a maximum noise output for the Headset Amplifier (TT/XX) as follows: 5.0mv between 150KHz and 199MHz, and between 251MHz and 400MHz; 10mv between 200MHz and 250MHz. The maximum noise output for the Interphone Terminals (DD/Z) shall be 5.0mv.

3.16.3 Radiated susceptibility RS 03 (See 4.10.3). - The requirement of RS 03 shall apply except that all RF signals shall be modulated 30 percent AM at 1.0KHz. The field strength for RS 03 shall be as specified in MIL-STD-461 except that it shall be increased to 10 volts/meter over the range 2.0 to 30.0MHz. The success criteria for this requirement shall be a maximum noise output of 1.5mv for the Headset Amplifier (TT/XX) and 2.75 mv at the Interphone Terminals (DD/Z).

3.16.4 Radiated susceptibility, (induction field) (See 4.10.4). - The unit(s) Headset noise output (TT/XX) shall not exceed 10mv and the Interphone noise output (DD/Z) shall not exceed 20mv when subjected to the test of 4.10.4.

3.16.5 Ripple, D.C. line (See 4.10.5). - With 3.0 volts (peak to peak) applied to the unit(s) primary power leads at 400, 1600 and 6000 Hz, the maximum noise output at pins TT/XX and DD/Z shall be 2.0mv at 400Hz and 1600Hz and 5.0mv at 6000Hz. This requirement supersedes 3.16.1 at these frequencies only.

3.17 Combined Burn-In/Reliability (See 4.6). - Each unit on order shall be capable of meeting the requirements herein, without subsequent processing, after subjection to the Combined Burn-In/Reliability as specified.

3.18 Operational inspection (See 4.12). - Each unit shall be operated as specified after applicable processes and inspections are completed to determine that each unit is operable prior to packaging. Voice quality shall indicate proper operation of the unit(s).

3.19 Interchangeability (See 4.11). - Like units, assemblies, sub-assemblies, and replaceable parts shall conform to Requirement 7 of MIL-STD-454 and shall be physically and functionally interchangeable without modification of such items or of the equipment.

3.20 Workmanship. - The unit(s) shall be manufactured and assembled in accordance with the drawings (see 3.2), requirements 5 and 9 of MIL-STD-454 and the following:

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Cleaning	3.4
Controls	3.5
Securing of Parts	3.7
Wiring and Cabling	3.10
Tropicalization	3.13
Printed Wiring Assemblies	3.11

#### 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 in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

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

a. First Article inspection (does not include preparation for delivery 4.5). (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 4.14 and 4.15)

4.3 First Article. - Unless otherwise specified in the contract or purchase order, the First Article inspection shall be performed by the contractor.

4.3.1 First Article units. - The contractor shall furnish that number of First Article units of the complete C-6533( )/ARC as specified in the contract or purchase order.

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4.3.2 First Article inspection. - The First Article inspection shall consist of the inspections specified in subsidiary documents covering the items listed in 4.4, burn-in/reliability specified in 4.6, and the inspections specified for Group A, Group B and Group C (see Tables I, II and III respectively). The inspection shall be performed in the following order: 4.4, 4.6, Group A and Group B for all units, and designated units for specific subgroups within Group C in accordance with 4.5.4.1. After completion of Group C environmental tests, conforming units shall be re-inspected and shall pass all Group A inspections.

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

<u>Item</u>	<u>Where Required</u>
Finish	3.6
Marking	3.8
Semiconductors (transistors & diodes)	3.12

4.5 Quality conformance inspection of equipment before preparation for delivery. - Each unit of equipment shall be subjected to Combined Burn-In/Reliability (3.17) prior to inspection. The contractor shall perform the inspection specified in 4.4 and 4.5.1 through 4.5.5. 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. Failure to meet any requirement as a result of Combined Burn-In/Reliability shall be classified as a defect and recorded as such. The Government will review and evaluate the contractor's inspection procedures and examine the contractor's inspection records. In addition the Government - - at its discretion - - may perform all or any part of the specified inspections, to verify the contractor's compliance with specified requirements. (See 6.8) Test equipment for Government verification inspection shall be made available by the contractor.

4.5.1 Group A inspection. - Each unit on contract or purchase order shall be inspected for conformance to the inspections specified in Table I. Discrete lots shall be formed from units that pass this inspection. Factors of lot composition not defined herein, or in the contract or purchase order, shall be in accordance with MIL-STD-105. Each lot shall be subject to sampling inspection, utilizing the procedures of MIL-STD-105, using the

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general inspection levels, and AQL's indicated in Table I. Group A inspection shall be performed in any order which is satisfactory to the Government, except that the operational inspection (4.12) of the entire lot (including the sample units) shall be performed immediately prior to packaging at a location that will minimize subsequent handling which might cause damage to the units.

