

C-5000 COMMUNICATION MANAGEMENT CONTROLLER INSTALLATION MANUAL

NOTES:

1. (WARNING, PERFORMANCE IS MARGINAL BELOW 50 MHz. FOR IMPROVED PERFORMANCE IN THE 30 - 50 MHz REGION. SEE THE AT-550 OR AT-5000 ANTENNA).

2. SPECIFICATIONS:

2.1 ELECTRICAL:

2.1.1 FREQUENCY RANGE:	LOW SPLIT: 29.7 - 400 MHz HIGH SPLIT: 400 - 960 MHz
2.1.2 IMPEDANCE:	50 OHMS
2.1.3 VSWR:	2.5:1 MAX
2.1.4 RF POWER:	LOW SPLIT 25W DSBAM HIGH SPLIT: 25W CW
2.1.5 POLARIZATION:	VERTICAL
2.1.6 RADIATION PATTERN:	OMNIDIRECTIONAL IN AZIMUTH
2.1.7 SPEC. GAIN:	30 MHz: -21 dBi 60 MHz: -21 dBi 88 MHz: -12 dBi 108-174 MHz: -3 dBi AV 225-960 MHz: 0.0 dBi AV

2.2 MECHANICAL:

2.2.1 WEIGHT:	2.7LBS (1.22kg) MAX
2.2.2 FINISH:	WHITE PER FED-STD-595

2.3 ENVIRONMENTAL, DESIGNED TO MEET:

2.3.1 TEMPERATURE:	-55° C TO +70° C
2.3.2 VIBRATION:	MIL-E-5400, CURVE IIIB
2.3.3 ALTITUDE:	40,000 FT
2.3.4 SHOCK:	MIL-STD-810E; METH.516.4; PROC. (20G,11ms)
2.3.5 CSD:	COMPASS SAFE DISTANCE IS LESS THAN 12 INCHES.

3. LABEL MUST SHOW THE FOLLOWING INFORMATION:
ANTENNA: AT-150
WULFSBERG ELECTRONICS DIVISION
P/N: 153-017822-01 (FOR DAYTON GRANGER)
S.N.: (SERIAL NO. TO BE SUPPLIED BY MFR.)
MFR.: NAME AND MFR. PART NUMBER

4. INSTALLATION REQUIRES A 1.38 DIA. MIN. CLEARANCE HOLE IN THE AIRCRAFT SKIN FOR THE FEMALE "N" CONNECTOR MOUNTED ON THE ANTENNA. A .94 DIA. HOLE IS ALSO REQUIRED TO CLEAR THE FEMALE "TNC" CONNECTOR. THE INSTALLER MAY DESIRE TO USE LARGER HOLES TO CLEAR THE MALE CABLE CONNECTORS OR TO ALLOW FOR HOLE LOCATION TOLERANCES. MOUNT ANTENNA WITH NO. 10 SCREWS.

5. DIMENSIONS SHOWN FOR REFERENCE ONLY.

6. APPROVED VENDORS: DAYTON-GRANGER INC., P/N 720057.

7. ALUMINUM BASEPLATE, UNPAINTED, MUST MAKE GOOD ELECTRICAL CONTACT WITH AIRFRAME. ANTENNA SHOULD BE MOUNTED ON NEAR FLAT SURFACE USING R.F. GASKET.

8. SUPPLIED WITH A SILICONE RUBBER CONDUCTIVE GASKET. REPLACEMENT GASKET W.E.D. P/N: 146-017822-01.

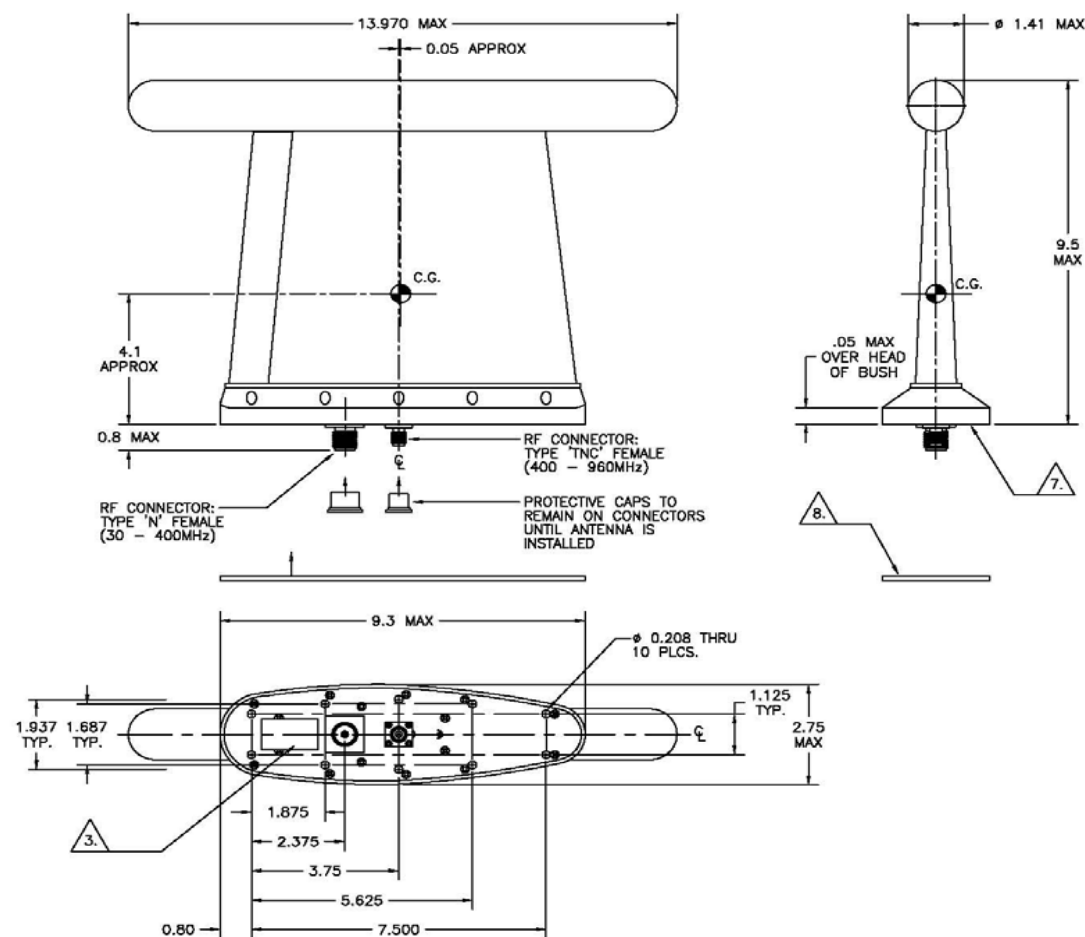


Figure 3-10. AT-150 Envelope Drawing (Sheet 1 of 1)
Dwg No. 153-017822, Rev G

C-5000 COMMUNICATION MANAGEMENT CONTROLLER INSTALLATION MANUAL

NOTES:

1. SPECIFICATIONS:
 - 1.1 ELECTRICAL:
 - 1.1.1 FREQUENCY RANGE: 29.7 - 400 MHz
 - 1.1.2 VSWR: 30 - 88 MHz 2.5:1 MAX
108 - 117 MHz 3.0:1 MAX
118 - 174 MHz 2.5:1 MAX
225 - 400 MHz 2.5:1 MAX
 - 1.1.3 RADIATION PATTERN: OMNIDIRECTIONAL IN AZIMUTH
 - 1.1.4 POLARIZATION: VERTICAL
 - 1.1.5 IMPEDANCE: 50 OHMS
 - 1.1.6 POWER: 20 WATTS (CW)
 - 1.1.7 GAIN: -11dBi AT 30 MHz MIN
-6 dBi AT 88 MHz MIN
0 dBi AT 108 - 174 MHz AVG
+2 dBi AT 225 - 400 MHz AVG
 - 1.2 MECHANICAL:
 - 1.2.1 WEIGHT: 4.77 LBS (2.17 KG) MAX.
 - 1.2.2 MATERIAL: GLASS REINFORCED PLASTIC OUTER SHELL
 - 1.2.3 FINISH: SKYDROL RESISTANT GLOSS WHITE EPOXY (DEF. STAN. 80-161).
WITH ANTI-EROSION STRIP ON LEADING EDGE. NO DECAL
 - 1.2.4 CONNECTORS: RF PORT: TYPE 'N' FEMALE;
LOGIC PORT (DC CONN.):
IT CANNON CONNECTOR KPT-00-A-12-10P M/W
MATING PLUG KPT-05-A-12-10S OR EQUIV
 - 1.3 ENVIRONMENTAL:
 - 1.3.1 TEMPERATURE: -54° C TO +71° C OPERATING
-62° C TO +85° C NON OPERATING
 - 1.3.2 VIBRATION: MIL-STD-810C, METHOD 514.2, FIG. 514.2-2 CURVE M
 - 1.3.3 ALTITUDE: 50, 000 FEET
 - 1.3.4 SHOCK: MIL-STD-810C, METHOD 516.2 PROC. 1, FIG. 516.2-2
 - 1.3.5 SIDE LOAD: 3.25 P.S.I. (PROOF) 4.0 P.S.I. (ULTIMATE)
2. C.S.D.: COMPASS SAFE DISTANCE IS LESS THAN 12 INCHES
3. REFER TO WEEDS DATA BASE FOR CURRENT VENDOR INFORMATION.
4. THIS ANTENNA MUST BE USED WITH WULFSBERG P/N 153-016586-01 LOGIC CONVERTER, (FC-50) OR EQUIVALENT
5. LABEL MUST SHOW THE FOLLOWING INFORMATION:
WULFSBERG ELECTRONICS DIVISION
ANTENNA AT-50
W.E.D. P/N 121-016587-01
SERIAL NO. _____ (SERIAL NO. TO BE SUPPLIED BY VENDOR)
MANUFACTURERS NAME AND P/N.
6. INSTALLATION KIT COMPRISING 2 BLANKING PLUGS (CHELTON P/N 8021-138) AND INSTRUCTION LEAFLET IS INCLUDED WITH EACH ANTENNA
7. WITH ANTENNA INSTALLED ON TOP SURFACE, IE. UPRIGHT MOUNTING, AS DRAWN, DRAIN HOLES AT SMALLER END OF ANTENNA SHOULD BE PLUGGED USING PLUGS (CHELTON P/N 8021-138) AND RTV. DRAINAGE HOLES IN ANTENNA BASE FLANGE AT MOUNTING FACE MUST NOT BE OBSTRUCTED.
8. WITH ANTENNA INSTALLED ON UNDERSIDE OF AIRCRAFT, IE. INVERTED MOUNTING, DRAIN HOLES AT SMALLER END OF ANTENNA MUST NOT BE OBSTRUCTED. DRAIN HOLES AT ANTENNA BASE FLANGE SHOULD BE PLUGGED USING PLUGS (CHELTON P/N 8021-138) AND RTV. BASE FLANGE AT MOUNTING FACE SHOULD BE SEALED BY APPLYING A SMALL FILLET OF RTV.
9. ALUMINUM ALLOY BASEPLATE MUST REMAIN UNPAINTED. MANUFACTURER CHROMATE FILM CONVERSION TO DEF. STAN. 03-18. MUST MAKE GOOD ELECTRICAL CONTACT WITH AIRFRAME. ANTENNA SHOULD BE MOUNTED ON A FLAT SURFACE USING CONDUCTIVE GASKET, WULFSBERG P/N: 146-016959-01, SUPPLIED WITH ANTENNA.
10. SUPPORTING DOCUMENTS: SIGNAL DIAGRAM, 152-116585
11. DIMENSIONS SHOWN FOR REFERENCE ONLY
12. INSTALLATION REQUIRES A 1.0 DIAMETER MIN CLEARANCE HOLE IN THE AIRCRAFT SKIN FOR THE FEMALE "N" CONNECTOR MOUNTED ON THE ANTENNA. THE INSTALLER MAY DESIRE TO USE A LARGER HOLE TO CLEAR THE MALE "N" CABLE CONNECTOR OR TO ALLOW FOR HOLE LOCATION TOLERANCE. MOUNT ANTENNA WITH NO. 10 SCREWS.
12.1 INSTALLATION ALSO REQUIRES A 1.14 DIAMETER MIN CLEARANCE HOLE ON THE AIRCRAFT SKIN FOR THE DC CONNECTOR.
13. PROTECTIVE CAPS TO REMAIN FITTED UNTIL ANTENNA IS INSTALLED.

