

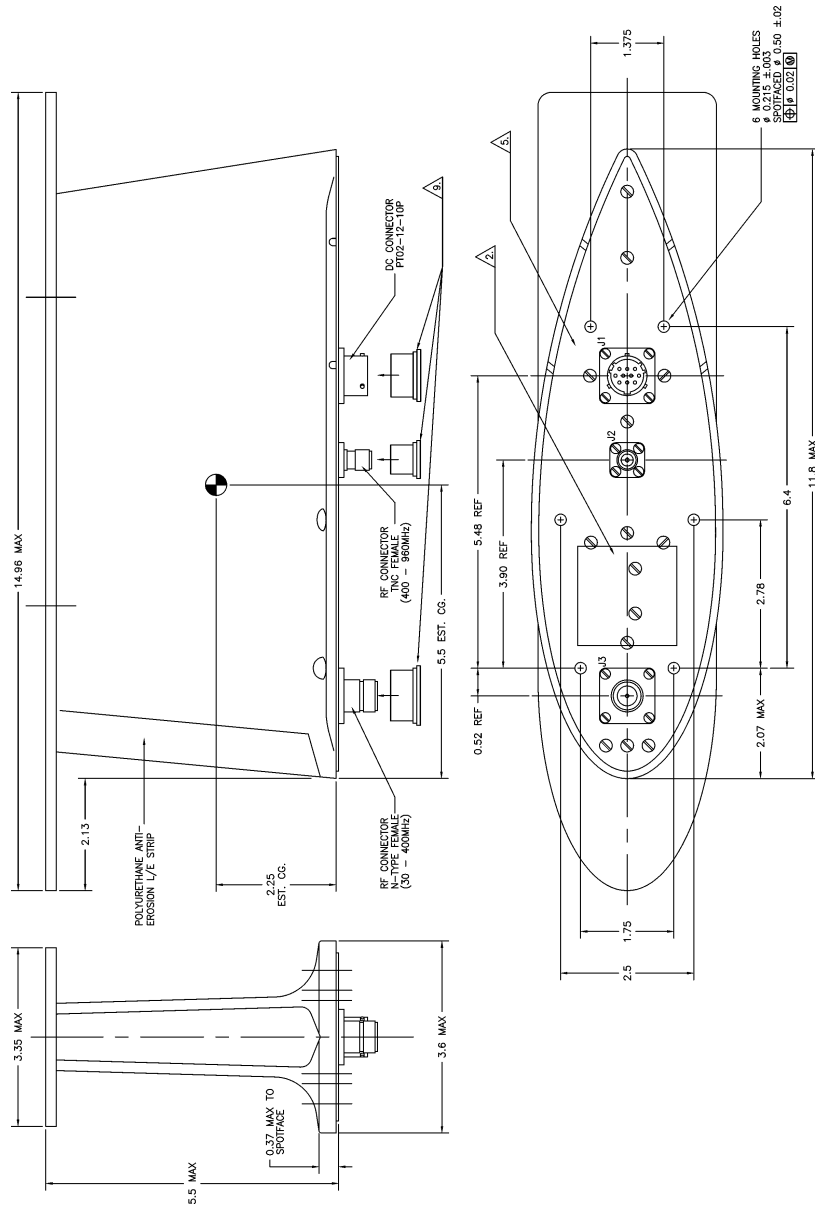
Tactical Communication Products: Antenna Options Overview



Each Flexcomm™ Transceiver installation requires an antenna. We supply several different antennas for the RT-5000 that cover the whole 29.7 to 960 MHz frequency range of the Transceiver. If antenna height is a critical factor, the AT-5000 should be specified since it is only 5.5" tall. For the best performance overall, we suggest the 9.5" AT-560. If your application does not require long range operation below 120 MHz, the AT-160 will work very well at considerably lower cost. It is a passive multiband antenna with the same dimensions as the AT-560. The table below shows the antenna options available for each FM tactical Transceiver.