Table I. - Group A Inspection

Inspection	Req Para.	Insp Para.	AQL	
			Major	Minor
Visual and Mechanical:	3.20	4.13		
Printed Circuits Assemblies:				
Microphone Amplifier (AR1)			0.65%	2.5%
Headset Amplifier (AR2)			0.65%	2.5%
Protective Device & Filter Assembly (VR1)			0.65%	2.5%
C-6533( )/ARC (less covers)			1.0%	4.0%
C-6533( )/ARC (assembled)			1.0%	4.0%
Electrical:				
Output, interphone	3.15.2	4.9.2		
Sidetone	3.15.3	4.9.3	*1.0% for the Combined group	
Response, microphone amp. (AR1)	3.15.4	4.9.4		
Distortion, microphone amp. (AR1)	3.15.5	4.9.5		
Audio output, microphone amp. (AR1)	3.15.8	4.9.8		
Audio output, headset amp. (AR2)	3.15.9	4.9.9		
Response, headset amp. (AR2)	3.15.10	4.9.10		
Distortion, headset amp. (AR2)	3.15.11	4.9.11		
Transmitter control	3.15.16	4.9.16		
Operational inspection	3.18	4.12	1.0%	

\*All electrical defects are considered major.

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4.5.2 Group B inspection. - This inspection, including sampling, shall conform to Table II and to the procedures for small sample inspection of MIL-STD-105 using the special inspection levels. The AQL shall be 6.5 percent defective and the inspection level shall be S4 for normal, tightened and reduced inspection. Group B inspection shall normally be performed on inspection lots that have passed Group A inspection and on samples selected from units that have been subjected to and met the Group A inspection.

4.5.3 Order of inspection within Group B. - Group B inspection shall be performed in any order which is satisfactory to the Government.

Table II. - Group B Inspection

Inspection	Req Para	Insp Para	AQL
Input power	3.15.1	4.9.1	6.5% for combined group
Attack and release time, AGC	3.15.6	4.9.6	
Break point and slope, AGC	3.15.7	4.9.7	
Isolation, monitor switches/audio lines	3.15.12	4.9.12	
Isolation, transmitter lines	3.15.13	4.9.13	
Transient protection	3.15.14	4.9.14	
Headset amp., unterminated	3.15.15	4.9.15	
Interchangeability (Mechanical)	3.19	4.11	6.5%
*Interchangeability (Electrical)	3.19	4.11	6.5%

\*Inspection shall be performed prior to assembly into the units.

4.5.4 Group C inspection. - This inspection shall be as listed in Table III and shall be performed on sample unit(s) that have been subjected to and met Group A and Group B inspections. No defects shall be allowed. Sample unit(s) shall be selected in accordance with 4.5.4.1.

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Table III. - Group C Inspection

Inspection	Rqt Para	Insp Para
<u>Subgroup I:</u>		
Weight	3.2.1	4.13.1
Voltage protection, low and reverse	3.14.10	4.8.10
Temperature-altitude	3.14.1	4.8.1
Relative humidity	3.14.2	4.8.2
Vibration	3.14.4	4.8.4
Shock	3.14.5	4.8.5
Benchhandling	3.14.5.1	4.8.5.1
Equipment	3.14.5.2	4.8.5.2
Dust	3.14.3	4.8.3
<u>Subgroup II:</u>		
Electromagnetic interference	3.16	4.10
Explosive proof	3.14.8	4.8.8
Acceleration	3.14.9	4.8.9
Fungus	3.14.6	4.8.6
Salt fog	3.14.7	4.8.7

4.5.4.1 Sampling for inspection. - Units shall be selected at random for each group of inspections in Table III as specified in 4.5.4.1.1 and 4.5.4.1.2. The first samples selected shall be from the first quality conformance inspection production lot(s). Selection of these samples shall be as specified and within 30 calendar days after selection the samples shall have been subjected to and completed the Group C inspections. (See 6.3)

4.5.4.1.1 Subgroup I. - For this subgroup, two units from the first forty (40) production units shall be selected for the first Group C inspection. For subsequent Group C inspection, two units from each successive 500, or two every three months if less than 500 are produced during three successive months, shall be selected.

4.5.4.1.2 Subgroup II. - For this subgroup, two units from the first forty (40) production units shall be selected for the first Group C inspection. For subsequent Group C inspection, two units from each successive 1000 or two when one-half of the units on order have been accepted by the Government QA representative if less than 1000 are on order, shall be selected.