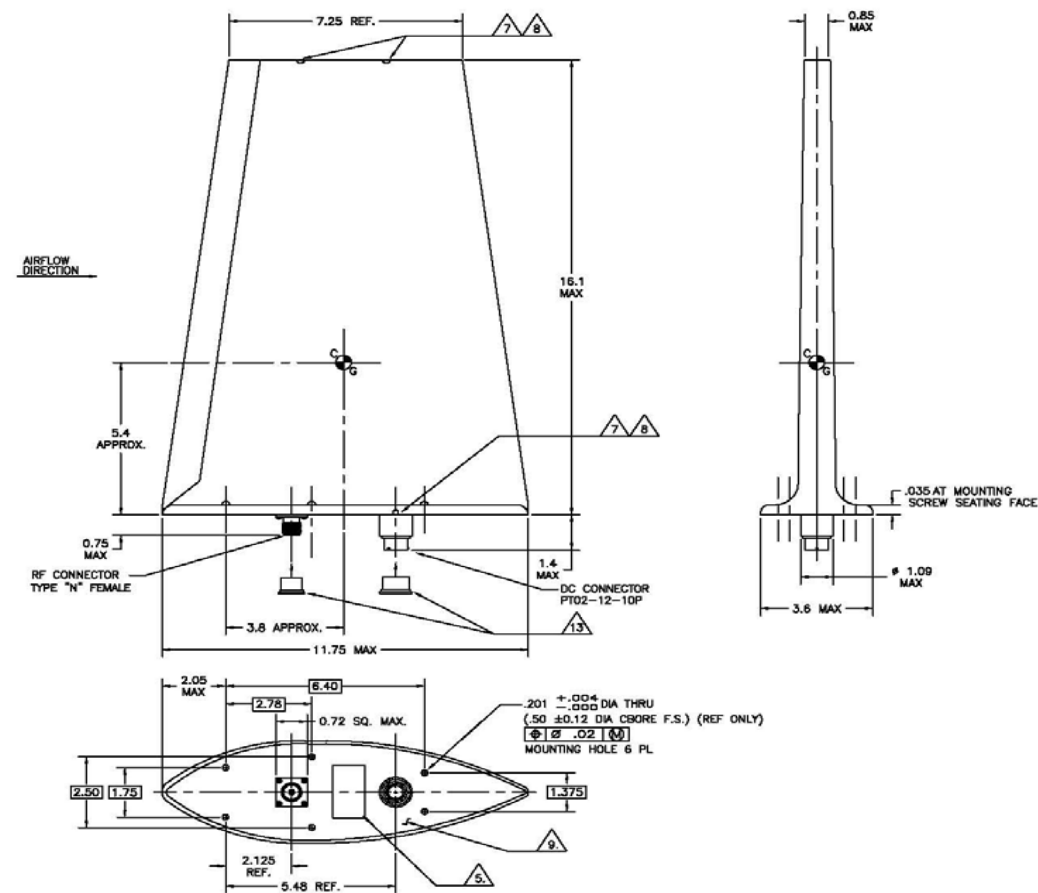


**Figure 3-11. AT-50 Envelope Drawing (Sheet 1 of 1)
Dwg No. 121-016587, Rev K**

**C-5000 COMMUNICATION MANAGEMENT CONTROLLER
INSTALLATION MANUAL**

NOTES:

1. SPECIFICATIONS:

1.1 ELECTRICAL:

1.1.1	FREQUENCY RANGE:	29.7 - 400 MHz
1.1.2	VSWR: 2.5:1 MAX	
1.1.3	RADIATION PATTERN:	OMNIDIRECTIONAL
1.1.4	POLARIZATION:	VERTICAL
1.1.5	IMPEDANCE:	50 OHMS
1.1.6	POWER:	15 WATTS (CW)
1.1.7	GAIN:	-14dBi AT 30 MHz MIN -7dBi AT 88 MHz MIN -3dBi AT 108 - 174 MHz AVG 0dBi AT 225 - 400 MHz AVG

1.2 MECHANICAL:

1.2.1	WEIGHT:	3.1 LBS MAX (1.35 KG)
1.2.2	MATERIAL:	GLASS REINFORCED PLASTIC
1.2.3	FINISH:	OUTER SHELL S.S. TUBE SKYDROL RESISTANT EPOXY GLOSS WHITE, TO DEF. STAN. 80-161, WITH ANTI-EROSION STRIP ON LEADING EDGE. NO DECAL
1.2.4	CONNECTORS:	RF PORT: TYPE N FEMALE LOGIC PORT (DC CONN): BENDIX P/N: PT02-12-10P OR ITT CANNON P/N: KPT-00-A-12-10P NATES WITH ITT CANNON PLUG: KPT-06-A-12-10S OR EQUIV

1.3 ENVIRONMENTAL:

1.3.1	TEMPERATURE:	OPERATING: -54° C TO +71° C NON-OPERATING: -62° C TO +85° C
1.3.2	VIBRATION:	MIL-STD-810C, METHOD 514.2, FIG 514.2-2, CURVE M
1.3.3	ALTITUDE:	50,000 FT
1.3.4	SHOCK:	MIL-STD-810C, METHOD 516.2, PROC 1 FIG 516.2-2
1.3.5	SIDE LOAD:	3.25 PSI (PROOF), 4.0 PSI (ULTIMATE)

2. CSD: COMPASS SAFE DISTANCE IS LESS THAN 12 INCHES

3. REFER TO WEEDS DATA BASE FOR CURRENT VENDOR INFORMATION.

WED DASH NO.	COLOR
-01	WHT
-02	BLK

4. THIS ANTENNA MUST BE USED WITH WED P/N 153-016586-01

LOGIC CONVERTER (FC-50) OR EQUIV

5. LABEL MUST SHOW THE FOLLOWING INFORMATION:

ANTENNA AT-51
WULFSBERG ELECTRONICS
P/N: 121-016796-01 (WHT) OR 121-016796-02 (BLK)
SERIAL NO. (SERIAL NO. TO BE SUPPLIED BY VENDOR)
MFR. NAME AND PART NUMBER

6. UNPAINTED ALUMINUM BASE MUST MAKE GOOD ELECTRICAL
CONTACT WITH AIRFRAME USING CONDUCTIVE RF GASKET
(WULFSBERG P/N 148-016960-01) SUPPLIED WITH ANTENNA.

7. SUPPORTING DOCUMENTS: SIGNAL DIAGRAM 152-116585.

8. DIMENSIONS SHOWN FOR REF ONLY.

9. INSTALLATION REQUIRES A 1.0 DIA MIN CLEARANCE
HOLE IN THE AIRCRAFT SKIN FOR THE FEMALE "N"
CONNECTOR MOUNTED ON THE ANTENNA. THE INSTALLER
MAY DESIRE TO USE A LARGER HOLE TO CLEAR THE MALE
"N" CABLE CONNECTOR OR TO ALLOW FOR HOLE LOCATION
TOLERANCE. MOUNT ANTENNA WITH NO. 10 SCREWS.
9.1 INSTALLATION ALSO REQUIRES A 1.14 DIA MIN CLEARANCE HOLE
IN THE AIRCRAFT SKIN FOR THE DC CONNECTOR.

10. WITH ANTENNA INSTALLED ON TOP SURFACE, I.E. UPRIGHT MOUNTING, AS
DRAWN. DRAIN HOLES AT SMALLER END OF ANTENNA SHOULD BE PLUGGED USING
PLUGS (CHELTON P/N 8021-138) AND RTV. DRAINAGE HOLES IN ANTENNA BASE
FLANGE AT MOUNTING FACE MUST NOT BE OBSTRUCTED.