Part No.	Description
121-014235-01	AT-35 Antenna 29.7-50 MHz, 24.5" Tuned Whip, 45 DEG
121-0019-000	AT-695 Antenna 138-174 MHz, 17" Passive Whip
121-0011-000	AT-461 Antenna 450-470 MHz 3.5" Passive Blade, Wht
121-014378-01	AT-462 Antenna 406-512 MHz 3.5" Passive Blade, Wht
121-049075-01	AT-806 Antenna, 806-960 MHz, Passive Blade, Wht
121-0018-000	AT-33 Antenna 138-174 & 400-512 MHz, Dual Band 15" Passive Blade, Wht
121-040089-01	AT-399B Antenna 30-175 & 225-400 MHz 42" Whip
121-016587-01	AT-50 Antenna 29.7-400 MHz, 16" Tuned Blade, Wht, GASKET & FC-50 REQ'D
121-016796-01	AT-51 Antenna 29.7-400 MHz, 6.5" Tuned Blade, Wht, GASKET & FC-50 REQ'D
121-040129-01	AT-160 Antenna 29.7-960 MHz, 9.5" Passive Blade, Wht
121-040129-02	AT-160 Antenna 29.7-960 MHz, 9.5" Passive Blade, Blk
121-016821-01	AT-400 Antenna 400-960 MHz, 5.5" Passive Blade, Wht, GASKET REQ'D
121-040130-01	AT-560 Antenna 29.7-960 MHz, 9.5" Tuned Blade, Wht, FC-5000 REQ'D
121-040130-02	AT-560 Antenna 29.7-960 MHz, 9.5" Tuned Blade, Blk, FC-5000 REQ'D
121-040045-01	AT-5000 Antenna 29.7-960 MHz, 5.5" Tuned Blade, Wht, FC-5000 REQ'D
121-040045-02	AT-5000 Antenna 29.7-960 MHz, 5.5" Tuned Blade, Blk, FC-5000 REQ'D
146-014959-01	Gasket, AT-50
146-014960-01	Gasket, AT-51
146-016958-01	Gasket, AT-400
153-016586-01	FC-50 Logic Converter (AT-50/51)
153-040047-01	FC-5000 Antenna Tuner, AT-560 or AT-5000

Tactical Communication Products: AT-5000 Antenna



NOTES:

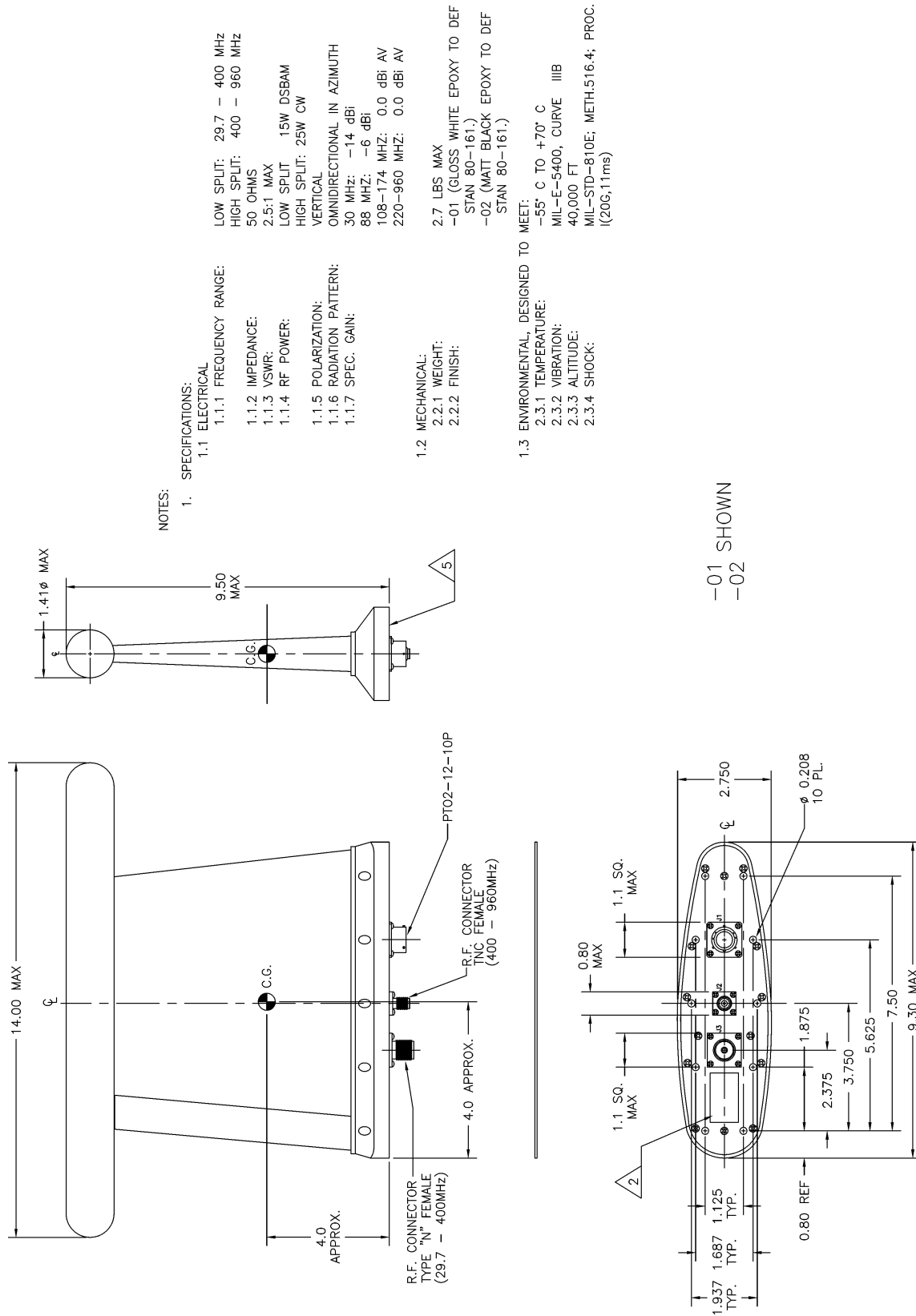
1. SPECIFICATIONS:

- 1.1 ELECTRICAL
 - 1.1.1 FREQUENCY RANGE: 29.7 - 88MHz
108 - 174MHz
225 - 400MHz
400 - 960MHz
 - 1.1.2 IMPEDANCE: 50 OHMS (NOMINAL)
 - 1.1.3 VSWR: ≤2.5:1 ALL BANDS
 - 1.1.4 RF POWER: LOW SPLIT: 15W DSBAM
HIGH SPLIT: 25W CW
 - 1.1.5 POLARIZATION: ESSENTIALLY VERTICAL (WHEN MOUNTED VERTICALLY)
 - 1.1.6 RADIATION PATTERNS: OMNIDIRECTIONAL IN AZIMUTH (NOMINAL)
 - 1.1.7 SPEC. GAIN: 30MHz -15dBI
88MHz -7.5dBI
118-174MHz -3dBI ave
225-960MHz 0 dBI ave
 - 1.1.8 CONNECTORS: RF 29.7-400MHz N-TYPE FEMALE
RF 400-960MHz TNC FEMALE
DC PT02-12-10P
- 1.2 MECHANICAL
 - 1.2.1 FINISH: 3.5LBS MAX
GLOSS WHITE EPOXY TO DEF. STAN. 80-161
 - 1.2.2 C.S.D.: OTHER FINISHES ARE AVAILABLE. COMPASS SAFE DISTANCE LESS THAN 12 INCHES.
- 1.3 ENVIRONMENTAL: DESIGNED TO MEET
 - 1.3.1 TEMPERATURE: -55° C TO +70° C
 - 1.3.2 VIBRATION: MIL-STD-5400, CURVE IIB
 - 1.3.3 HUMIDITY: MIL-STD-883C
 - 1.3.4 SHOCK: MIL-STD-810E, METH-516.4; PROC. I (20G, 11ms)

-01, -02 SHOWN

Figure 32. AT-5000 Antenna, Low Profile Tunable Portions of Dwg No. 121-040045 (FC-5000 Tuner Required)

