

RT7000 Series HF Transceivers section 3

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Features

1.6 to 30 MHz (100 kHz - Rx)	Multiple Models
125W PEP/100W Average	Multi-mode capability
Continuous Duty Voice and Data	Mobile and Base Stations
Up to 1000 Preset Channels	Multi-Protocol Remote Control
Embedded Voice Encryption Option	BITE Capability
MIL-STD-188-141B ALE Option	



Introduction

The RT7000 series is a rugged, 1.6-30 MHz HF transceiver family designed to provide long distance voice and data communication capability over HF radio links. A complete line of accessories including RF booster amplifiers, antenna tuners, and power supplies are available to complement the core RT7000 and form systems with RF power levels up to 5000W. High-speed modems, rugged computer sub-systems, and application software packages help configure even the most complex network data system.

All models in the RT7000-series are waterproof and environmentally rugged to meet MIL-STD-810 for shock, vibration, temperature, humidity, sand, and dust. The transceivers are available in both 12V and 28V versions for use in all types of vehicles. The RF output power is conservatively rated at 125W, PEP, and 100W, average, in a continuous key-down mode when used with the optional fan kit. Full protection is provided against reverse polarity, over-voltage, and antenna mismatch. The radio now includes as standard a DSP-based voice enhancement module that enhances the received voice quality. Automatic BITE capability, with fault detection down to the module level is standard in all RT7000s and allows even unskilled operators to easily repair the radio at the field level.

Other plug-in features that can easily be added to the standard transceiver include MIL-STD-188-141B compliant automatic link establishment (ALE), high-level voice encryption, and special STANAG compliant Wide Band data filters. A variety of remote control options including extended front panel control, full function, long-range remote control, and computer control are offered for use with any of the transceivers.

RT7000 Series Transceivers

All models of the RT7000 are supplied with an operator's manual. The technical manual must be ordered separately.

1. Transceivers with full-function front panels

- a. RT7000-12
- b. RT7000-28
- c. RT7000-28PP

RT7000-12

Synthesized, microprocessor controlled, ruggedized HF transceiver covering the full 1.6 to 30 MHz frequency band (receive - 100 kHz-30 MHz). Requires 12 Vdc primary power input. RF output power is 125W PEP/100W average (three programmable levels). USB, LSB, CW and AME modes are standard. Features simplex and semi-duplex channels; continuous coverage in 10 Hz steps; keypad programmable; non-volatile storage on 256 channels (expandable to 1000). Comes standard with an RS232 serial interface, factory set to 9600 baud. (Optional RS422/423/485.) Complete with interfaces for connection to Datron's RF power amplifiers and antenna tuners (100 channel memory included). Meets MIL-STD-810 for operation under severe vibration and shock; waterproof and submersible. Supplied with C991556 dc power cable and operator manual.



Note: Unless otherwise indicated, all power levels listed are average power values.

RT7000-28

Identical to the RT7000-12 except it requires 28 Vdc primary power input.

RT7000-28PP

Identical to the RT7000-28, but modified to work with the RT5830 pre/post-selector unit.

2. Transceivers with blank or modified front panels

- a. RT7000E-12
- b. RT7000E-28

RT7000E-12

Extended control model - requires +12 Vdc primary power. Standard front panel is replaced with blank front panel containing internal line drivers and a connector for the C991943 control cable. The RT7000E-12 is used with RT7201E control console for remote operation up to 15m (50 ft.). Same functionality as the RT7000-12 except has "remote-only" operation. Supplied with DC cable. Order C991943 control cable separately (standard length is 9m).

RT7000E-28

Identical to the RT7000E-12 except it requires 28 Vdc primary power input. Same functionality as the RT7000-28 except has "remote-only" operation.

3. Receivers

a. RT7000RX-28

RT7000RX-28

Receive-only version of the RT7000RX-28. Requires +28 Vdc primary power input. Has full-function front panel. Supplied with DC cable.

4. Transmitters

a. RT7000TX-12

b. RT7000TX-28

c. RT7000TX-28PP

RT7000TX-12

Transmit-only version of the RT7000-12. Requires +12 Vdc primary power input. Has full-function front panel. Supplied with DC cable.

RT7000TX-28

Transmit-only version of the RT7000-28. Requires +28 Vdc primary power input. Has full-function front panel. Supplied with DC cable.

RT7000TX-28PP

Identical to the RT7000TX-28, but modified to work with the RT5830 pre/post-selector unit.

RT7000 Internal Options

All of the options listed can be ordered either installed with the radio or added on later as a simple field upgrade to units already in use. Prices include factory installation at the time the radio is ordered. For field installation, contact your Datron Sales Representative. The options are mostly contained on individual PC assemblies and can be installed in the field using standard tools. Options listed below can all be embedded inside the RT7000 (except for RT7000-IP); they include:

1. RT7000-IP – IP Interface
2. 7000ACH - 1000 memory channels
3. 7000ALE-141B - MIL-STD-188-141B ALE
4. 7000ALE- FED-STD-1045A ALE
5. 7000CW - CW filter
6. 7000CW1 – CW and Wideband filter
7. 7000ENCR - Digital voice encryption
8. 7000HS - 0.1ppm high stability reference

9. 7000NB - Noise blanker
10. 7000RCDR - Audio recorder interface
11. 7000RF - FSK modem for communication with RT7201F Remote Control Unit
12. 7000RI – High-speed modem for communication with RT7201I Remote Control Unit
13. 7000RS - COM1 port configuration option
14. RT7000AIRSELCALL - Interface to SELCAL encoder
15. 7000VEM - DSP-based voice enhancement module
16. 7000WB1 - Wideband data filter

RT7000-IP

IP interface option for the RT7000 radio to allow remote control of the radio over a LAN or WAN TCP/IP network. This option equips the radio with a 10 Base T Ethernet port via an external cable for easy connection to the LAN/WAN. The IP interface extends the radio RS-232 serial interface over TCP/IP using a serial tunneling protocol and virtual serial (COM) driver on a MS Windows PC. It allows the assignment of a static IP address that is associated with the radio. To upgrade existing radios with the IP interface option order part number RT7000-IP-UPGKIT.