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4.5.5 Reinspection of conforming Group C sample units. - Unless otherwise specified, sample units which have been subjected to and passed Group C inspection may be delivered on the contract or order, provided all damage is repaired, cleaned of all foreign matter, and the sample units are resubjected to and pass Group A inspection.

4.6 Combined Burn-In/Reliability. - Each unit on order shall be subject to and meet the Burn-In/Reliability requirements as specified in SC-A-678010. MIL-STD-781 shall apply as specified in this drawing.

4.7 Standard test conditions. - Unless otherwise specified herein, inspections shall be performed at room temperature of  $77 \pm 10^{\circ}\text{F}$  and humidity not to exceed 90 percent under the following conditions:

- a. Input power:  $27.5 \pm 0.5$  volts dc.
- b. Operational duty cycle: One (1) minute talk, five (5) minute listen.
- c. Warm-up time: Not more than 2 minutes.
- d. Output loads: Headset amp.; 8 ohms. Trans audio output; 150 ohms. (See 4.7g)
- e. Input loads: Audio lines and interphone; 150 ohms. (See 4.7g)
- f. Input load microphone: 5000 to 5 ohm pad. (See 4.7g)
- g. Connector (J1) Pins: LL, FF, RR, HH, KK, SS, PP, MM, EE, UU, VV, WW, DD, V, R, L, F and P are each terminated with a 150 ohm resistor to ground. Pins TT and XX terminated with 8 ohm resistor. Pins C and A terminated in a 5K to 5 ohm resistor pad with the 5 ohm resistor between pins C and A, pin C to the junction of the two resistors and the input applied through the 5K ohm resistor.
- h. Ground (J1): Pins M, Z and K jumpered to pin H.

4.8 Service conditions test. - The unit(s) shall be tested in accordance with MIL-T-5422, except as otherwise specified when any service condition requires a performance check the unit(s) shall meet the requirements of 3.15.8, 3.15.9 and 3.15.12. The unit(s) shall, except as otherwise specified, be subjected to and meet the requirements of 3.15.1 through 3.15.13 and 3.15.16 before and after each service conditions test. The unit(s) shall pass a visual and mechanical inspection at conclusion of each service conditions test for compliance with MIL-STD-810, Visual inspection and failure criteria, except as otherwise specified.

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4.8.1 Temperature-altitude. - Operate the unit(s) under standard test conditions and then subject the unit(s) to the operating, non-operating altitude and temperature range with supply voltage from 24 to 29 Vdc as specified in MIL-T-5422. These tests shall be performed to determine compliance with 3.14.1.

4.8.2 Relative humidity. - The unit(s) shall be subjected to and meet the humidity test of MIL-T-5422 for compliance with 3.14.2.

4.8.3 Dust. - The unit(s) shall be subjected to the dust test of MIL-STD-810, Method 510, Procedure 1 for compliance with 3.14.3.

4.8.4 Vibration. - The unit(s) shall be subjected to the vibration test of MIL-T-5422, and during these tests the noise on the transmitter output lines shall be measured with a 0.6 volt signal applied to pins C and A through the 5000 ohm to 5 ohm pad. A suitable filter shall be used between the output lines and the meter to measure only the output noise due to vibration modulation. These tests and measurements shall be made to determine compliance with 3.14.4.

4.8.5 Shock. -

4.8.5.1 Benchhandling. - The unit(s) shall be assembled for servicing and placed in a suitable position for servicing on a solid two-inch fir bench top. The test shall be performed as follows, in a manner simulating shocks liable to occur during servicing:

a. Tilt up the assembly through an angle of 30 degrees, using one edge of the assembly as an axis, and permit the assembly to drop back freely to the horizontal. Repeat, using other practicable edges of the same horizontal face as axis for a total of four drops.

b. Repeat a. with the assembly resting on other faces, until it has been dropped a total of four times on each face on which the assembly could be practically placed for servicing. Tests shall be performed before and after shock to insure compliance with 4.9.8 and 4.9.9 at supply voltage of 27.5 volts. These tests shall be made to determine compliance with 3.14.5.1.

4.8.5.2 Equipment. - The unit(s) shall be subjected to the shock tests of MIL-T-5422. These tests shall include the 30G Crash Safety Test and after this test the unit(s) shall be tested as required in 4.8 to determine compliance with 3.14.5.2.

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4.8.6 Fungus. - The unit(s), including accessories, shall be subjected to 28 days of fungus test specified in Method 508 of MIL-STD-810. No cleaning of the unit(s) is permitted for 72 hours prior to the fungus test. Handling prior and during testing shall be accomplished without contamination of the equipment. For gasket or other non-hermetically sealed equipment, the parts and materials of the chassis shall be sprayed with the spore suspension. The interior of the case shall also be sprayed and the unit(s) shall be subjected to the test in this open condition. There shall be abundant growth colonization (6.8) on 50 percent or more of the area of the control items after 14 and 28 days of test. At conclusion of the test the units shall be inspected in accordance with 3.14.6 and shall not be required to operate during or after the test.