Tactical Communication Products: AT-560 Antenna



Tactical Communication Products: FC-5000 Antenna Tuner

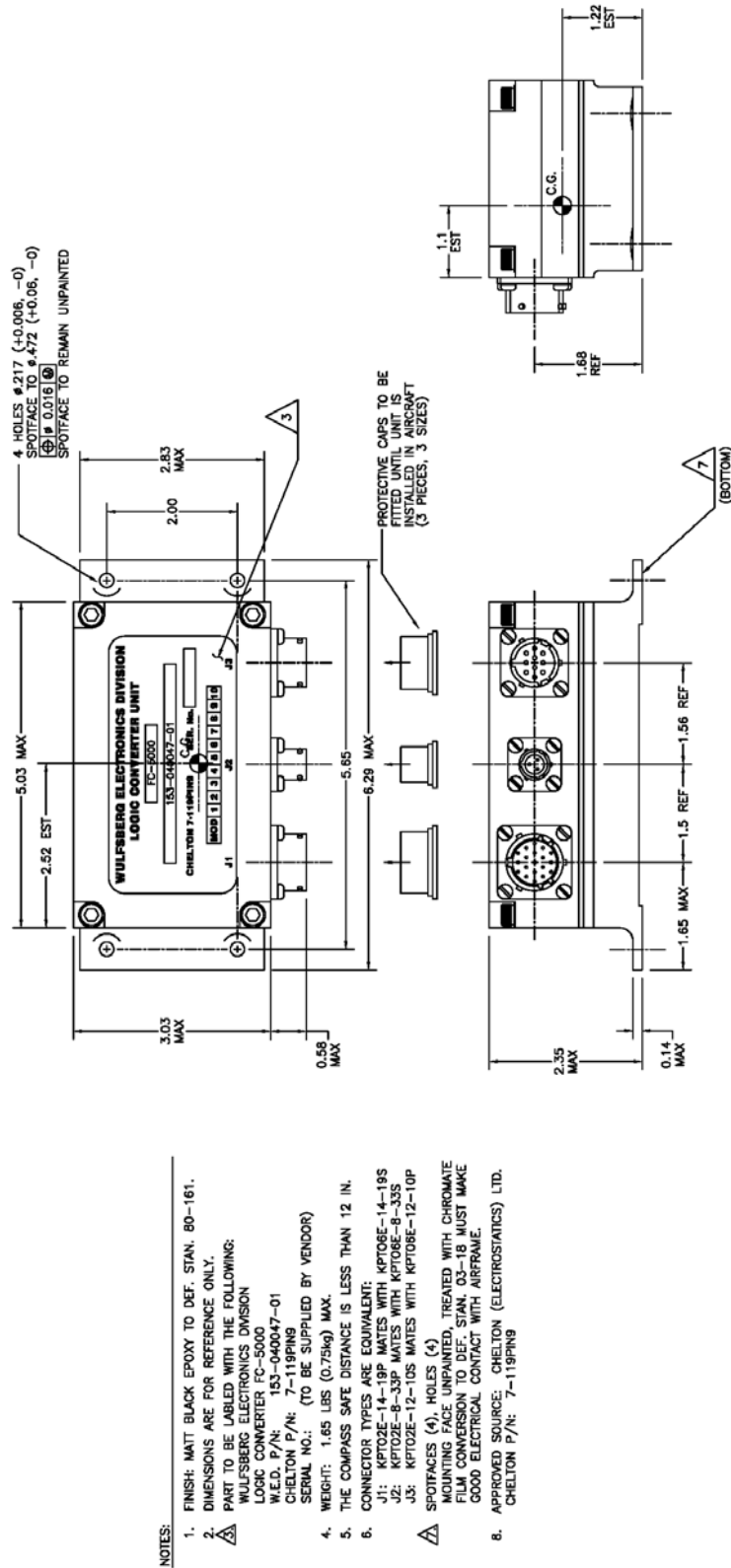
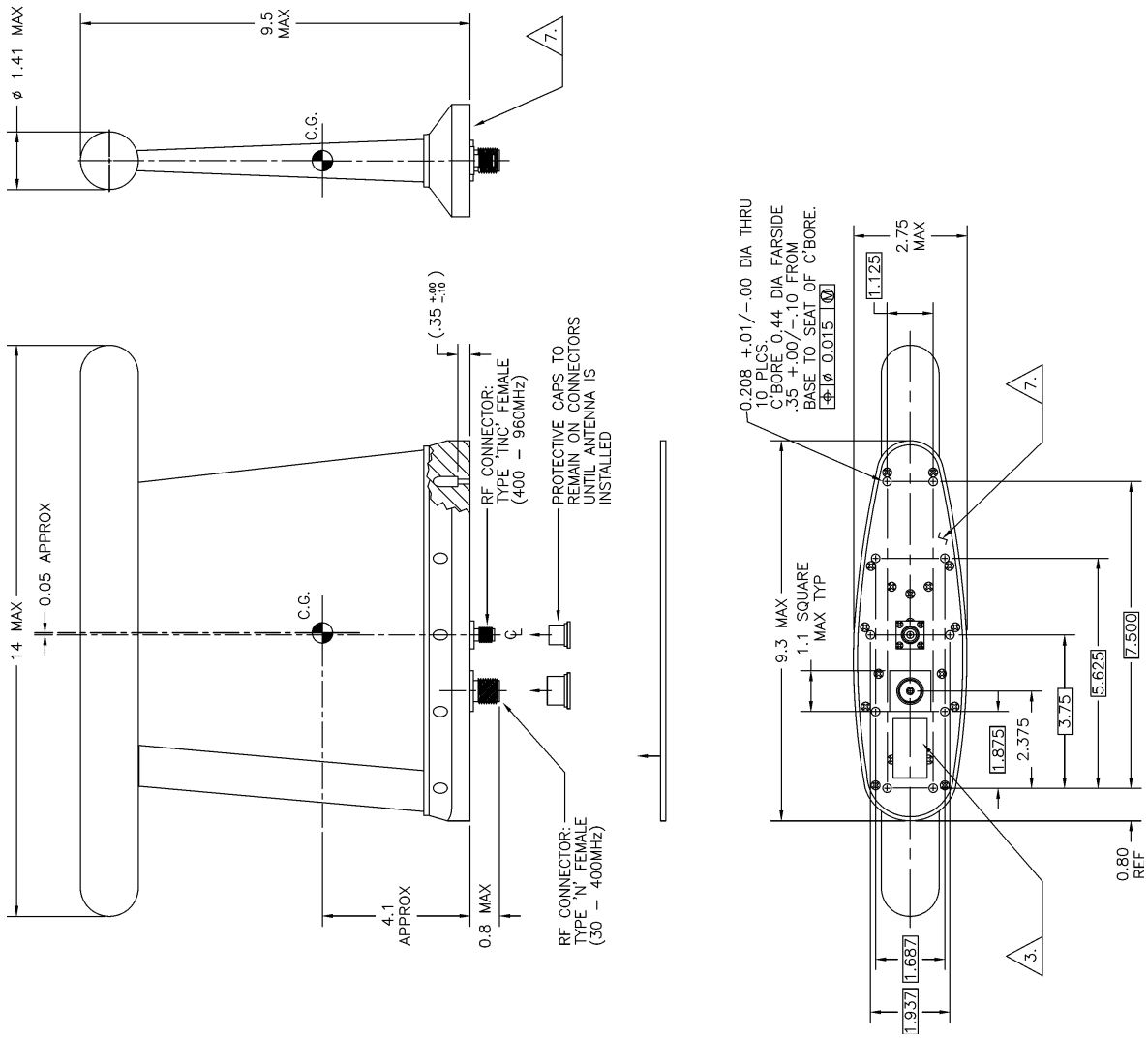