7000ACH

Increases the radio's preset (memory) channels to 1000 (standard is 256).

7000ALE-141B

A MIL-STD-188-141B ALE (Automatic Link Establishment) module that provides a fully compliant system for ALE operations including high-speed scanning, sounding, link quality analysis, and send/receive "orderwire" AMD message capability. It provides selective calling as well as automatic "best available frequency" selection. Channel and ALE parameters can be programmed into the radios either from the front panel or using one of Datron's custom software programs (DatronLINK-2 or RC2).

7000ALE

A FED-STD-1045A ALE module that provides a fully compliant system for ALE operations including high-speed scanning, sounding, link quality analysis, and send/receive "orderwire" AMD message capability. It provides selective calling as well as automatic "best available frequency" selection. Channel and ALE parameters can be programmed into the radios either from the front panel or using one of Datron's custom software programs (DatronLINK-2 or RC2).

7000CW

500 Hz narrowband filter for CW operation. Installed on the 5 MHz IF subassembly in place of WB data filter (when ordered).

7000CW1

500 Hz narrowband filter for CW operation and 3000 Hz (300-3300 Hz) wideband filter for data operation. With this option, the wideband filter is used for voice operation.

7000ENCR * ***THIS ITEM IS USML***

High-level digital encryption module for voice transmissions. It contains a three-tiered key system (system, network and local keys) with provision for up to 200 local encryption keys. Three levels of keys can be programmed into a smart module (701450) with the DSP9000 ciphering system. The DSP9000 includes the H-250 handset and can be used as an encryption unit with cable C992029 which connects to the audio port of the RT7000 radio. The keys are loaded into the radio from the smart module. The 7000ENCR is compatible with the DSP9000-HS encrypting handset. For more information on key management systems, contact your Datron Sales Representative.

7000HS

High-stability reference frequency option. Provides a reference frequency stability of 0.1 parts per million. It replaces the standard reference crystal oscillator with a precision OCXO (Oven-Controlled Crystal Oscillator).
(Note: the standard frequency stability of the 7000 transceivers is 0.5 ppm)

7000NB

An impulse-type noise blanker that is designed to allow operation of the 7000-series transceivers in a high-noise environment, as in the presence of vehicle ignition noise. The noise blanker circuitry can be externally controlled from the front panel.

7000RCDR

Combines receive and transmit audio and routes them to Accessory #2 connector on the radio's rear panel. Typically used with a continuous recording device to monitor RX and TX communications. For split site systems, this option is only required in the receiver.

7000RF

An FSK modem for the 7000-series radios that allows communication with the RT7201F external FSK remote control head. It permits control of the radio remotely from the RT7201F Control Console over an audio 2-wire circuit (with the radio being the "master"). Used when long-range remote control is required. This option is standard in the "7000RF" models of the transceiver, which permits "remote-only" operation, but is optional in other RT7000 models, which are used if both remote and local control of the transceiver is desired. No HF Data communications are possible through the RT7201F control head.

7000RI

A high-speed modem (I-Type) for the 7000-series radios that allows communication with the RT7201I external remote control head. It permits control of the radio remotely from the RT7201I remote control unit. When installed, it permits reliable "real-time" remote control up to 2 km. This option is standard in the "7000RI" models of the transceiver, which permits "remote-only" operation, but is optional in other RT7000 models, which are used if both remote and local control of the transceiver is desired. HF Data communications are possible through the RT7201i control head.

7000RS

The 7000-series radios have two external COM ports, both of which are configured for RS232 operation. The 7000RS option allows configuring the COM1 port for RS422/423/485 protocols depending on the user requirements for external control of the radio by a computer.

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RT7000AIRSELCALL

Permits the RT7000 radios to operate with SELCAL encoder. It adds a secondary PTT line to the radio and allows the use of the ICAO-mandated Ground-to-air SELCAL 4-tone system. Once the calling sequence is sent, the radio returns to normal SSB mode.

7000VEM

This option is now included standard in all 7000-series radios. A DSP speech processing module for the 7000-series radios that improves the quality of received speech signals. It allows the operator to select one of two available signal enhancement modes, either adaptive peaking or spectral subtraction, designed to remove less coherent forms of noise and/or subtract extraneous signals from the received audio to improve the overall signal-to-noise ratio.

7000WB1

A 7000-series option that adds a second IF filter specially designed for the passage of data. This is a 300 - 3300 Hz wideband filter with specially tailored group delay characteristics (meets the requirements of STANAG 4285). The filter is selectable from the front panel of the radio (data mode). This option should be ordered if the radio is being used in a data system with a MIL-STD-188-110B data modem.

RT7000 Transceiver Configurations

When ordering a transceiver with 7000ALE or 7000ALE-141B, use the following configured transceiver part numbers. Add additional options separately.