4.8.7 Salt fog. - The unit(s), including accessories, shall be exposed in its normal operational condition to salt fog in accordance with Method 509 of MIL-STD-810 for 48 hours. The unit(s) shall not be opened and shall not be required to be operated during or after the test. The unit(s) shall meet the requirement of 3.14.7.

4.8.8 Explosive proof. - Unit(s) shall be tested for explosive proof in accordance with MIL-T-5422 for compliance with 3.14.8.

4.8.9 Acceleration. - The unit(s) shall be tested in accordance with Procedure III of MIL-E-5272, except that the acceleration shall be 6g. This test shall be made to determine compliance with 3.14.9.

4.8.10 Voltage protection, low and reverse. - Apply plus 17 and 29 volts dc to pin S and ground for 5 minutes at each voltage, and then apply 29 volts dc with plus to ground and negative to pin S for one (1) minute. The unit(s) shall meet the requirement of 3.14.10.

#### 4.9 Electrical tests. -

4.9.1 Input power. - With the unit(s) operating under standard test conditions except 29.0 Vdc shall be applied to pin S and ground. Jumper pin B to ground and apply 0.6 volts at 1.0KHz to 5000 ohm to 5 ohm pad connected to pins C and A and apply 2.75 volts to DD and ground. Adjust signal level for 1.25 volts across TT and XX. While these inputs are applied, measure the DC input current to determine compliance with 3.15.1.

4.9.2 Output, interphone. - Apply 0.6 volts at 1.0KHz to a 5000 ohm to 5 ohm pad connected to pins C and A, and set switch (S1) to ICS position. Jumper pin B to ground and measure the output voltage. Switch jumper to pin E and measure the output voltage at each position of switch (S1). Remove jumper and set switch (S2) to Hot Mike position and measure the output voltage. These measurements shall be made to determine compliance with 3.15.2.

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4.9.3 Sidetone. - Apply 0.6 volts at 1.0KHz to a 5000 ohm to 5 ohm pad connected to pins C and A, and set switch (S1) to ICS position. Jumper pin B and then pin E to ground and measure the output voltage across pins TT and XX. Remove the jumper and apply 2.75 volts reference signal to pin DD and ground. These output voltages shall be measured across TT and XX to determine compliance with 3.15.3.

4.9.4 Response, microphone amp. (AR1). - Set switch (S1) to ICS position, apply 0.1 volt at 1.0KHz to a 5000 ohm to 5 ohm pad connected to pins C and A and using the output level obtained across pin DD and ground as a reference level measure the frequency response from 300 to 6000 Hz and at 75Hz and 20,000Hz to determine compliance with 3.15.4.

4.9.5 Distortion, microphone amp. (AR1). - Apply 0.6 and then 4.0 volts at 1.0KHz to pins C and A through a 5000 ohm to 5 ohm pad and set selector switch (S1) to ICS position, place all monitor switches to OFF, volume control (R34) Max. CW and switch (S2) to Hot Mike position and measure the microphone amp. output distortion at each of the input voltages to determine compliance with 3.15.5.

4.9.6 Attack and release time, AGC. - Set selector switch (S1) to ICS position and switch (S2) to Hot Mike position and apply 1.34 volts at 1.0KHz to a 5000 ohm to 5 ohm pad connected to pins C and A and measure the output voltage across pin DD and ground for a reference level. Remove the input signal for 30 seconds and reapply the input signal voltage, measure the AGC attack time required for the output voltage to reach the reference level. Lower the input signal voltage to 0.1 volt more than the breakpoint and measure the output voltage for a reference level, increase the output voltage 10db, and then reduce the input signal voltage by 10db and measure the release time required for the output voltage to reach the reference level. These measurements shall be made to determine compliance with 3.15.6.

4.9.7 Breakpoint and slope, AGC. - Set selector switch (S1) to ICS position and apply 0.1 volt at 1.0KHz to a 5000 ohm to 5 ohm pad connected to pins C and A and measure the output voltage across pin DD and ground. Increase the input voltage to 0.2, 0.3, 0.5, 0.6, 1.0, 2.0 and 3.0 and measure the output voltages, compare the input - output voltages to determine the breakpoint. Utilizing the output voltage obtained with 0.5 volts input as a reference level, increase the input signal level to 5.0 volts and measure the output voltage, compare the input - output voltages to determine the slope. These comparisons shall be made to determine compliance with 3.15.7.