11. WITH ANTENNA INSTALLED ON UNDERSIDE OF AIRCRAFT, I.E. INVERTED
MOUNTING, DRAIN HOLES AT SMALLER END OF ANTENNA MUST NOT BE OBSTRUCTED.
DRAIN HOLES AT ANTENNA BASE FLANGE SHOULD BE PLUGGED USING PLUGS
(CHELTON P/N 8021-138) AND RTV. BASE FLANGE AT MOUNTING FACE SHOULD
BE SEALED BY APPLYING A SMALL FILLET OF RTV.

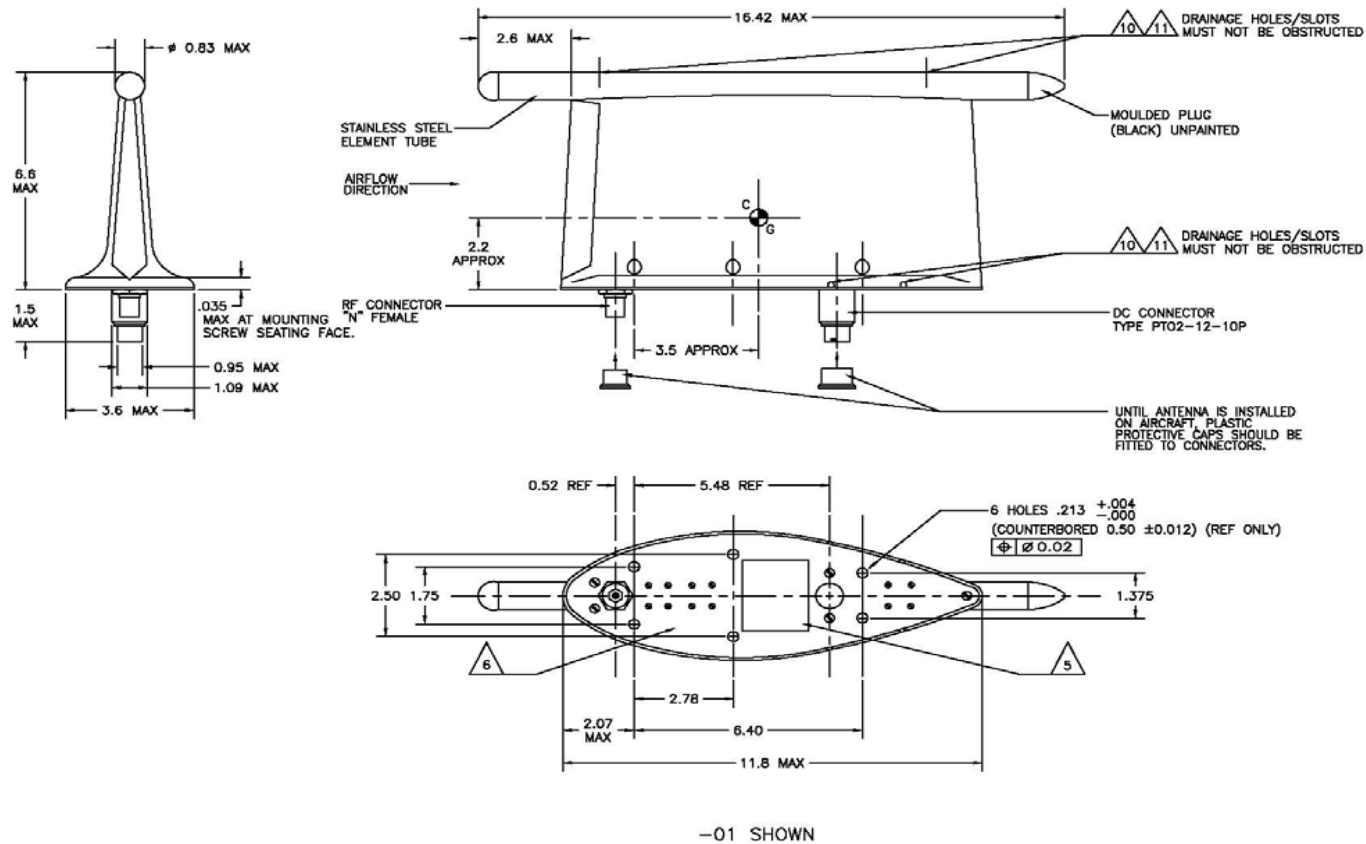


**Figure 3-12. AT-51 Envelope Drawing (Sheet 1 of 1)
Dwg No. 121-016796, Rev J**

C-5000 COMMUNICATION MANAGEMENT CONTROLLER INSTALLATION MANUAL

NOTES:

(WARNING — PERFORMANCE IS MARGINAL BELOW 50 MHz. FOR IMPROVED PERFORMANCE IN THE 30 — 50 MHz REGION, SEE AT-50 OR AT-51 ANTENNAS.)

1. SPECIFICATIONS:

1.1 ELECTRICAL:

1.1.1 FREQUENCY RANGE:	29.7 — 400 MHz.
1.1.2 IMPEDANCE:	50 OHMS
1.1.3 VSWR:	2.5:1 AT 30-88 MHz MIN 5.0:1 AT 108-117 MHz MIN 2.5:1 AT 118-174 MHz AVG 2.0:1 AT 225-400 MHz AVG
1.1.4 POWER:	50 WATTS (CW).
1.1.5 POLARIZATION:	VERTICAL.
1.1.6 RADIATION PATTERN:	OMNIDIRECTIONAL IN AZIMUTH.
1.1.7 GAIN:	30 MHz: -22.5 dBi 88 MHz: -10 dBi 108 — 174 MHz: -2 dBi 225 — 400 MHz: +2 dBi

1.2 MECHANICAL:

1.2.1 WEIGHT:	4.0 LBS MAX (1.8KG).
1.2.2 SIDE LOADING:	3.25 P.S.I. (PROOF), 4.0 P.S.I. (ULTIMATE).
1.2.3 FINISH:	GLOSS WHITE EPOXY, TO DTD5555 WITH ANTI-EROSION STRIP ON LEADING EDGE. NO DECAL.

1.3 ENVIRONMENTAL:

1.3.1 TEMPERATURE:	-54° C TO +71° C OPERATING -62° C TO +85° C NON OPERATING.
1.3.2 VIBRATION:	MIL-STD-810C, METHOD 514.2, FIG. 514.2-2, CURVE H.
1.3.3 ALTITUDE:	50,000 FT.
1.3.4 SHOCK:	MIL-STD-810C, METHOD 5.16.2, PROC. 1, FIG. 516.2-2.
1.3.5 SIDE LOAD:	3.25 P.S.I. (PROOF), 4.0 P.S.I. (ULTIMATE)

2. LABEL MUST SHOW THE FOLLOWING INFORMATION:

ANTENNA AT-140
WULFSBERG ELECTRONICS DIVISION
W.E.D. P/N 121-016584-01
S/N _____ (SERIAL NO. TO BE SUPPLIED BY VENDOR)
MANUFACTURERS NAME AND P/N.

3. INSTALLATION REQUIRES A 1.0 DIA. MIN. CLEARANCE HOLE IN THE AIRCRAFT SKIN FOR THE FEMALE "N" CONNECTOR MOUNTED ON THE ANTENNA. THE INSTALLER MAY DESIRE TO USE A LARGER HOLE TO CLEAR THE MALE "N" CABLE CONNECTOR OR TO ALLOW FOR HOLE LOCATION TOLERANCE. MOUNT ANTENNA WITH NO. 10 SCREWS.

4. DIMENSIONS SHOWN ARE NOMINAL AND ARE FOR REFERENCE ONLY.

5. REFER TO WEEDS DATA BASE FOR CURRENT VENDOR INFORMATION.

6. UNPAINTED ALUMINUM BASE MUST MAKE GOOD ELECTRICAL CONTACT WITH AIRFRAME USING CONDUCTIVE RF GASKET (WED P/N 146-016961-01) SUPPLIED WITH ANTENNA.