1. RT7000-12-1045ALE
2. RT7000-28-1045ALE
3. RT7000-12-141BALE
4. RT7000-28-141BALE

RT7000-12-1045ALE

12VDC transceiver with FED-STD-1045A ALE

RT7000-28-1045ALE

28VDC transceiver with FED-STD-1045A ALE

RT700-12-141BALE

12VDC transceiver with MIL-STD-188-141B ALE

RT7000-28-141BALE

28VDC transceiver with MIL-STD-188-141B ALE

RT7000 Remote Control Units

All functions of the RT7000 can be controlled remotely, either via an external computer or from one of three Datron Remote Control Units listed here. Full-function remote control options available for the RT7000 include an extended control unit (RT7201E) for short distance (up to 50 feet) operation, and remote control units (RT7201I or RT7201F) for longer range using either an integrated high-speed modem (2 km range) or an integrated FSK modem (long range) over a voice-grade 2-wire circuit. The RT7000 is also capable of full computer control (RT7000C) from a PC. Both “remote-only” and “local-remote” configurations are available. The former uses a radio with a blank front panel, while the latter uses a radio that has the normal full-function front panel to allow multiple control points. Remote control units include:

1. RT7201E
2. RT7201F
3. RT7201I

RT7201E

Extended front panel control console for the RT7000E. Allows remote placement of the front panel from the radio up to 50 feet. Supplied with mobile mount kit. Order control cable C991943 (9m is standard length) separately. Control cable attaches to front panel of RT7000E radios. Power is supplied by the radio through the control cable.

RT7201F

Long-distance, full function, FSK Remote Control Unit (RCU). Supports all transceiver functions and options except data communications. Radio must have 7000RF option installed. Distance from the radio is limited by the signal loss in the cable (maximum signal loss is 20 dB). Powered from 110 VAC, 220 VAC or 10-30 Vdc. Supplied with mobile mount kit and C992042 DC power cable. If 110 VAC operation is required order C992034 cable separately. If 220 VAC operation is required order C992139 cable separately. Order C992306 control cable separately to connect the RCU directly to the RT7000 transceiver. If the distance between the RCU and transceiver is greater than 33 ft, then specify the length. If the RCU-transceiver link traverses through building interconnect wiring, then order unterminated C992308 cable, qty-2, and specify the length from RCU and transceiver to customer-provided interconnection points if greater than 10 ft.

RT7201I

High-speed, full-function, DHSL Remote Control Unit (RCU). Supports all transceiver functions and options. Radio must have 7000RI option installed. Includes two 9600 bps serial channels with one for voice and the other for data communications. Requires a direct, physical, 2-wire link limited to 2 km. Powered from 110 VAC, 220 VAC or 10-30 Vdc. Supplied with mobile mount kit and C992042 DC power cable. If 110 VAC operation is required order C992034 cable separately. If 220 VAC operation is required order C992139 cable separately. Order C992306 control cable separately to connect the RCU directly to the RT7000 transceiver. If the distance between the RCU and transceiver is greater than 33 ft, then specify the length. If the RCU-transceiver link traverses through building interconnect wiring, then order unterminated C992308 cable, qty-2, and specify the length from RCU and transceiver to customer-provided interconnection points if greater than 10 ft.

RT7000 Accessories

Datron offers a wide variety of accessory equipment for use with the RT7000. The RT7000 can be configured for fixed station or mobile usage at RF power levels up to 5 kW. A complete line of both broadband and narrowband antenna systems, power supplies, and data devices are also available to complement the base transceiver. The following pages summarize the Datron accessory equipment that can be used with the RT7000 and show the RF, control, and power cables necessary for proper interconnections. Accessory equipment is listed below and encompasses the following categories:

1. RF Power Amplifiers
2. Power Supplies
3. Broadband Antennas
4. Narrowband Antennas
5. Automatic Antenna tuners
6. Audio Accessories
7. Mounting Kits
8. Miscellaneous Accessories
9. Data System Accessories



1. RF Power Amplifiers

All amplifiers are supplied less interface cables; the proper cables must be ordered separately. Amplifiers include:

- a. RA500D
- b. RA1000D

RA500D

The RA500D is a 500W HF Linear RF Amplifier designed for continuous duty use with an exciter unit operating in the 1.6 to 30 MHz frequency band to form a high-power HF communication system. The RA500D interfaces seamlessly with Datron's 7000-series of synthesized HF transceivers.

The amplifier is entirely solid state, broadband, and features a built-in ac/dc power supply that allows operation from either 110VAC or 220VAC. The standard product is configured for 220 VAC. If 110 VAC operation is required, specify when ordering.. It is a completely self-contained unit, integrating RF amplifiers, harmonic filters, protective circuitry, and power supplies in a single chassis. The RA500D is housed in an anodized-aluminum 5u rack mount package suitable for standard 19" racks. Order RA500D-RMS 1U sliding rack mount shelf, C992257 control cable and C991526-7 RF cable separately.

RA1000D

The RA1000D is a 1000W HF Linear RF Amplifier designed for continuous duty use with an exciter unit operating in the

1.6 to 30 MHz frequency band to form a high-power HF communication system. The RA1000D interfaces seamlessly with Datron's 7000-series of synthesized HF transceivers.

The amplifier is entirely solid state, broadband, and features a built-in ac/dc power supply that allows operation from 220VAC. It is a completely self-contained unit, integrating RF amplifiers, harmonic filters, protective circuitry, and power supplies in a single chassis. The RA1000D is housed in an anodized-aluminum 7u rack mount package suitable for standard 19" racks. Order RA1000D-RMS 1U sliding rack shelf, C992257 control cable and C991526-7 RF cable separately.

2. Power Supplies and Adapters

Datron offers 12 Vdc and 28 Vdc power supplies for 110 VAC and 220 VAC mains operation to power RT7000 series equipment in fixed station applications. DC power cables that connect the power supply to the transceiver must be ordered separately. Datron also offers a line of power switches for use in battery backup systems.

- a. UPF7000A-12
- b. UPF7000A-12-220
- c. UPF7000A-28
- d. UPF7000A-28-220
- e. TWPSC
- f. RAT1000P-110
- g. RAT1000P-220

UPF7000A-12

Continuous duty, 12 Vdc, power supply designed to power the RT7000-12. Automatic input voltage selection. Accepts 85-240 VAC, 47-63 Hz input. Packaged in rugged waterproof case. Includes C992034 AC power cable with 110 VAC NEMA 5-15P plug. Order C991511 DC power cable separately. For rack-mounted systems order the UPF7000RM rack mount and C991511-6 DC power cable.