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4.9.8 Audio output, microphone amp. (AR1). - Apply 0.6 volts at 1.0KHz to a 5000 ohm to 5 ohm pad connected to pins C and A and set selector switch (S1) to position 1, jumper pin B to ground. Set the level adjust control (R29) to obtain 0.39 volts across pin V and ground. Measure the output voltage at pins R, L, F and P, with selector switch (S1) set to positions 2, 3, 4 and 5 to determine compliance with 3.15.8.

4.9.9 Audio output, headset amp. (AR2). - Connect 1.0KHz input level to pin DD and ground and in turn to pins EE, FF, HH, KK, LL, MM, PP, RR, SS, UU, VV and WW to obtain 1.25 volts output across pins TT and XX. The input voltages shall be measured to determine compliance with 3.15.9.

4.9.10 Response, headset amp. (AR2). - Connect 1.0KHz input at 2.75 volts to pin DD and ground and adjust volume control (R34) for a 0.2 volts output across pins TT and XX, maintain this output level as the frequency response is measured from 300 to 6000 Hz and at 75Hz and 20,000Hz to determine compliance with 3.15.10.

4.9.11 Distortion, headset amp. (AR2). - Apply 2.75 volts to each audio input line and set volume control (R34) to obtain 1.25V output across pins TT and XX, for each audio input line not controlled by the volume control adjust the input voltage to obtain 1.25 output. Measure the headsets amp. output distortion at the specified frequencies for compliance with 3.15.11.

4.9.12 Isolation, monitor switches/audio lines. - Set selector switch (S1) to ICS position, monitor switches S3 through S9 to OFF position, Hot Mike switch (S2) to OFF and volume control (R34) to maximum CW position. Apply a level at 1.0KHz to pin DD and ground to obtain 1.25 volts output across pins TT and XX. In turn apply the input to pins KK, SS, PP, MM, EE, UU, VV and WW and as each input is applied measure the output level relative to the 1.25V output. Set all monitor switches to ON position and apply 2.75V, 1.0KHz to pin LL and measure the output level at each audio input line including pin DD. In turn apply 2.75V, 1.0KHz to another audio line and measure the output level at the other audio lines. Repeat these measurements until all audio lines have been tested to determine compliance with 3.15.12.

4.9.13 Isolation, transmitter lines. - Set selector switch (S1) to position 1, jumper pin B to ground, and apply 2.75 volts at 1.0KHz to pin DD. Set output at pins TT and XX with volume control (R34) to 1.25 volts. In turn, apply the input level to pins LL, FF, RR, HH, KK, SS, PP, MM, EE, UU, VV and WW and measure the crosstalk level at pins V, R, L, F and P as the selector switch is changed from position 1 through 5. Apply 0.6 volts

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through a 5000 ohm to 5 ohm pad connected to pins C and A and measure 2.75 volts at pin DD. As the selector switch S1 is set through positions 1 through 5, measure the voltage level at pins X, T, N, J and BB. The cross-talk levels at the transmitter audio, and transmitter control lines shall be measured to determine compliance with 3.15.13.

4.9.14 Transient protection. - Under standard test conditions except apply a +80 volt pulse and a -80 volt pulse for a 0.2 second duration between pins S and M, apply each pulse three (3) times within one (1) minute as specified in MIL-STD-704 Category "B" to determine compliance with 3.15.14.

4.9.15 Headset amp., unterminated. - With input power applied and input signals removed, disconnect the 8 ohm load across pins TT and XX and monitor the amplifier output each time the switches and volume controls are operated to determine compliance with 3.15.15.

4.9.16 Transmitter control. - Jumper pins B and K, set selector switch S1 to position 1, and apply a plus DC voltage through a current limiting device to pin X, (Negative to pin M) to obtain 1.0 ampere. In turn set switch S1 to positions 2 through 5 as the DC voltage is applied to pins T, N, J and BB. These current measurements shall be made to determine compliance with 3.15.16.

4.10 Electromagnetic interference. - The unit(s) shall be tested in accordance with Methods CE 01, CE 03, CS 01, CS 02, CS 06, RE 02 and RS 03 of MIL-STD-462 except as otherwise specified. The unit(s) controls shall be adjusted as defined except as may be required to simulate special conditions: S1 to ICS, S2 to Hot Mike, S3 through S9 to ON, volume control full clockwise position. The length of interconnecting cable shall be approximately six (6) feet. All emission tests (CE 01, CE 03 and RE 02) shall be conducted with a maximum input/output signal processed through the audio channels.