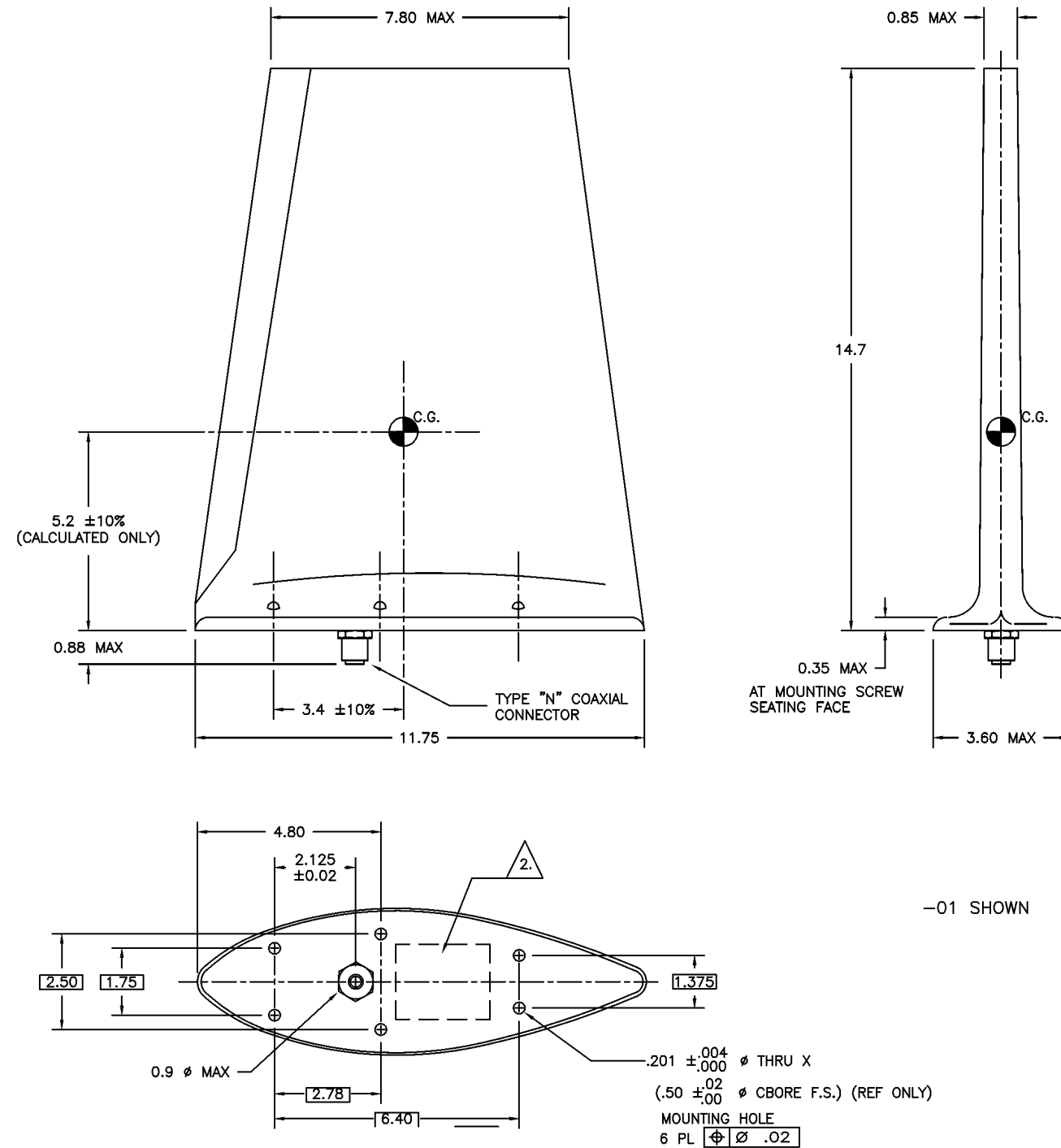
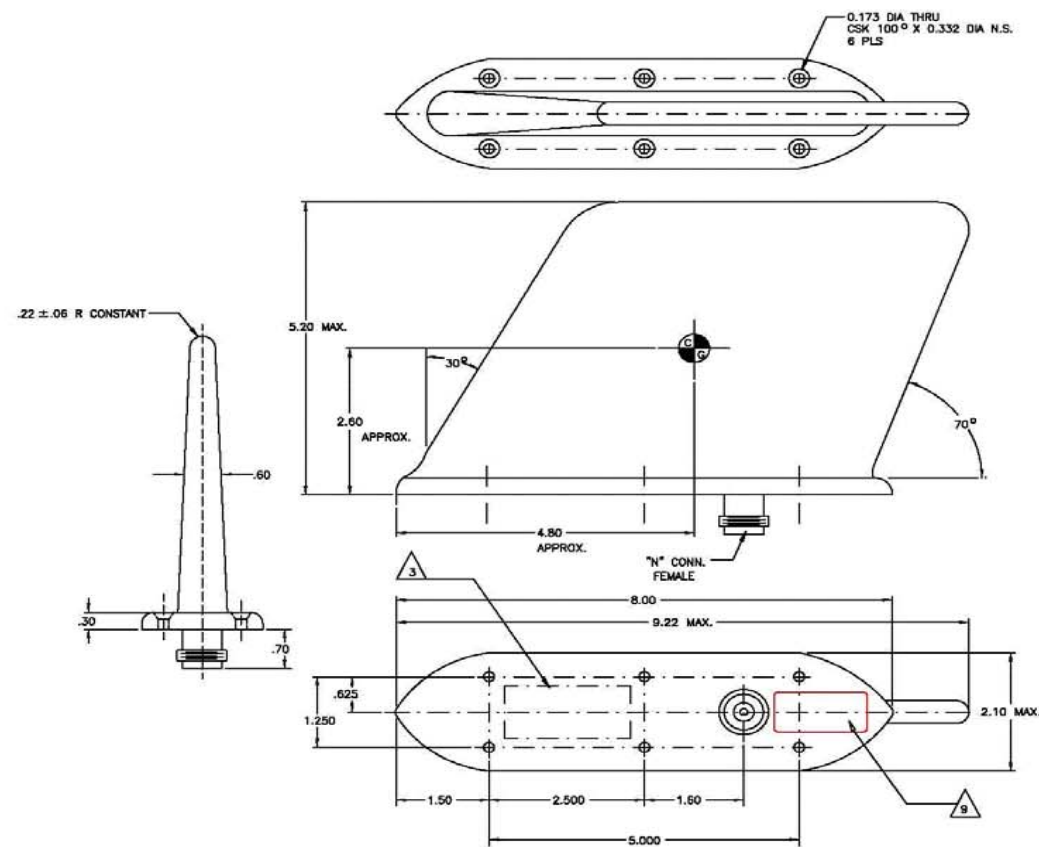


**Figure 3-13. AT-140 Envelope Drawing (Sheet 1 of 1)
Dwg No. 121-016584, Rev G**

C-5000 COMMUNICATION MANAGEMENT CONTROLLER
INSTALLATION MANUAL



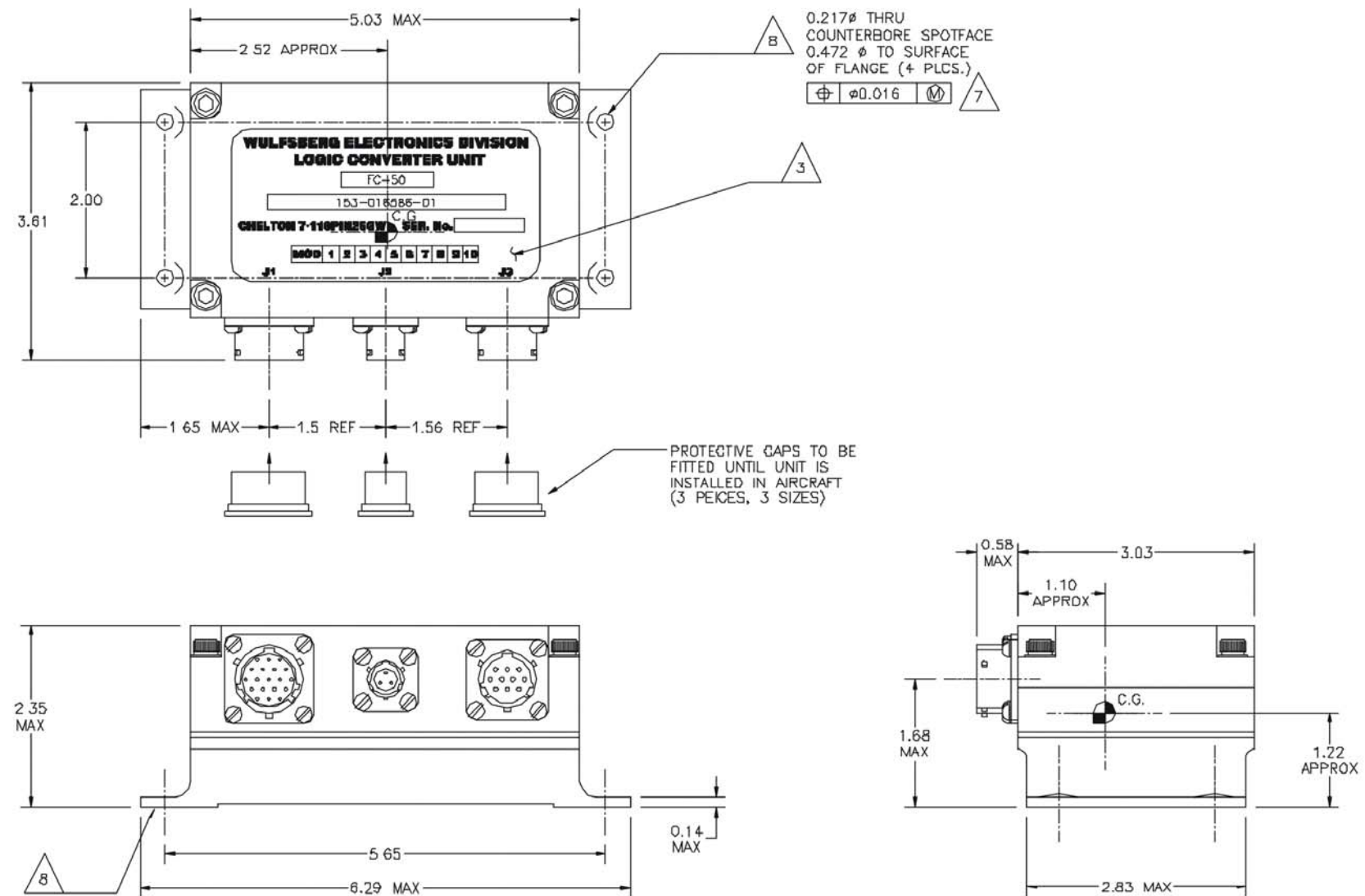
- NOTES:
- RF CHARACTERISTICS:
 - FREQUENCY 400 - 960 MHz
 - VSWR 2.0 : 1 MAX
 - POLARIZATION VERTICAL
 - RADIATION PATTERN TYPICAL OF /4 STUB
 - RF POWER 100 WATTS
 - IMPEDANCE 50 OHMS
 - EFFICIENCY 90% MIN. 400 - 960 MHz
 - MECHANICAL CHARACTERISTICS:
 - FINISH: WHITE GLOSS PAINT NON YELLOWING.
 - WEIGHT: 0.75 LBS MAX
 - RATED TO 600 KNOTS AT 25000 FT.
 - ANTENNA TO MEET RTCA DO-160C ENV. CAT. F2-XCCXXXXXXXXXXXXXXX
 - IDENT PLATE MUST SHOW THE FOLLOWING INFORMATION:
 W.E.D. P/N 121-016821-01
 S/N (SERIAL NO. TO BE SUPPLIED BY VENDOR)
 MANUFACTURERS NAME AND P/N
 WT:
 - INSTALLATION REQUIRES A 0.635 DIAMETER MINIMUM CLEARANCE HOLE IN THE AIRCRAFT SKIN FOR THE FEMALE "N" CONNECTOR MOUNTED ON THE ANTENNA. THE INSTALLER MAY DESIRE TO USE A LARGER HOLE (POSSIBLY 0.8 DIA.) TO CLEAR THE MALE "N" CABLE CONNECTOR OR TO ALLOW FOR HOLE LOCATION TOLERANCE. MOUNT ANTENNA WITH NO. 8 SCREWS.
 - APPROVED VENDORS:
 COMANT INDUSTRIES, INC.
 P/N C1285-5
 - FOR REFERENCE ONLY.
 - UNPAINTED ALUMINUM BASE MUST MAKE GOOD ELECTRICAL CONTACT WITH AIR FRAME USING CONDUCTIVE RF GASKET (WED P/N 146-016958-01) SUPPLIED WITH ANTENNA.
 - DIMENSIONS SHOWN FOR REFERENCE ONLY.
 - ADD LABEL NUMBER 156-016821-01 AND INSTALL AT INCOMING INSPECTION AT W.E.D.