UPF7000A-12-220

Same as UPF7000A-12 except with standard 220 VAC NEMA 6-15P plug on C992139 AC power cable. Order C991511 DC power cable separately. For rack-mounted systems order the UPF7000RM rack mount and C991511-6 DC power cable.

UPF7000A-28

Continuous duty, 28 Vdc, power supply designed to power the RT7000-28. Automatic input voltage selection. Accepts 85-240 VAC, 47-63 Hz input. Packaged in rugged waterproof case. Includes C992034 AC power cable with 110 VAC NEMA 5-15P plug. Order C991511 DC power cable separately. For rack-mounted systems order the UPF7000RM rack mount and C991511-6 DC power cable.

UPF7000A-28-220

Same as UPF7000A-28 except with standard 220 VAC NEMA 6-15P plug on C992139 AC power cable. Order C991511 DC power cable separately. For rack-mounted systems order the UPF7000RM rack mount and C991511-6 DC power cable.

TWPSC

Power supply adapter for 12 Vdc and 28 Vdc input transceivers. Provides automatic switching to backup DC power source if power supply or AC mains fail. It's a low current switch that provides backup for just the exciter (RT7000 @ 125W PEP); if system is used with an associated RF Power Amplifier, the amplifier is placed in bypass mode. Order backup DC power source and cables separately.

RAT1000P-110

External 28 Vdc power supply for the RAT1000C antenna tuner. MIL OD color. For 110 VAC systems. Used in 500W, 110 VAC, high power systems whenever a 12 Vdc radio is used or when the radio-to-tuner control cable run exceeds 50 feet if used with a 28 Vdc radio. Order C991933 (control + power cable between the radio and the RAT1000P-110) and C991552 (control + power cable between the RAT1000P-110 and the RAT1000C) separately. Specify C991552 length.

RAT1000P-220

Identical to RAT1000P-110 except with standard NEMA 6-15P 220 VAC plug on power cable. Used in 500W or 1000W, 220 VAC, high power systems whenever a 12 Vdc radio is used or when the radio-to-tuner control cable run exceeds 50 feet if used with a 28 Vdc radio. Order C991933 (control + power cable between the radio and the RAT1000P-220) and C991552 (control + power cable between the RAT1000P-220 and the RAT1000C) separately. Specify C991552 length.

3. Broadband Antennas

Datron offers a complete line of broadband HF antennas for fixed station use where space for a proper installation is available.

Note: the ABB-series of broadband antennas can be deployed in different configurations. The drawings in the Broadband Antenna Configuration Diagrams section illustrate 3 basic installation configurations - a delta loop, a rectangle, and a diamond. Both the ABB100 and the ABB1000 can be installed in this fashion. Each installation configuration requires a different mast configuration. Please refer to this section below for more details.

a. 125W Broadband Antennas

1. ABB100AN
2. ABB100BN
3. 701408

ABB100AN

Broadband dipole antenna, 2-30 MHz, 125 W, 146 ft (44.5 m) when installed with a 48 foot center mast and 12 foot end masts in the Delta configuration. Standard length model provides better efficiency than shorter model from 2-10 MHz. Supplied with 100 ft (30.5m) RG213 coaxial cable and type "N" connector. Order AMX mast kit separately. The AMX mast kit is designed to install the antenna in the standard Delta configuration. For other configurations, contact your Datron Representative to determine the mast requirements. See the Broadband Antenna Configuration diagrams below.

ABB100BN

Broadband dipole antenna, 2-30 MHz, 125 W, 112 ft (34.1 m) when installed with a 48 foot center mast and 12 foot end masts in the Delta configuration. Shorter length model for use where space is limited. Supplied with 100 ft (30.5m) RG213 coaxial cable and type “N” connector. Order AMX mast kit separately. The AMX mast kit is designed to install the antenna in the standard Delta configuration. For other configurations, contact your Datron Representative to determine the mast requirements.

701408

Broadband BWDS-90N folded dipole antenna, 1.8-54 MHz, 300W, 90 ft (27.4 m) when installed in the flat top configuration. Shorter length model for use where space is limited. Supplied with BALUN, terminator, and type “N” connector. Order RF cable C991505 separately and specify length. Order AMX mast kit separately.

b. 1kW Broadband Antennas

1. ABB1000AN
2. ABB1000BN
3. 701408-1

ABB1000AN

Broadband dipole antenna, 2-30 MHz, 1000 W, 146 ft (44.5 m) when installed with a 48 foot center mast and 12 foot end masts in the Delta configuration. Standard length model provides better efficiency than shorter model from 2-10 MHz. Supplied with 100 ft (30.5m) RG213 coaxial cable and type “N” connector. Order AMX mast kit separately. The AMX mast kit is designed to install the antenna in the standard Delta configuration. For other configurations, contact your Datron Representative to determine the mast requirements. See the Broadband Antenna Configuration diagrams below.

ABB1000BN

Broadband dipole antenna, 2-30 MHz, 1000 W, 112 ft (34.1 m) when installed with a 48 foot center mast and 12 foot end masts in the Delta configuration. Shorter length model for use where space is limited. Supplied with 100 ft (30.5m) RG213 coaxial cable and type “N” connector. Order AMX mast kit separately. The AMX mast kit is designed to install the antenna in the standard Delta configuration. For other configurations, contact your Datron Representative to determine the mast requirements.

701408-1

Broadband BWDS-90N/H1 folded dipole antenna, 1.8-54 MHz, 1000W, 90 ft (27.4 m) when installed in the flat top configuration. Shorter length model for use where space is limited. Supplied with BALUN, terminator, and type “N” connector. Order RF cable C991505 separately and specify length. Order AMX mast kit separately.

c. Support Mast

1. AMX

AMX

Tactical, transportable antenna mast kit for ABB100, ABB1000 and 701408 series antennas with 72 ft (21.9 m) of mast sections (12 masts at 6 ft each). Includes mast base, Dacron rope guys, guy rings, guy stakes, guy hammer, raising halyard rope and pulley supplied in a canvas carrying bag.