4.10.1 Audio susceptibility, CS 01, (AVC Hold). - The unit(s) shall be tested in accordance with Method CS 01. The interphone output (DD/Z) shall be monitored with a scope and any deviation from normal output +3db shall be recorded. In addition to the above, the noise output on headset and interphone lines shall be measured. These tests and measurements shall be made to determine compliance with 3.16.1.

4.10.2 Conducted susceptibility, CS 02. - The unit(s) shall be tested in accordance with Method CS 02. The requirements of 3.16.2 shall be met.

4.10.3 Radiated susceptibility, RS 03. - The unit(s) shall be tested in accordance with Method RS 03. The requirements of 3.16.3 shall be met.



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4.10.4 Radiated susceptibility, (induction field). - Set the unit(s) to be tested six (6) inches directly above a wire which shall be placed parallel to the front of the unit and 1.25 inches behind the front panel. Connect the wire to a 400Hz power source and adjust the current to 5 amps, rms. Set the unit controls as in 4.10.2 and 4.10.3 and measure the output levels to determine compliance with 3.16.4.

4.10.5 Ripple, D.C. line. - The unit(s) shall be tested in accordance with CS 01, except that the higher input levels of 3.16.5 shall be applied. The requirements of 3.16.5 shall be met.

4.11 Interchangeability. - The mechanical dimensions and electrical performance of parts shall be physically and electrically interchangeable among the unit(s). Mechanical dimensions and electrical performance required by the gage drawings and equipment drawings shall be measured to determine conformance with physical and functional interchangeability requirements of 3.19. When a listed dimension or performance requirement is not within specified limits, it shall be considered a major defect. The following dimensions or performance shall be gaged or measured:

a. Mechanical (dimensions). - The gage points covered by the following gage list shall apply: SC-GL-323362.

b. Electrical performance (assemblies). - Assemblies shall be tested to determine compliance with the applicable performance requirements specified on the equipment drawings for AR1, AR2 and VR1.

4.12 Operational inspection. - Each unit(s) shall be connected with at least two other units (C-6533( )/ARC) to form an operational system. (Substitution of simulated additional units is permissible when operational conditions are accurately duplicated. The substituted fixture shall be approved by the procuring activity.) A talk test shall be performed to determine compliance with 3.18. The unit(s) shall be operated in all modes of operation. All switches and volume control shall be operated and perform their normal functions.

4.13 Visual and mechanical inspection. - Unit(s) shall be examined for the defects listed in MIL-STD-252. Prior to assembly into the unit(s) printed circuit boards shall be examined in accordance with MIL-P-55110, MIL-STD-252 and the drawings. These inspections shall be performed to determine compliance with 3.20.

4.13.1 Weight. - The unit(s) shall be weighed to determine compliance with 3.2.1.

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4.14 Quality conformance inspection of preparation for delivery. - Preparation for delivery shall be inspected in accordance with MIL-P-116 to determine conformance with the packaging requirements.

4.15 Rough handling test (preparation for delivery). - When rough handling test in accordance with MIL-P-116 is required by the contract the operational inspection test 4.12, shall be conducted to determine freedom from operational malfunction caused by rough handling.

## 5. PREPARATION FOR DELIVERY

5.1 Preservation and packaging. - Preservation and packaging shall be Level A or C, as specified. (See 6.2)

### 5.1.1 Level A. -

5.1.1.1 Cleaning. - Control, Communications System C-6533( )/ARC shall be cleaned in accordance with process C-1 of MIL-P-116.

5.1.1.2 Drying. - Control, Communications System C-6533( )/ARC shall be dried in accordance with the applicable procedure of MIL-P-116.

5.1.1.3 Preservation application. - None required.

5.1.1.4 Unit packaging. - Each Control, Communications System C-6533( )/ARC shall be individually packaged in accordance with Items 1 through 4 of Figure 1 and Table IV. (See 6.5 and 6.6)