Figure 3-14. AT-400 Envelope Drawing (Sheet 1 of 1)
 Dwg No. 121-016821, Rev F

C-5000 COMMUNICATION MANAGEMENT CONTROLLER INSTALLATION MANUAL

NOTES:

1. FINISH MATT BLACK EPOXY TO DEF STAN 80-161.
2. DIMENSIONS ARE FOR REFERENCE ONLY.
3. PART TO BE LABELED WITH THE FOLLOWING:
WULFSBERG ELECTRONICS DIVISION
LOGIC CONVERTER FC-50
W.E.D. P/N: 153-016586-01
CHELTON P/N: 7-119PIN26GW
SERIAL NO.: (TO BE SUPPLIED BY VENDOR)
4. WEIGHT: 1.65LBS (0.75KG) MAX.
5. THE COMPASS SAFE DISTANCE IS LESS THAN 12 IN.
6. CONNECTOR TYPES ARE EQUIVALENT:
J1. KPT02E-14-19P MATES WITH KPT06E-14-19S
J2. KPT02E-8-33P MATES WITH KPT06E-8-33S
J3. KPT02E-12-10S MATES WITH KPT06E-12-10P
7. SPOTFACE TO REMAIN UNPAINTED
8. MOUNTING FACE UNPAINTED, TREATED WITH CHROMATE
FILM CONVERSION TO DEF. STAN. 03-18. MUST
MAKE GOOD ELECTRICAL CONTACT WITH AIRFRAME.
9. SOURCE: CHELTON (ELECTROSTATICS) LTD.
SOURCE P/N: 7-119PIN26GW



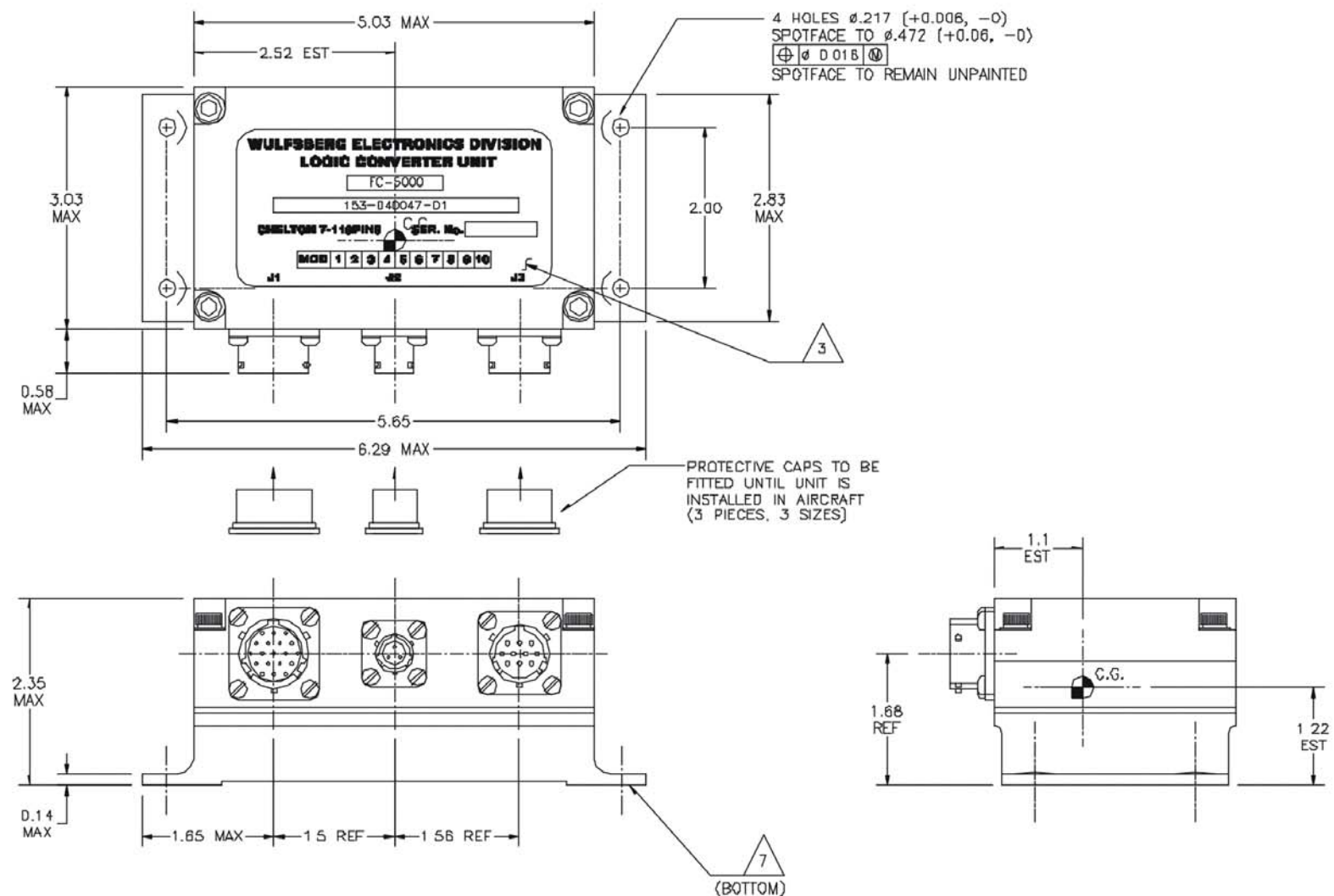
-01 SHOWN

Figure 3-15. FC-50 Envelope Drawing (Sheet 1 of 1)
Dwg No. 153-016586, Rev E

C-5000 COMMUNICATION MANAGEMENT CONTROLLER INSTALLATION MANUAL

NOTES:

1. FINISH: MATT BLACK EPOXY TO DEF. STAN. 80-161.
2. DIMENSIONS ARE FOR REFERENCE ONLY.
3. PART TO BE LABELED WITH THE FOLLOWING:
 WULFSBERG ELECTRONICS DIVISION
 LOGIC CONVERTER FC-5000
 W.E.D. P/N 153-040047-01
 CHELTON P/N: 7-119PIN9
 SERIAL NO.: (TO BE SUPPLIED BY VENDOR)
4. WEIGHT: 1.65 LBS (0.75kg) MAX.
5. THE COMPASS SAFE DISTANCE IS LESS THAN 12 IN.
6. CONNECTOR TYPES ARE EQUIVALENT:
 J1 KPT02E-14-19P MATES WITH KPT06E-14-19S
 J2 KPT02E-8-33P MATES WITH KPT06E-8-33S
 J3 KPT02E-12-10S MATES WITH KPT06E-12-10P
7. SPOTFACES (4), HOLES (4)
 MOUNTING FACE UNPAINTED, TREATED WITH CHROMATE
 FILM CONVERSION TO DEF. STAN. 03-18 MUST MAKE
 GOOD ELECTRICAL CONTACT WITH AIRFRAME.
8. APPROVED SOURCE: CHELTON (ELECTROSTATICS) LTD.
 CHELTON P/N: 7-119PIN9



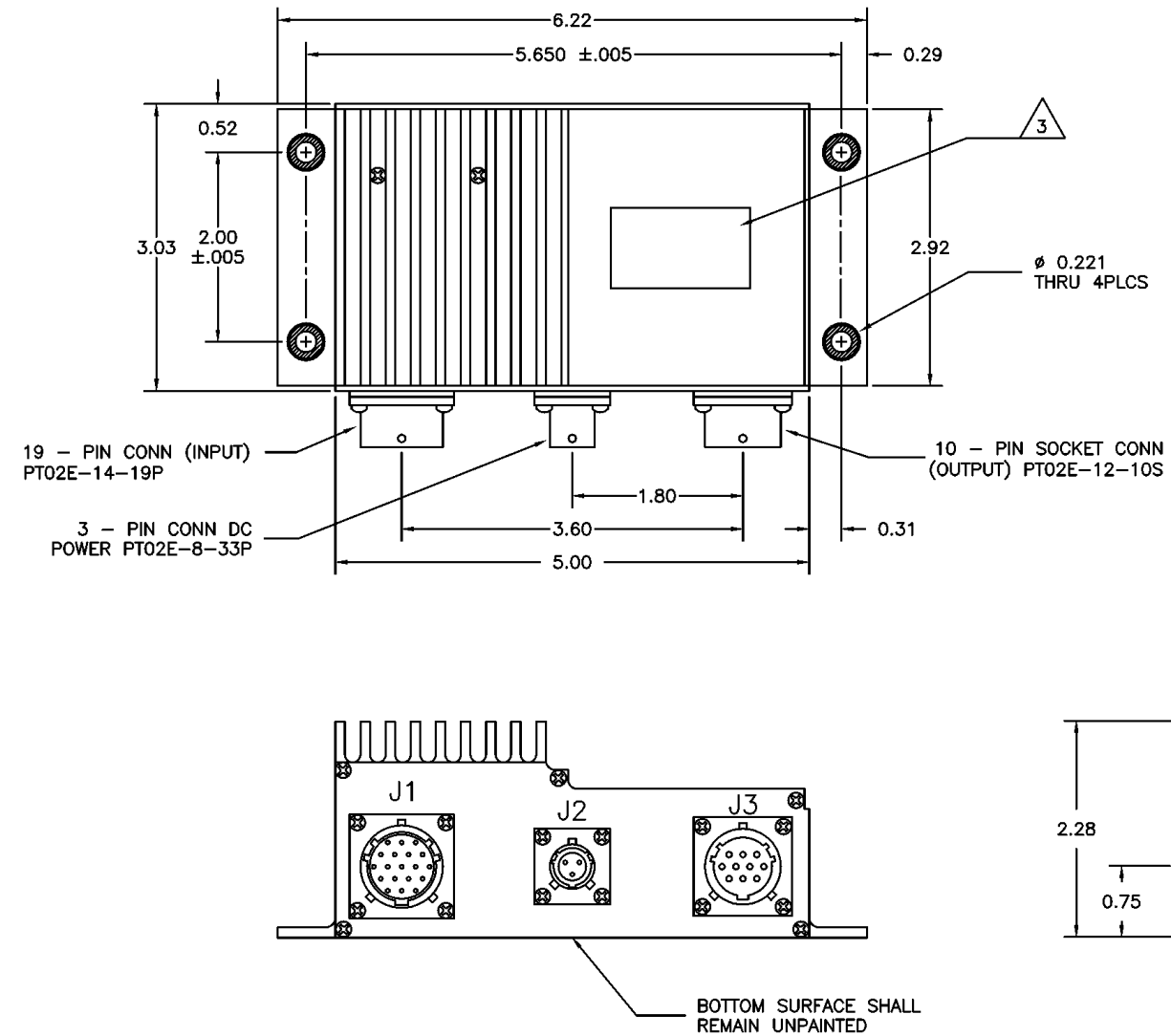
-01 SHOWN

Figure 3-16. FC-5000 Envelope Drawing (Sheet 1 of 1)
Dwg No. 153-040047, Rev A

C-5000 COMMUNICATION MANAGEMENT CONTROLLER INSTALLATION MANUAL

NOTES:

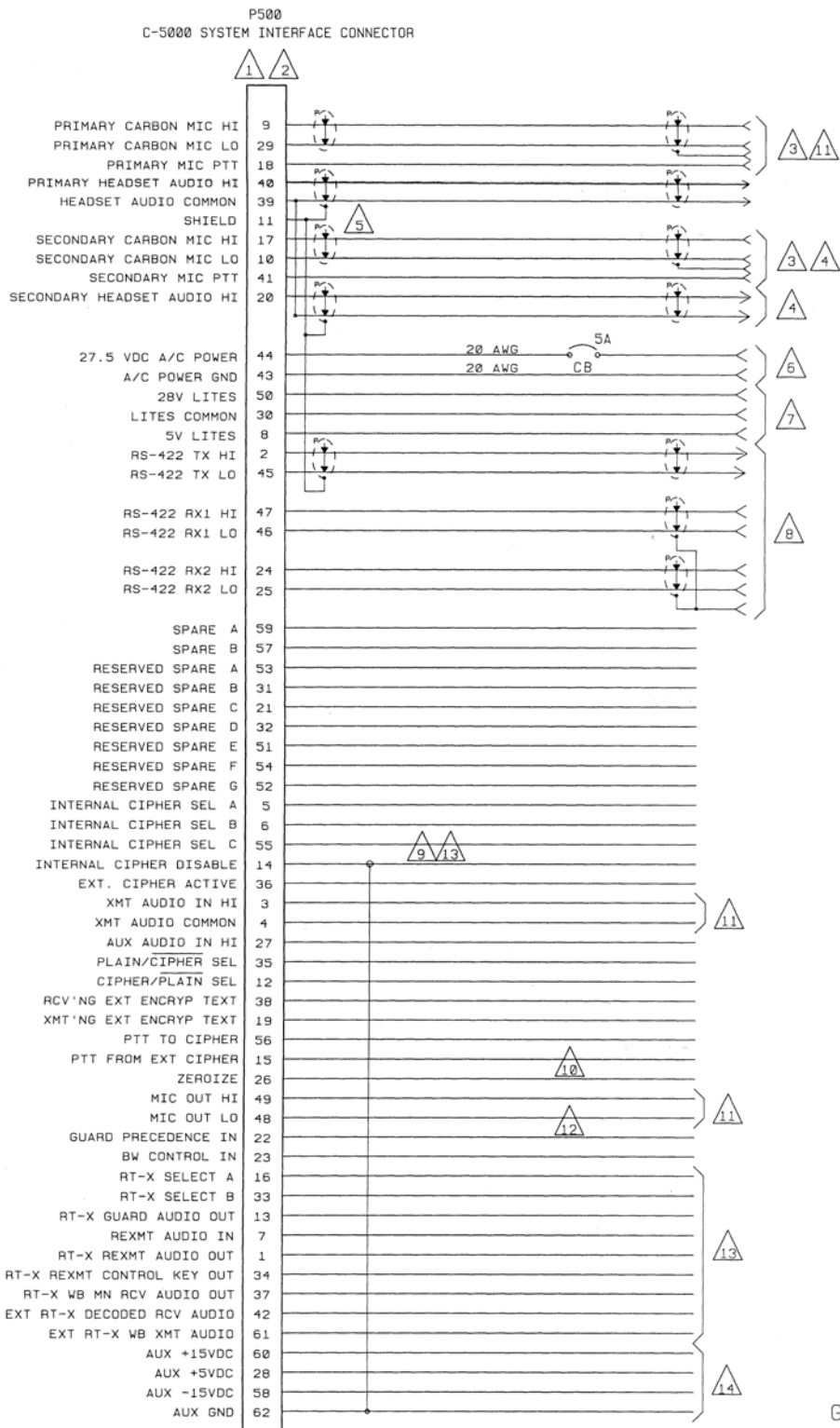
1. FINISH: WHITE PER FED-STD-595.
2. DIMENSIONS ARE FOR REFERENCE ONLY.
3. PART TO BE LABELED WITH THE FOLLOWING:
 LOGIC CONVERTER FC-550
 WULFSBERG ELECTRONICS DIVISION
 P/N: 153-017851-01
 SERIAL NO.: (TO BE SUPPLIED BY VENDOR)
 MFR. NAME: DAYTON-GRAINGER
 MFR. P/N: 720059
4. WEIGHT: 1.75 LBS MAX.
5. THE COMPASS SAFE DISTANCE IS LESS THAN 12 INCHES.
6. CONNECTOR TYPES OR EQUIVALENT
 J1: PT02E-14-19P MATES WITH PT06SE-14-19S-(SR)
 J2: PT02E-8-33P MATES WITH PT06SE-8-33S-(SR)
 J3: PT02E-12-10S MATES WITH PT06SE-12-10P-(SR)
7. APPROVED VENDORS: DAYTON-GRAINGER, INC.
8. REFERENCE: TEST PROCEDURE 650-040069 UNIT TO MEET REQUIREMENTS OF THIS TEST.



-01 SHOWN

Figure 3-17. FC-550 Envelope Drawing (Sheet 1 of 1)
Dwg No. 153-017851, Rev E

**C-5000 COMMUNICATION MANAGEMENT CONTROLLER
INSTALLATION MANUAL**



NOTES:

1. SEE "INSTALLATION WIRING CONFIGURATIONS" SECTION OF INSTALLATION MANUAL FOR PERTINENT ADDITIONAL INFORMATION TO THIS DIAGRAM.
2. P500 SYSTEM INTERFACE CONNECTOR
QWS P/N 129-215344-01
VENDOR: POSITRONICS P/N ODD62F00Y0C-914.1 OR EQUIVALENT. (THIS CONNECTOR HAS 2 MALE JACK SCREWS).
3. MIC LO AND PTT SHOULD BE CONNECTED TOGETHER AT THE MIC INTERFACE (AUDIO PANEL OR MIC JACK). ALTERNATELY, MIC LO SHOULD BE GROUNDED AT THE MIC INTERFACE AS MIC BIAS IS NOT PROVIDED UNLESS MIC LO IS DC GROUNDED.
4. SECONDARY MIC AND HEADSET AUDIO INTERFACE USED ONLY AS AN OPTION WITH 2 (OR 3) RADIO SYSTEMS CONTROLLED BY C-5000. SECONDARY INTERFACE PROVIDES INDEPENDENT, SECOND CREW OPERATION OF ONE OF THE 2 OR 3 RADIO SYSTEMS. NOT ALL FUNCTIONS ARE SUPPORTED FOR THIS INTERFACE.
5. ONLY SHIELDS OF SIGNALS ORIGINATING FROM THE C-5000 SHOULD BE TERMINATED ON THIS PIN. SHIELDS OF SIGNALS ORIGINATING AT OTHER EQUIPMENT AND TERMINATING AT THE C-5000 SHOULD ONLY BE TERMINATED AT THE OTHER EQUIPMENT.
6. AIRCRAFT POWER SHOULD BE SUPPLIED THRU APPROPRIATE CIRCUIT BREAKER AND CONSIDERATION GIVEN TO THE SEPARATELY POWERED RADIO TRANSCEIVER EQUIPMENT BEING CONTROLLED BY THE C-5000.
7. 5VDC, 5Vrms, 28VDC LIGHTING PROVIDED. CONNECT EITHER 5V OR 28V; NOT BOTH.
NO POWER IS DRAWN FROM THE BUSS.
8. THESE PINS PROVIDE FOR BI-DIRECTIONAL DIGITAL DATA BUSS TO OTHER EQUIPMENT ON BOARD THE AIRCRAFT.
9. THIS PIN IS NORMALLY GROUNDED UNLESS AN INTERNAL CYPHER MODULE (OR OTHER SPECIAL FUNCTION MODULE) IS INSTALLED IN WHICH CASE IT SHOULD BE SWITCHED.
10. THE ZEROIZE FUNCTION PROVIDES AN OUTPUT FROM THE C-5000 TO ENCRYPTION EQUIPMENT TO ERASE KEY VARIABLES. THE OUTPUT CAN BE CONFIGURED ONE OF TWO WAYS: NORMALLY OPEN CIRCUIT WITH ACTIVE GROUND TO ZEROIZE OR NORMALLY OPEN WITH ACTIVE 27.5VDC FOR ZEROIZE. STANDARD CONFIGURATION IS ACTIVE 27.5VDC TO ZEROIZE. JUMPER A2JP8 ON THE SYSTEM INTERFACE BOARD CAN BE CHANGED FROM "1 TO 2" TO "2 TO 3" TO YIELD ACTIVE GROUND FOR ZEROIZE.
11. IF THE SYSTEM IS CONFIGURED WITH EXTERNAL ENCRYPTION SYSTEMS CONNECTED TO THE SYSTEM INTERFACE, INTERNAL JUMPER CHANGES ON THE SYSTEM INTERFACE BOARD ROUTE THE PRIMARY MIC AUDIO THRU THE ENCRYPTION SYSTEM SUCH THAT WHEN THE ENCRYPTION EQUIPMENT IS REMOVED, MIC AUDIO IS LOST. JUMPERS IN THE AIRCRAFT HARNESS BETWEEN MIC OUT HI/LO AND XMT AUDIO IN HI/COMMON WILL RESTORE MIC AUDIO CONTINUITY WHEN THE ENCRYPTION EQUIPMENT IS REMOVED.
12. GROUNDING THIS PIN CAUSES ALL C-5000 MODES TO BE DISABLED AND THE SYSTEM IS CHanneled TO THE PRECEDENCE PRESET MEMORY CHANNEL FOR BASIC TALK/LISTEN AS AN EMERGENCY DEFAULT MODE.
13. RT-X SIGNALS RELATE TO RADIO SYSTEM 1, 2 OR 3 AS SELECTED BY THE CREW. SELECTION MAY BE FROM THE C-5000 KEYBOARD/KNOBS OR AN EXTERNAL SWITCH. RT-X CAN BE ONLY 1 OF THE 3 RADIO SYSTEMS. THE CORRESPONDING SIGNALS TO/FROM THE SELECTED RT RADIO SYSTEM ARE ROUTED TO THE INTERNAL CIPHER MODULE (OR SPECIAL FUNCTION MODULE) OR THE EXTERNAL SYSTEM INTERFACE TO BECOME THE RT-X SELECTED SIGNALS. INTERNAL/EXTERNAL SIGNAL ROUTING IS CONTROLLED BE EXTERNALLY APPLIED GROUND OR SWITCHED GROUND TO THE "INTERNAL CIPHER DISABLE".
14. AUXILIARY VOLTAGES FOR EXTERNAL LOADS (17 WATTS TOTAL MAX)
INTERNAL JUMPERS REQUIRED TO ACTIVATE THE -15V AND +5V OUTPUTS.
15. MOTOROLA AND DVP/DES ARE REGISTERED TRADEMARKS OF MOTOROLA, INC.
16. GE AND VOICE GUARD ARE REGISTERED TRADEMARKS OF GENERAL ELECTRIC, INC.