Figure 34. FC-5000 Antenna Tuner
Portions of Dwg No. 153-040047

Note: This tuner is used with the **AT-560** and **AT-5000** antennas

Tactical Communication Products: AT-160 Antenna



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: EPOXY PAINT GLOSS PER DEF. STAN. 80-161.
WHITE (-01); BLACK (-02)

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

Figure 35. AT-160 Antenna Wideband Passive Blade Portions of Dwg No. 121-040129

Tactical Communication Products: AT-35 Antenna

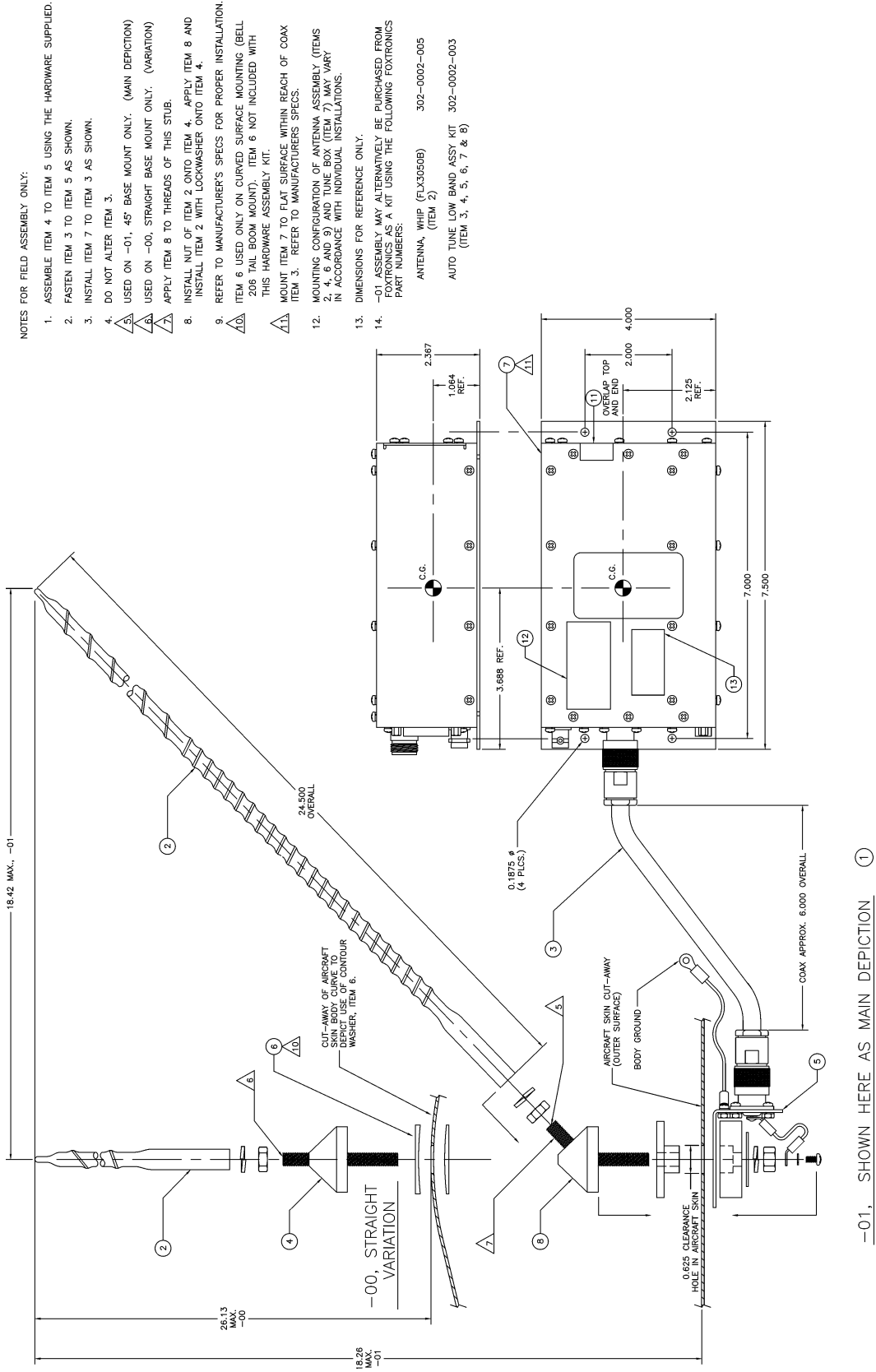
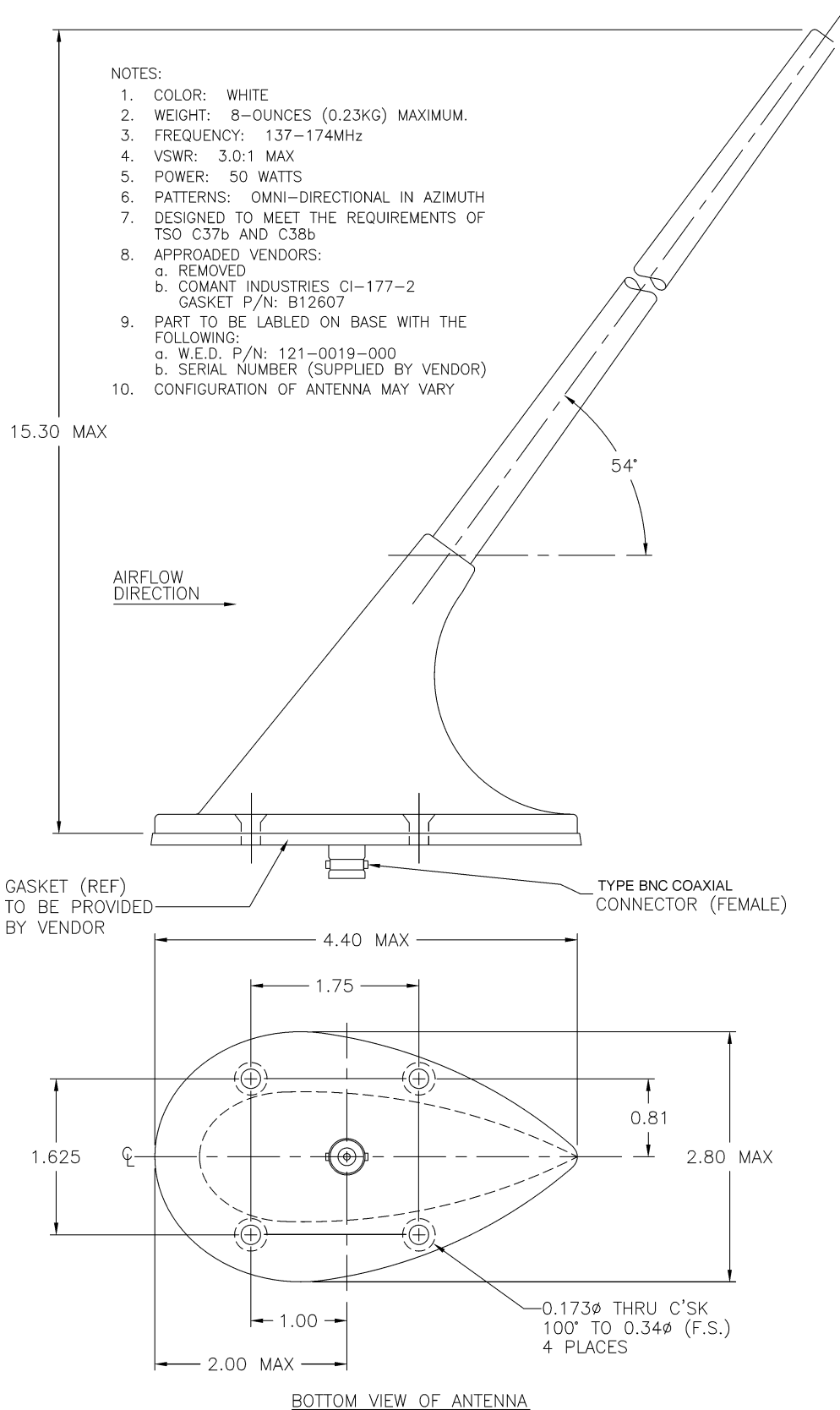