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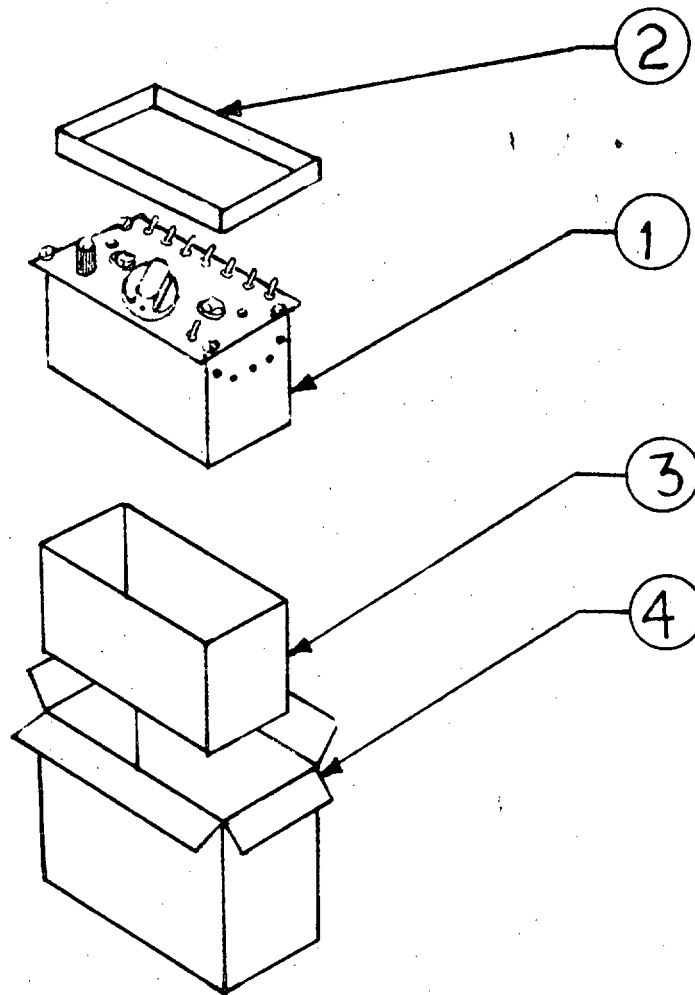


Figure 1. Control, Communication System C-6533( )/ARC

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BILL OF MATERIALS  
TABLE IV

REF No.	ITEM Nomenclature	No. Reqd	Method MIL-P-116	SIZE - INCHES			REQUIREMENT				
				L	W	D	Spec No.	T	C	V	G
1	Control, Com- munication System C-6533( )/ARC	1	III	5-3/4	2-5/8	4-3/4	(Bare wt. 1.9 lbs.)				
2	Sleeve, Top	1		5-1/2	2-3/8	1-1/8	PPP-F-320	CF	WR	SW	W6c
3	Sleeve, Body	1		5	2-1/2	3-3/4	PPP-F-320	CF	WR	SW	W6c
4	Box, Fiber- board	1		5-7/8	3	5-1/8	PPP-B-636	CF	WR	SW	W6c
T - Type    C - Class    V - Variety    G - Grade    S - Style											

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5.1.2 Level C. - Control, Communications System C-6533( )/ARC shall be preserved and packaged in a manner that will afford adequate protection against physical and environmental damage during shipment, handling and limited intransit storage.

5.2 Packing. - Packing shall be Level A, B or C as specified. Shipping containers for all levels shall be capable of stacking and supporting superimposed loads during shipment and storage without damaging the container(s) or its contents. (See 6.2)

5.2.1 Level A. -

5.2.1.1 Consolidation. - A quantity of Control, Communications System C-6533( )/ARC, packaged as specified in 5.1, shall be packed within a close-fitting fiberboard box conforming to PPP-B-636, type CF, class weather-resistant. Box closure shall be as specified in the appendix of the box specification. To facilitate palletization, fiberboard boxes shall be uniform in size and contain equal quantities of the packaged items to the greatest extent practicable.

5.2.1.2 Palletized load. - A quantity of containers, packed as specified in 5.2.1.1, shall be placed on a pallet, load type I, conforming to MIL-STD-147 except that the pallet shall be softwood conforming to NN-P-71, type IV, size 2. A fiberboard cap shall be employed over the load having two sides extending down the stacked load at least 12 inches to accommodate marking requirements. The cap shall be fabricated of fiberboard conforming to PPP-F-320, class weather-resistant, W5s or V3c. The load shall be "bonded" to the pallet by strapping conforming to QQ-S-781, type I, finish A or shrink film.

5.2.1.3 Less than palletized load. - When quantities per destination are less than a pallet load, the containers packed as specified in 5.2.1.1 shall be waterproofed, with tape conforming to PPP-T-76, in accordance with the taping requirements of the appendix of the box specification. A quantity of the waterproofed containers shall be packed within a close-fitting box conforming to PPP-B-601, overseas type; PPP-B-621, style 4, class 2 or PPP-B-585, style 2 or 3, class 3. When the gross weight exceeds 200 pounds, or the container length and width is 48 x 24 inches or more and the weight exceeds 100 pounds, 3 x 4 inch skids, laid flat, shall be applied in accordance with the requirements of the container specification, or if not specified in the specification, in a manner which will adequately support the item and facilitate the use of material handling equipment. Closure and strapping shall be in accordance with the applicable container specification or appendix thereto except that metal strapping shall conform to QQ-S-781, type I, finish A.