17. THIS WIRING DIAGRAM IS FOR THE SYSTEM INTERFACE CONNECTOR (P500). SEE INSTALLATION WIRING DIAGRAM 147-014991 FOR THE FLEXCOMM TRANSCEIVER INTERFACE CONNECTOR (P50X) AND 147-014992 FOR THE RT-9600(F) INTERFACE CONNECTOR (P50X). THE C-5000 CAN HAVE UP TO THREE TRANSCEIVER INTERFACES: P501, P502, P503 OF ANY COMBINATION OF THREE TRANSCEIVERS.

18. ALL RT-138F, RT-406F AND RT-9600F TRANSCEIVERS ARE INHERENTLY COMPATIBLE WITH DIGITAL VOICE ENCRYPTION SYSTEMS (12KBIT). TRANSCEIVERS WITH P/N'S ENDING IN -X5X,X6X,X7X ARE SPECIALLY WIRED INTERNALLY TO TO FACILITATE DIRECT CONNECTIONS TO MOTOROLA AND GE ENCRYPTION SYSTEMS. WHEN THE MOTOROLA, GE OR KY-58 ENCRYPTION SYSTEMS ARE WIRED TO THE C-5000 AS SHOWN, STANDARD F MODEL RADIOS MUST BE USED. ie NON-X5X,-X6X,X7X. WHEN CONNECTING ENCRYPTION TO A RADIO SYSTEM EACH INSTALLATION SHOULD PERFORM TEMPEST TESTING WHERE APPLICABLE TO VERIFY INSTALLATION INTEGRITY.

19. CONNECT FOR CIPHER RX INDICATOR.

20. REMOVED TO ALLOW USE OF INTERNAL C-5000 GUARD PATH.

-01 SHOWN
GENERAL AIRCRAFT SYSTEM
INTERFACE

**Figure 4-3a. C-5000 Standard Installation Wiring Diagram (Sheet 1 of 3)
(Dwg No 147-014995, Rev 6)**

C-5000 COMMUNICATION MANAGEMENT CONTROLLER INSTALLATION MANUAL

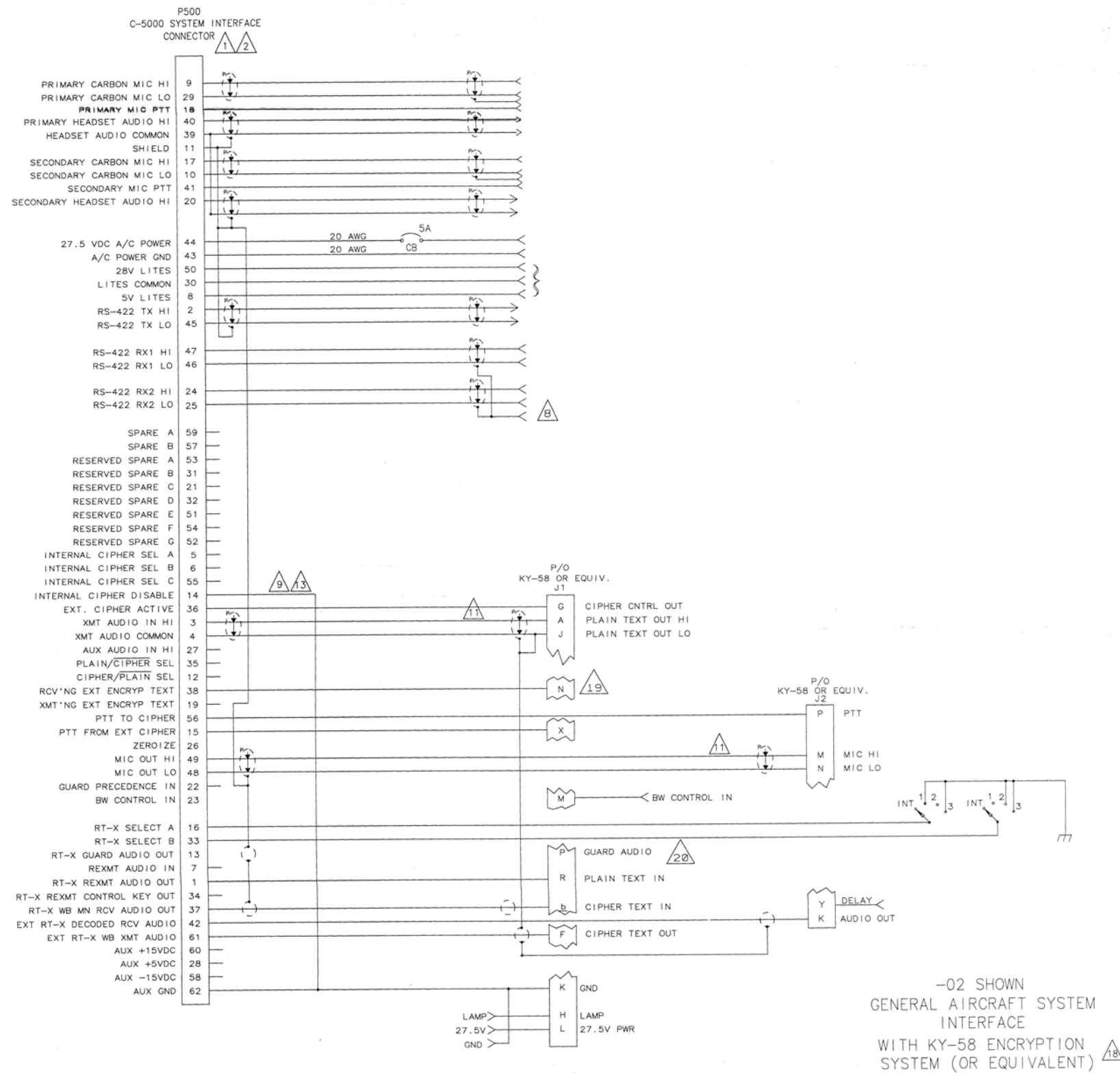
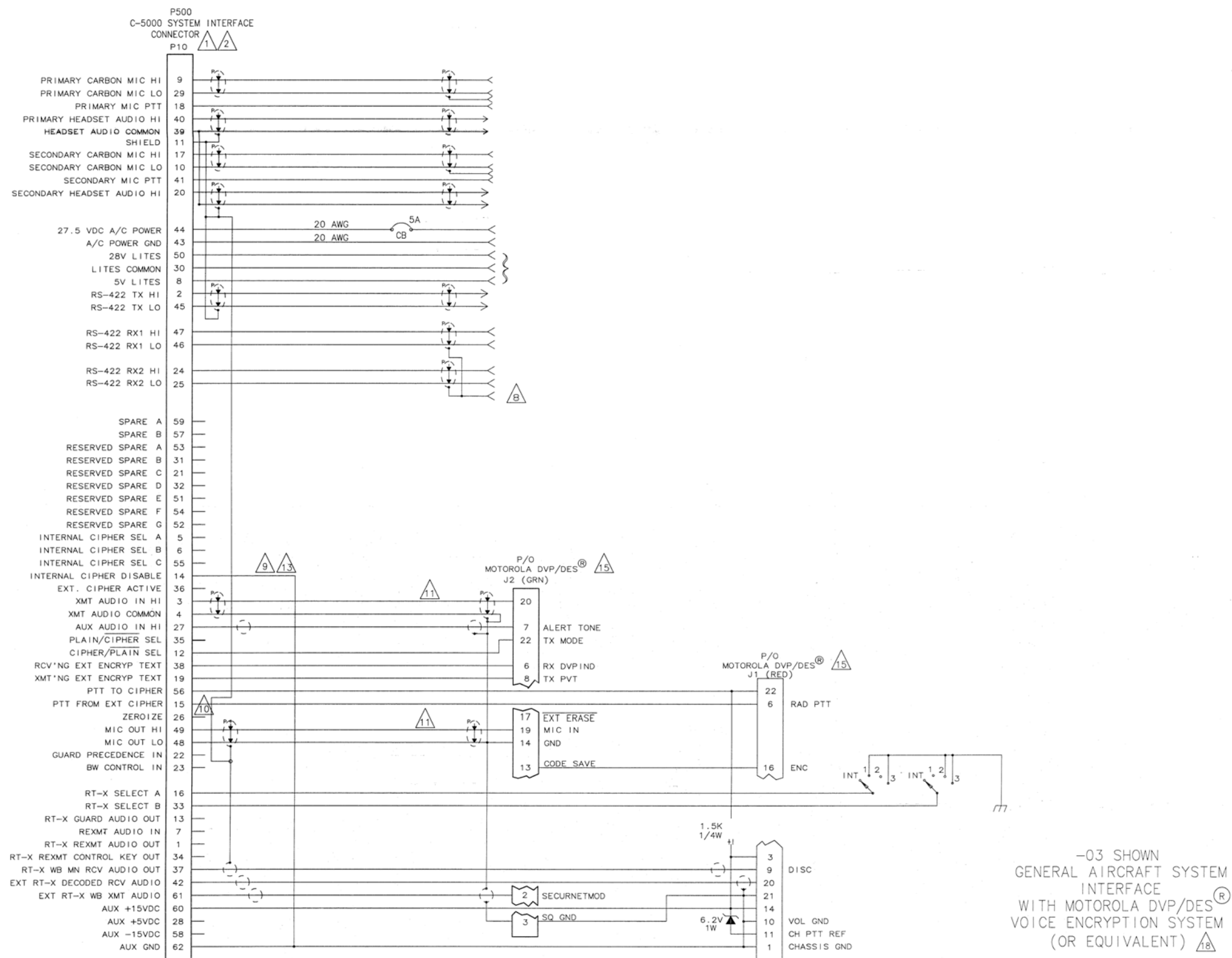