4. Narrowband Antennas

A variety of narrowband antennas for both mobile and fixed station configurations are available from Datron including field deployable dipole and long wire antennas.

a. Mobile Narrowband Antennas

1. MAR-12
2. MAR-16
3. MAR-16T
4. RA-MAS

MAR-12

Mobile whip antenna, 1000W, 12 ft (3.6 m). Three-section, heavy-duty fiberglass military whip with flexible spring base and mobile mounting bracket. Requires antenna tuner. Can be tied down horizontally with 4277 tie-down kit to support NVIS communications.

MAR-16

Mobile whip antenna, 1000W, 16 ft (4.8 m). Four-section, heavy-duty fiberglass military whip with flexible spring base and mobile mounting bracket. Requires antenna tuner. More efficient than MAR-12 at lower frequencies. Can be tied down horizontally with 4277 tie-down kit to support NVIS communications.

MAR-16T

Identical to MAR-16 with tilt whip adapter on flexible spring base. Allows locking antenna into four different positions (from vertical to horizontal) to support NVIS communications. Requires antenna tuner.

RA-MAS

Mobile whip antenna, 400W, 16 ft (4.8 m). Four-section military whip with rigid, feed-through, flange mounting base. Requires an antenna tuner.

b. Fixed Station Narrowband Antennas

1. AW7
2. AW7-M
3. AW10
4. RA-PAS
5. SL3-17-DWC-1

AW7

Fixed-station whip antenna, 1000W, 23 ft (7 m). Side-fed, fiberglass whip with anodized aluminum mounting flange. For marine or fixed-station usage. Requires radial wires or good ground plane and antenna tuner.

AW7-M

Fixed-station whip antenna, 1000W, 23 ft (7 m). Side-fed, fiberglass whip with anodized aluminum mounting flange. Heavy duty version of the AW7 for marine or fixed-station usage. Requires radial wires or good ground plane and antenna tuner.

AW10

Fixed-station whip antenna, 5kW, 35 ft (10.6 m). Side-fed, two-section, heavy-duty, fiberglass whip with galvanized iron mounting flange. For marine or fixed-station usage. Requires radial wires or good ground plane and antenna tuner.

SL3-17-DWC-1

Fixed-station, half-loop, NVIS (Near Vertical Incidence Skywave) antenna, 150W PEP with RAT7000B-SL3-17-DWC tuner and 12 radial wires. Mounted on 6.58' x 1.2' (2m x 0.37m) base plate. If only the antenna is desired, then order part number SL3-17-DWC.

RA-PAS

Fixed-station whip antenna, 1000W, 32 ft (9.7 m). Side-fed, eight-section, military whip with 120-28 flange mounting base. Requires radial wires for ground plane and antenna tuner.

c. Tactical Antennas

1. NVISKIT

2. ALD

3. ALD-R

4. ALW-R

NVISKIT

Transportable NVIS (Near Vertical Incidence Skywave) antenna kit consisting of AS-2259/GR NVIS antenna and ground base with a thumb screw connector. Requires antenna tuner. Order cable 871102 when used with RAT7000B antenna tuner.

ALD

Tactical, adjustable-length, dipole antenna kit. Includes 33 ft (10 m) RG-58/U feed line and throwing lines with weights for ease of antenna erection. Order connector adapter 613197 separately.

ALD-R

Ruggedized, tactical, adjustable-length, dipole antenna kit. Includes 33 ft (10 m) RG-58/U feed line and throwing lines with weights for ease of antenna erection. Comes with laminate carrying bag. Features superior mechanical and cosmetic characteristics which provide greater durability and field reliability. Order connector adapter 613197 separately.

ALW-R

Rugged long-wire antenna kit, 125W, 100 ft (30.5 m). Includes 100 ft of antenna wire, 50 ft (15.2 m) counterpoise, and a long-wire adapter. Requires an antenna tuner.

5. Automatic Antenna Tuners

Tuners are needed whenever a narrowband antenna is used to transform the complex and variable antenna impedance of the antenna to 50 ohms at the transmitter output.

- a. RAT7000B
- b. RAT7000B-SL3-17-DWC
- c. RAT1000C

RAT7000B

Automatic antenna tuner in ruggedized, immersible case, 125W PEP. Operates with whips and long-wire antennas. Includes VSWR monitoring and rapid digital tuning capability. Offers 512 memory channels for scanning or silent tune applications. Supplied with mobile mount (w/o shocks), C991620 18" (0.46 m) antenna lead, and ground strap. Order C991505 RF cable and C992142 control cable separately (specify cable lengths). Optional shock mounted tray available (RAT7000B-SM).

RAT7000B-SL3-17-DWC

Automatic antenna tuner in ruggedized, immersible case, 125W PEP. Operates with SL3-17-DWC NVIS (Near Vertical Incidence Skywave) antenna only. For fixed station use only. Includes VSWR monitoring and rapid digital tuning capability. Offers 512 memory channels for scanning or silent tune applications. Supplied with mobile mount (w/o shocks), C991620 18" (0.46 m) antenna lead, and ground strap. Order C991505 RF cable and C992142 control cable separately (specify cable lengths).

RAT1000C

Automatic antenna tuner in ruggedized, immersible case, 1000W. 3-30 MHz for mobile applications, 2-30 MHz for fixed station applications. Requires +28 Vdc primary power. Operates with most whip and long-wire antennas. Includes 100 memory channels with VSWR monitoring and rapid digital tuning capability. Supplied with C991620 18" (0.46m) antenna lead and ground strap. Order C991933 control cable and C991505 RF cable (specify cable lengths).