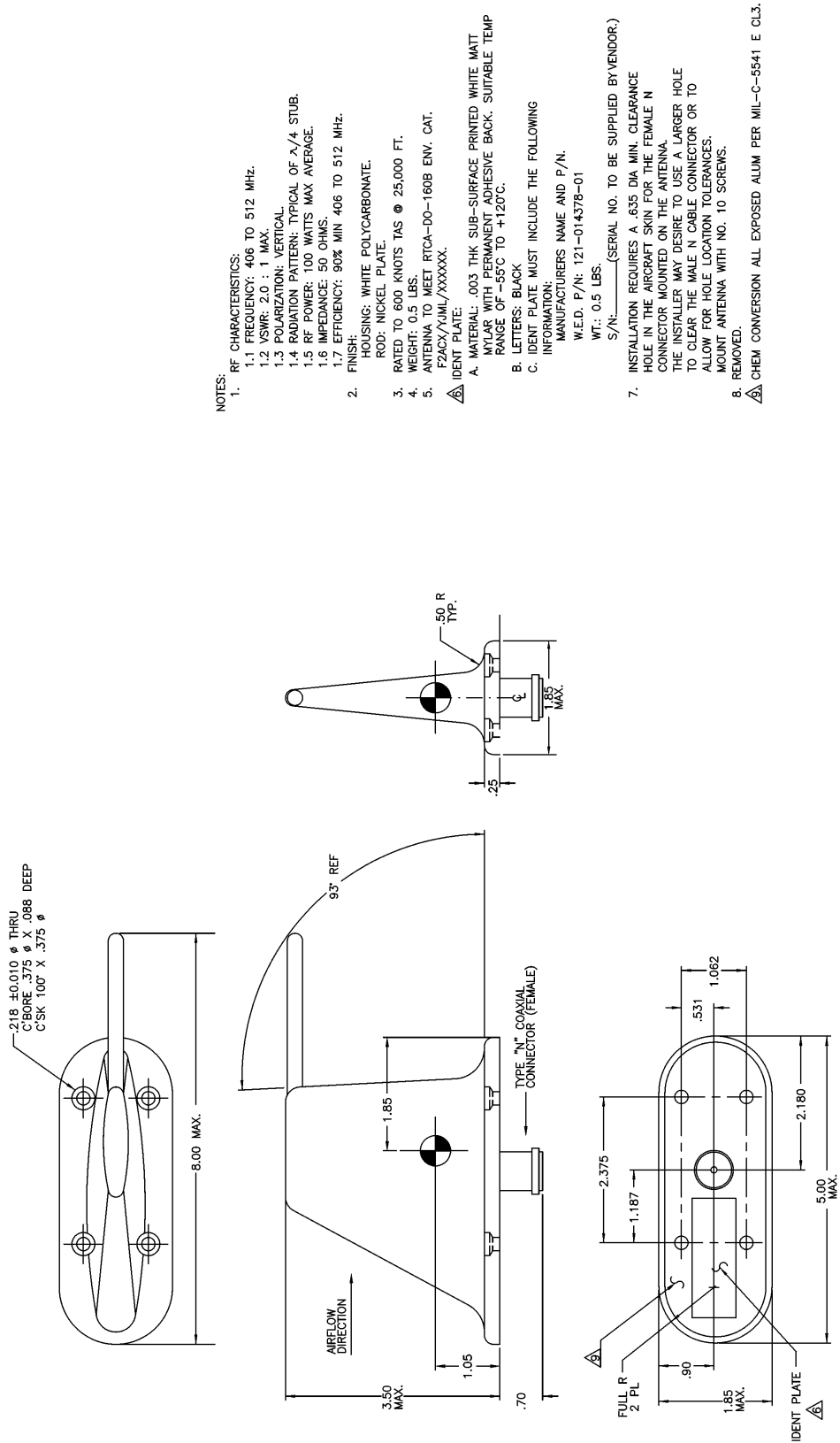
Figure 36. AT-35 Antenna Assembly Portions of Dwg No. 121-014235