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5.2.2 Level B. -

5.2.2.1 Consolidation. - A quantity of Control, Communications System C-6533( )/ARC, packaged as specified in 5.1, shall be packed as specified in 5.2.1.1.

5.2.2.2 Palletized load. - A quantity of containers, packed as specified in 5.2.2.1, shall be palletized as specified in 5.2.1.2.

5.2.2.3 Less than palletized load. - When quantities per destination are less than a pallet load, the containers packed as specified in 5.2.2.1 shall be reinforced by pressure-sensitive filament tape conforming to PPP-T-97, type IV as specified in the appendix of the box specification. No further packing shall be required.

5.2.3 Level C. -

5.2.3.1 Consolidation. - A quantity of Control, Communications System C-6533( )/ARC, packaged as specified in 5.1, shall be packed as specified in 5.2.1.1, except that the fiberboard boxes shall be class domestic.

5.2.3.2 Palletized load. - A quantity of containers, packed as specified in 5.2.3.1, shall be palletized as specified in 5.2.1.2, except that the fiberboard cap shall be class domestic.

5.2.3.3 Less than palletized load. - When quantities per destination are less than a pallet load, the containers packed as specified in 5.2.3.1 shall be used as the shipping container. No further packing shall be required.

5.3 Marking. - In addition to any special marking required by the contract or order, interior packages and exterior shipping containers shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. - Control, Communication System C-6533( )/ARC is intended for use by the pilot, copilot or crew to provide control of radio equipments for voice transmission and reception, Direction Finding equipment and intercommunication when installed in aircrafts.

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

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

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- b. Levels of preservation, packaging and packing required. (See Section 5)
- c. When rough handling is required.
- d. First article inspection:
  - (1) Several first article unit(s) are generally required so that lengthy environmental tests can be completed on specified sample units while complete performance measurements can be made on one sample unit. (See 3.3)
  - (2) First article pack(s) as follows:
    - Makeup of pack(s).
    - Number of each kind of pack to be submitted.
    - Inspection to be performed thereon, (including rough handling).
- e. Marking and shipping of sample of first article samples and production unit(s).
- f. Place of final inspection.
- g. Submission of the statement of treatment referenced in 3.13.

6.3 Group C inspection. - Approval to ship unit(s) on order may be withheld, at the discretion of the Government pending decision from the procuring activity, until compliance with 4.5.4.1 is complete.

6.4 Nomenclature. - The parentheses in the nomenclature will be deleted or replaced by a letter identifying the particular design; for example: C-6533W/ARC. The contractor should apply for nomenclature in accordance with the applicable clause in the contract. (See 1.1)

6.5 Deviations. - Request for deviations in packaging and packing design shall be supported by test data proving the ability of the equipment, packaged and packed in accordance with the proposed design change, to withstand the applicable tests for the selected method, including the rough handling tests in accordance with MIL-P-116. Deviation approval shall be contingent on availability of packaging and packing materials selected and economics realized. (See Section 5)

6.6 Dimensional data. - Dimensions of packaging materials in the Bill of Materials Table are based on the dimensions of the equipment cited in the table. When dimensions of the items vary, the dimensions of the packaging materials shall be adjusted accordingly.

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6.7 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 by the Government will be adjusted to make maximum utilization of the contractors quality control system and the quality history of the product.

6.8. Definitions. -

6.8.1 Branching. - Branching is a connected arrangement of filaments (hyphae) formed by shoots or secondary stems growing from the main stem or filament (hyphae).

6.8.2 Growth colonization. - Growth colonization is a mass of individual plants, generally of one species, living together; or a group of hyphae which is formed from one spore or cell and may be one individual plant. Colonization which completely covers the surface of the nutrient material constitutes abundant growth.

6.8.3 Microbial growth. - Microbial growth is the growth of very minute organism. Such organisms when present in large numbers may provide a colony visible to the naked eye.

6.8.4 Sporulation. - Sporulation is the formation of minute unicellular reproductive or dormant bodies, called spores.

6.8.5 Tubular germination. - Tubular germination is partial growth by the production of hyphae, which are tubular shaped fungal filaments. Tubular germination constitutes restricted individual spore growth not proceeding to colonization.

Custodian:  
Army (EL)

Preparing activity:  
Army (EL)  
Project No. 5821-A121

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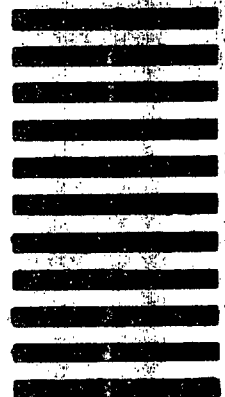
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