Note: If the RAT1000C is being used with an older version of radio, then the radio must have 701BC firmware or higher (radio) and 312C firmware or higher (ALE Card). If the radio doesn't have these revisions of firmware, then the P/N 701-312-UPD kit must be ordered for the radio.

Note: If a +28 Vdc model of the radio is being used, primary power for the RAT1000C can be obtained directly from the radio via the C991933 control cable providing the separation between the tuner and the radio is not more than 50 feet. If the separation is greater than 50 feet, then the RAT1000P-110 (RAT1000P-220) and C991933 and C991552 (specify length) control cables must be used in the system to provide the +28 Vdc for the tuner. If a +12 Vdc model radio is being used, then the RAT1000P-110 (RAT1000P-220) and C991933 and C991552 (specify length) control cables must be used in the system to provide the +28 Vdc for the tuner. See description of RAT1000P-110 (RAT100P-220) and the system drawings for more detail.

6. Audio Devices

For connection to the transceiver or remote control console and used for the transmission and reception of baseband audio signals.

a. Handsets and Microphones

1. MDR
2. MHS
3. H-250/U
4. MRR
5. DSP9000-HS
6. SHS

MDR

Desk microphone with military-type connector.

MHS

U.S. military-style H-189/U-type handset with military-type connector.

H-250/U

Noise canceling, non-repairable version of MHS.

MRR

Heavy-duty hand microphone with military-type connector.

DSP9000-HS ****THIS ITEM IS USML***

Ruggedized, half-duplex audio ciphering handset. Normal operation is fully automatic; user simply selects Plain or Cipher mode. Compatible with 7000ENCN embedded encryption option. Requires DSP9000 external cipher unit with smart programming module (P/N 701450) to program encryption keys and cable (C992029).

SHS

Scrambling Handset with military connector. Order SHS-KIT programming kit separately.

b. Headsets

1. H-140/U
2. H3M
3. HPR
4. HSR

**USML REQUIRES WRITTEN AUTHORIZATION FROM THE U.S. DEPARTMENT OF STATE PRIOR TO EXPORT OR RE-EXPORT.*

H-140/U

Ruggedized headphones with 5-pin connector

H3M

Headset-boom microphone. Single earphone low profile with clip-on push-to-talk switch.

HPR

Headphones with military-type connector.

HSR

Dual headset with boom microphone and military-type connector.

c. Miscellaneous Audio

1. KYR

KYR

CW key with military-type connector.

7. Mounting Kits

Datron offers a complete line of shock, rack, and stack mounting assemblies for Datron's RT7000-series and accessory equipment.

The shock mounts isolate the equipment from high-impact shock and vibration. The equipment is retained in the mount using four or six quick-detach, military-type butterfly clamps. Four separate military-type heavy-duty shock absorbers are used in each shock mount. Rack mount kits allow mounting the equipment in standard 19 inch racks, while stack mount kits provide the brackets necessary to stack the equipment for use where space is limited.

a. Mobile Mounts for Vehicular Installations

1. RAT1000-SM

2. RAT7000B-SM

3. UNIV-SM

RAT1000-SM

Shock mount for RAT1000C tuner.

RAT7000B-SM

Shock mount for RAT7000B tuner

UNIV-SM

Shock mount for RT7000.

b. Rack Assemblies

1. RACK7100-OD
2. RACK7100-220-OD
3. RACK7500-OD
4. RACK7500-220-OD

RACK7100-OD

12U rack space – standard 19 in. (48 cm) W x 21 in. (53 cm) H, enclosed rack cabinet. Includes 110 VAC power strip with 8 NEMA 5-15R receptacles and NEMA 5-15P plug on power cable. MIL OD color. Custom shock mounts are available. Includes 050-00001 grounding kit. Contact your Datron Sales Representative for special needs (shock mounts, rear doors, etc.)

RACK7100-220-OD

Identical to the RACK7100-OD except designed for 220 VAC systems. Includes 8 NEMA 6-20R receptacles in power strip and NEMA 6-15P power plug on main power cable. Contact your Datron Sales Representative for special needs (shock mounts, rear doors, etc.)

RACK7500-OD

19U rack space – standard 19 in. (48 cm) W x 33 in. (84 cm) H, enclosed rack cabinet. Includes 110 VAC power strip with 8 NEMA 5-15R receptacles and NEMA 5-15P plug on power cable. MIL OD color. Custom shock mounts are available. Includes 050-00001 grounding kit. Contact your Datron Sales Representative for special needs (shock mounts, rear doors, etc.)

RACK7500-220-OD

Identical to the RACK7500-OD except designed for 220 VAC systems. Includes NEMA 6-20R receptacles in power strip and NEMA 6-15P power plug on main power cable. Contact your Datron Sales Representative for special needs (shock mounts, rear doors, etc.)

c. Rack Mount Kits

1. RT7000RM
2. RT7000RMS
3. UPF7000RM
4. RT7201RM
5. RA500D-RMS
6. RA1000D-RMS

RT7000RM

Rack mount kit for the RT7000. Contains two mounting brackets.

RT7000RMS

Rack mount kit complete with slides for extending transceiver to the front of the rack cabinet. Each RT7000RMS contains two mounting rails with slides (Optional rack cabinets available include RACK7100 and RACK7500.)

899115

Cable retractors for use with RMS-type kits.

870002

Cable tie wraps for use with cable retractors (4 per retractor).

UPF7000RM

Rack mount for UPF7000A power supplies.

RT7201RM

Rack mount kit for all models of RT7201

RA500D-RMS

Sliding rack mount shelf for RA500D amplifier.

RA1000D-RMS

Sliding rack mount shelf for RA1000D amplifier.