**Figure 4-3b. C-5000 Standard Installation Wiring Diagram (Sheet 2 of 3)
(Dwg No 147-014995, Rev 6)**

C-5000 COMMUNICATION MANAGEMENT CONTROLLER INSTALLATION MANUAL



-03 SHOWN
GENERAL AIRCRAFT SYSTEM
INTERFACE
WITH MOTOROLA DVP/DES®
VOICE ENCRYPTION SYSTEM
(OR EQUIVALENT) 18

C-5000 COMMUNICATION MANAGEMENT CONTROLLER INSTALLATION MANUAL

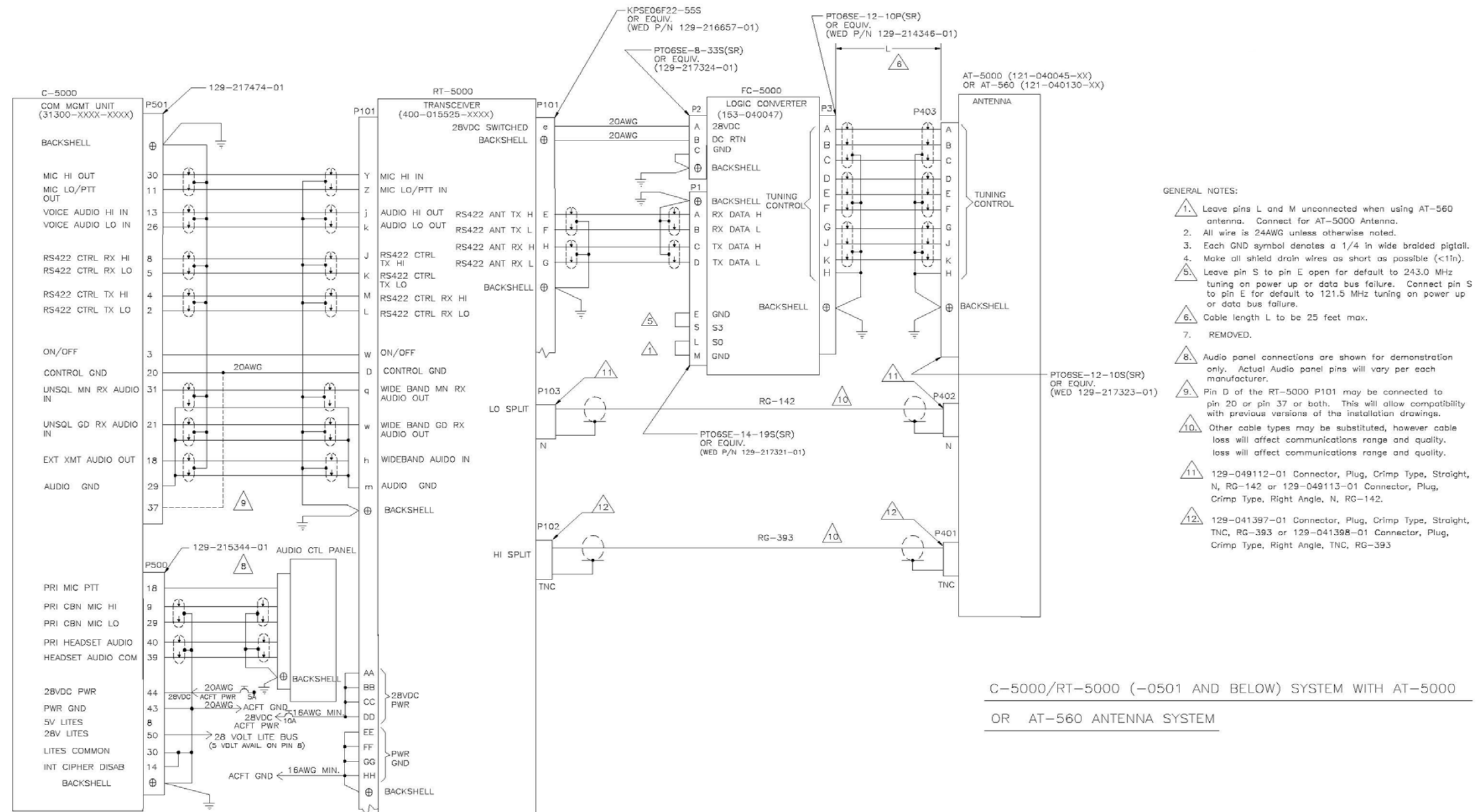


Figure 4-11a. Flexcomm II System Interconnect Drawing (Sheet 1 of 17)
Dwg No. 152-140131, Rev. L

**C-5000 COMMUNICATION MANAGEMENT CONTROLLER
 INSTALLATION MANUAL**

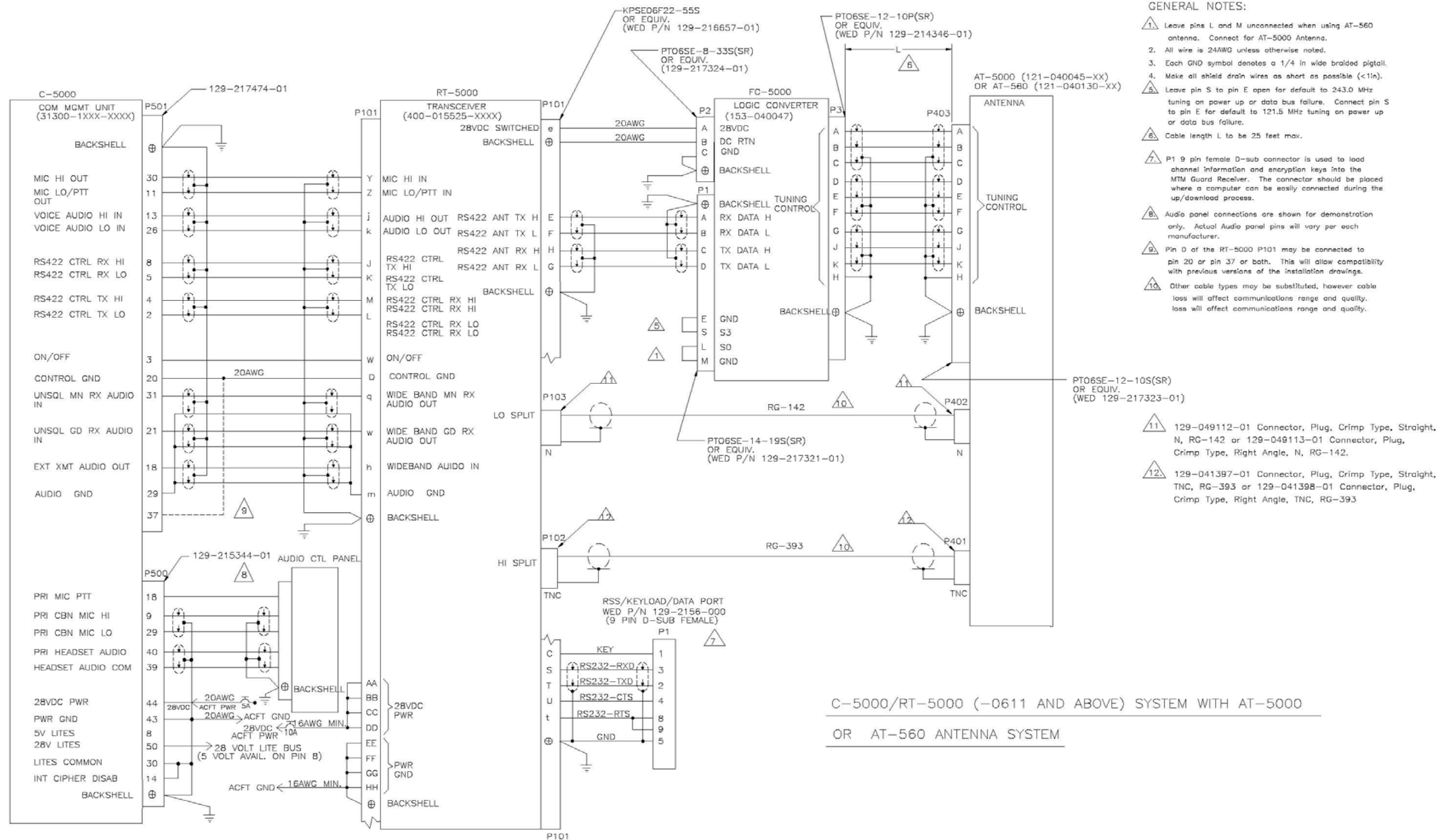


**Figure 4-11b. Flexcomm II System Interconnect Drawing (Sheet 2 of 17)
 Dwg No. 152-140131, Rev. L**