Tactical Communication Products: AT-695 Antenna



**Figure 37. AT-695 VHF Com Antenna
Portions of Dwg No. 121-0019-000**

Tactical Communication Products: AT-462 Antenna

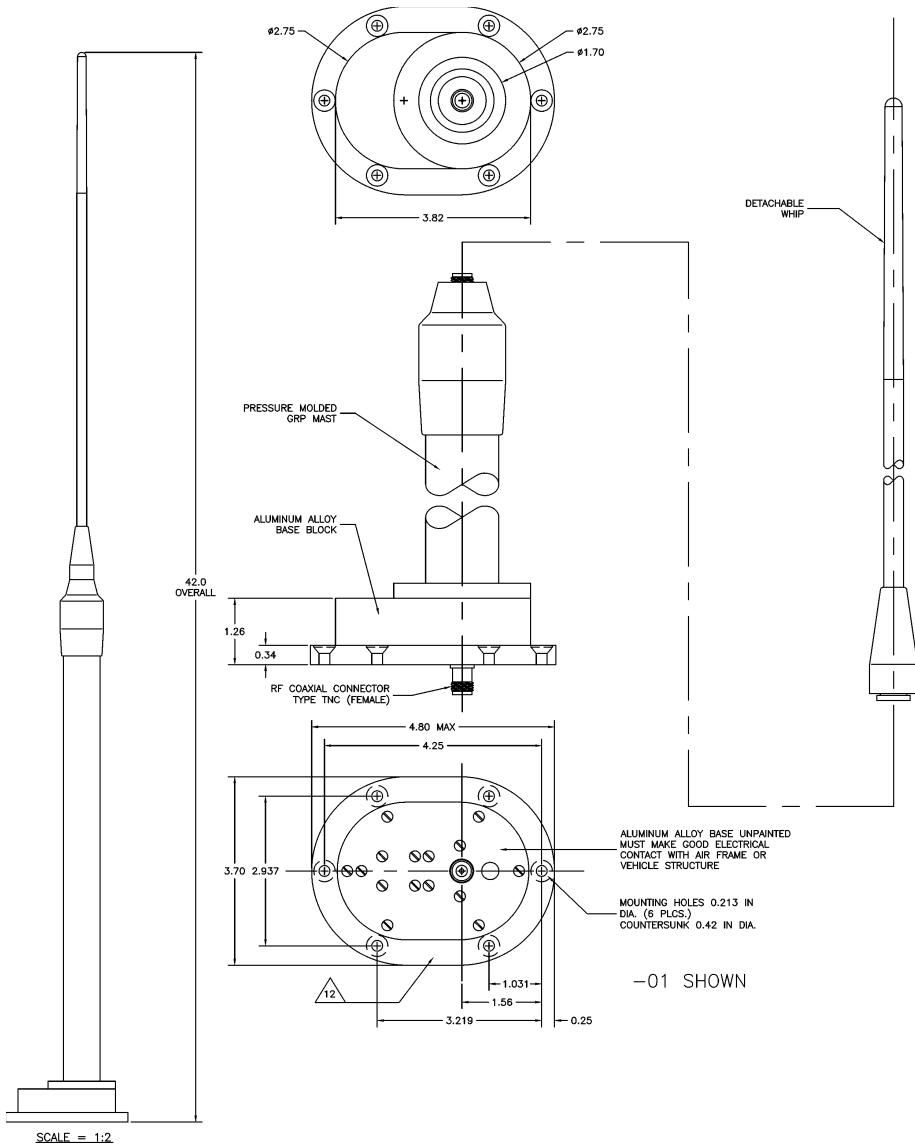


NOTES:

1. RF CHARACTERISTICS:
 - 1.1 FREQUENCY: 406 TO 512 MHz.
 - 1.2 VSWR: 2.0 : 1 MAX.
 - 1.3 POLARIZATION: VERTICAL
 - 1.4 RADIATION PATTERN: TYPICAL OF $\lambda/4$ STUB.
 - 1.5 RF POWER: 100 WATTS MAX AVERAGE.
 - 1.6 IMPEDANCE: 50 OHMS.
 - 1.7 EFFICIENCY: 90% MIN 406 TO 512 MHz.
2. FINISHES:
 - HOUSING: WHITE POLYCARBONATE.
 - ROD: NICKEL PLATE.
3. RATED TO 600 KNOTS TAS @ 25,000 FT.
4. WEIGHT: 0.5 LBS.
5. ANTENNA TO MEET RTCA-DO-160B ENV. CAT. F2ACX/Y/M/L/XXXXXX.
6. IDENT PLATE:
 - A. MATERIAL: .003 THK SUB-SURFACE PRINTED WHITE MATT MYLAR WITH PERMANENT ADHESIVE BACK. SUITABLE TEMP RANGE OF -55°C TO +120°C.
 - B. LETTERS: BLACK
 - C. IDENT PLATE MUST INCLUDE THE FOLLOWING INFORMATION:
 - MANUFACTURERS NAME AND P/N.
 - W.E.D. P/N: 121-014378-01
 - WT.: 0.5 LBS.
 - S/N: _____ (SERIAL NO. TO BE SUPPLIED BY VENDOR.)
7. INSTALLATION REQUIRES A .635 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 TOLERANCES. MOUNT ANTENNA WITH NO. 10 SCREWS.
8. REMOVED.
9. CHEM CONVERSION ALL EXPOSED ALUM PER MIL-C-5541 E CL3.

Figure 38. AT-462 Antenna, Wideband Portions of Dwg No. 121-014378

Tactical Communication Products: AT-399B Whip Antenna



NOTES:

1. SCALE = 1:1 UNLESS OTHERWISE SPECIFIED.
2. FREQUENCY RANGES: 30-175/225-400MHz (175-225MHz AT REDUCED PERFORMANCE).
3. IMPEDANCE: 50 OHMS (NOMINAL).
4. VSWR: 2.5:1 MAXIMUM.
5. RADIATION: OMNIDIRECTIONAL IN AZIMUTH APPROXIMATELY COSINUSOIDAL IN ELEVATION.
6. PATTERNS: OMNI-DIRECTIONAL IN AZIMUTH.
7. POLARIZATION: VERTICAL POLARIZED, WHEN MOUNTED VERTICALLY.
8. APPROVED VENDOR: CHELTON, INC. (P/N: 18-12)
9. COMPASS SAFE DISTANCE: 12 IN.
10. DIMENSIONS SHOWN FOR REFERENCE ONLY.
11. WEIGHT: 2.5LBS (1.13kg).
12. INSTALL USING BASE RF GASKET CHELTON P/N: 6930A/18-12 GASKET IS ORDERED SEPARATELY FROM THE ANTENNA.
13. PART TO BE LABELED ON BASE WITH THE FOLLOWING:
 - a. WULFSBERG ELECTRONICS DIVISION P/N: 121-040089-01
 - b. SERIAL NUMBER (SUPPLIED BY VENDOR).
14. CONFIGURATION OF ANTENNA MAY VARY WITH INSTALLATION.
15. FINISH: OLIVE DRAB EPOXY PAINT WITH MATTE FINISH PER DEFENCE STD. 80-161.

Figure 39. AT-399B Antenna, Wideband Whip Portions of Dwg No. 121-040089