8. Miscellaneous Accessories

a. Pre/Post-Selector Equipment

1. RT5830

2. RT5830-220

RT5830

Pre/post selector that provides filtering to permit operation of co-located HF receivers and transmitters with frequency separation as low as 10%. Housed in a 1U rack mount package. OD-green color. Supplied with 110VAC power cord with NEMA 5-15P plug. The RT5830 must be used with the RT7000-28PP version of the radio. For more information, see the system diagram with pre/post selector at the end of this section.

Note: For more complex configurations involving high-power amplifiers, modems, and remote controls, contact your Datron Sales Representative

RT5830-220

Identical to RT5830 except with 220 VAC NEMA 6-15P plug on power cable.

b. Customizable Equipment

1. ACU-1000

2. ACU-T

ACU-1000 Modular Interconnection System

DWC P/N 701419

Provides interconnections between different communications systems. The ACU-1000 can simultaneously cross-band two or more different radio networks, and connect a radio network to a telephone line. Basic chassis module with up to 12 separate interface modules. Standard 19" Rack mountable version for fixed station or mobile command center usage. Requires C992363 cable (ACU to RT7000). Contact your Datron Sales Representative for system details.

ACU-T Tactical Interconnection System

DWC P/N 701420

Tactical version of the ACU-1000 designed for rapid deployment situations. Transportable model runs off of +12 Vdc primary power. Requires C992363 cable (ACU to RT7000). Contact your Datron Sales Representative for system details.

Internal Options for 701419 and 701420

- 701421 PSTN Module
- 701422 DSP2 Radio Interface (one per radio)
- 701423 Local Telephone Option

c. Remote Audio Equipment

1. REM1045A

2. REM1045A-RM

3. REM1045A-220

4. REM1045A-RM-220

REM1045A

Remote audio interface device. Built-in speaker and audio connector. Provides real-time audio and PTT from the remote site to the local (radio) site. Supplied with 110VAC power cable. 2-wire control between device at remote site and device at local (radio) site.

REM1045A-RM

Rack mountable remote audio interface device. Built-in speaker and audio connector. Provides real-time audio and PTT from the remote site to the local (radio) site. Supplied with 110VAC power cable. 2-wire control between device at remote site and device at local (radio) site.

REM1045A-220

Identical to the REM1045A with 220 VAC NEMA 6-15P plug on power cable.

REM1045A-RM-220

Identical to the REM1045A- with 220 VAC NEMA 6-15P plug on power cable.

d. AC and RFI Surge Suppressers and AC Power Line Conditioners

1. AC Surge Suppressors

Surge suppressers are used to eliminate short duration-high voltage spikes which could damage equipment. They do not protect you from voltage sags, brownouts, etc. For voltage stabilization, see the AC Line Conditioning section below. For more information, contact your Datron Sales Representative.

- a. ACLP120-15
- b. ACLP240-15SP

ACLP120-15

AC Surge suppresser, 120 VAC. Contains two NEMA 5-15R receptacles for connection of equipment and 5-15P plug on power cord. Surge let-through voltage: 600 Vp to 20 kA.

ACLP240-15SP

AC surge suppresser, 240 VAC. For Single Phase circuits. Contains two NEMA 6-15R receptacles for connection of equipment and 6-15P plug on power cord. Surge let-through voltage: 1000 Vp to 20 kA.

Note: If a 240 VAC dual-phase surge suppresser is required, contact your Datron Representative.

2. RFI Surge Suppressers

It is recommended that RFI coaxial surge suppressers be mounted as close as possible to the antenna and be connected to a good earth ground in order to divert lightning and RFI surges as far away from the radio equipment as possible.

- a. CLP-N
- b. CLP-U

CLP-N

Coaxial lightning protector with N-type connectors for use between the RT7000 radio and ABB100AN antenna, RA500D and RA1000D amplifiers and ABB1000AN antenna, or TW500D and TW1000D amplifiers and ABB1000AN antenna. Includes an additional 19 ft (5.8 m) of RG213 coaxial cable.

CLP-U

Coaxial lightning protector with UHF-type connector (SO-239) for use between the TW7000 radio and ABB100A antenna. Includes an additional 19 ft (5.8 m) of RG213 coaxial cable.

3. AC Line Conditioning

AC line conditioning is used to try to maintain a stable voltage at the input of power supplies. They are mostly effective against “brownouts”, voltage sags, and fluctuations (when generators are switched in). They do not protect from short duration spikes. For more information, contact your Datron Sales Representative. Power line conditioners are both voltage and frequency sensitive. This is a custom product. Specify the following when requesting a quote:

- Nominal ac line voltage (i.e., 220, 240, 120, etc.).
- Type of line voltage (i.e., single or dual phase, etc.).
- Frequency of ac line (i.e., 50 or 60 Hz, etc.)

- Maximum capacity (in Amps or VA).
- AC plug model (i.e., CEE-7/16, etc.) if non-NEMA type is required.

e. Other Miscellaneous Accessories

1. RT7000FAN-1 Kit
2. RT7000IOX Breakout Box
3. 701579 Vehicle Installation Kit

RT7000FAN-1

External fan cooling kit for the RT7000. Mounts on the back of the heat sink. Mandatory for high duty cycle HF data applications.

Note: Owners of existing RT7000s who want to add the fan kit should contact your Datron Sales Representative.

RT7000IOX

A 4:1 breakout box for the accessory connectors. Allows multiple accessory equipment to be used with the same radio accessory connectors.

701579

Installation kit for single vehicle.

9. Data System Accessories

Datron offers a complete line of modems, software packages, and other complementary data accessories to use with the RT7000.

Note: Data accessories, data applications, and system configurations are described in detail in the Data Communication Products section of this catalog. Listed here are some common data additions to RT7000 systems using Datron's E110A MIL-STD-188-110B modem.

Note; Datron offers data packages built around the RT7000 HF Radio for use with any PC or notebook computer. Equipment can be located on a desktop, rack mounted, or shock mounted for mobile use. Software packages are available that provide for error-free data transfer, in addition to programming and controlling the radio system. Data system configurations are illustrated in detail in the RT7000-SYS drawings at the end of this Catalog Section. The drawings depict all the systems equipment and interconnecting cables used to add data capability to a Datron system configuration.

a. Rugged Notebook Computer

1. DT9500

DT9500

Ultra rugged, lightweight, Panasonic Toughbook notebook computer designed for applications that require superior performance, quality and durability. The DT9500 offers the processing power, video display, and necessary accessories to meet the demanding requirements encountered in the field. The terminal can operate from either ac or dc input primary power or its internal battery pack. It is constructed of a strong magnesium alloy and is able to meet the stringent

environmental requirements of MIL-STD-810G for operation in harsh environments. See the Data Communication Products section of this Product Catalog for more information. Order cable C991974 for serial connection to ACC1.

b. MIL-STD-188-110B Data Equipment

1. E110A Modem (for standard desktop PC's)
2. DT310A integrated notebook PC/modem

E110A

High-speed HF modem utilizing MIL-STD-188-110B compliant waveforms to provide reliable, fast, and accurate data transmission up to 9600 bps. The E110A, in conjunction with DatronLINK-2 HF Email and Network Management Software, incorporates ARQ (Automatic Repeat Request) and FEC (Forward Error Correction) protocols to ensure error free data communications. The modem consists of a ¾ size PCI card for use in a desktop computer.

The E110A modem can be used with the basic modem software that is provided with the modem or with Datron's proprietary DatronLINK-2 HF Email and Network Management Software. The basic software application provides the ability to exchange messages and transfer files. DatronLINK-2 provides email, fax, file transfer and chat messaging along with radio programming and network management capability. See the DatronLINK-2 section below and in the Data Communication Products section of this Product Catalog for more information.

Order cable C992369 (RT7000 to modem) and cable C992370 (computer to modem) separately. Additionally, the radio must have the 7000WB1 wideband filter option. DatronLINK-2 can be used with or without ALE. If ALE is required, then order 7000ALE or 7000ALE-141B.

DT310A

Rugged notebook computer with MIL-STD-188-110B E110A modem housed in an integrated expansion chassis and next generation DatronLINK-2 HF Email and Network Management Software. The DT310A is designed for tactical use in harsh environments. It combines the versatility of a rugged Getac notebook computer with the functionality of the E110A modem in a single package. See the E110A and DatronLINK-2 sections here and in the Data Communication Products section of this Product Catalog for more information.

Order cables C992369 (RT7000 to modem) and C992370 (computer to modem) separately. Additionally, the radio must have the 7000WB1 wideband filter option. DatronLINK-2 can be used with or without ALE. If ALE is required, then order 7000ALE or 7000ALE-141B ALE.

c. Software Applications for Data Communication

Data software is offered that supports the E110A modem.

1. DatronLINK-2
2. RC2-NG

DatronLINK-2

DatronLINK-2 is the successor to Datron's highly popular DatronLINK HF Email and Network Management Software. It includes all of the functionality of DatronLINK with additional features. The application provides the ability to exchange E-mail, faxes, files and keyboard chat messages and allows the user to configure and manage the radio network.

Automatic message relaying and alternate path selection, transparent to the user, help ensure that messages get through reliably.

Additional features include ARQ chat, which is significantly faster than AMD chat, fixed frequency operation, and a tactical mode of operation. Fixed frequency operation provides the ability to transfer files and exchange ARQ chat messages without ALE on a pre-assigned channel. The tactical mode of operation allows the user to stop a file transfer in mid-stream and switch to voice operation. When the voice operation is completed, the file transfer resumes from the point it left off.

DatronLINK-2 is the central control point of a radio-messaging network. It provides a fast and easy way to program the radio with ALE parameters (frequencies, call signs, scan groups, sounding, etc.) and works in conjunction with ALE to selectively and automatically link with another station using the best available channel. Additionally, it incorporates ARQ (Automatic Repeat Request) and FEC (Forward Error Correction) protocols to ensure error-free data communications up to 9600 bps with the E110A modem

DatronLINK-2 can be used with or without ALE (fixed frequency operation only). If ALE operation is required, then order 7000ALE or 7000ALE-141B separately. The 7000WB1 wide-band data filter option is also required. DatronLINK-2 can be used with Microsoft Outlook, Outlook Express and other POP/SMTP email clients. It runs on Microsoft Windows XP, Service Pack 3 or higher and is supplied with a USB HASP security key. A serial port is required on the computer. Order part number DatronLINK-2. See the E110A section above for the required cables.

For compatibility with an existing DatronLINK station, the existing station must have its operating system upgraded to Microsoft Windows XP, Service Pack 3 or higher, and DatronLINK must be replaced by DatronLINK-2.

RC2-NG

RC2-NG radio control software provides a fast and easy way to set RT7000 radio operating parameters (mode, power, squelch, etc.) and ALE (Automatic Link Establishment) settings (frequencies, call signs, scan groups, sounding, etc.). RC2-NG is user-friendly and provides the ability to initiate ALE Voice Calls and Chat links. It runs on a standard desktop or notebook computer with Win XP, Win 7 OS. For the RT7000 radio, the 7000ALE or 7000ALE-141B option is required. For connection to ACC1, order cable C991974. For connection to ACC2, order cable C992132.

Broadband Antenna Configuration Diagrams

The 3 diagrams shown below illustrate a few of the best ways to configure the ABB-series of broadband antennas. The drawings illustrate 3 basic installation configurations - a delta loop, a rectangle, and a diamond. Both the ABB100 and the ABB1000 can be installed in this fashion.

ABB100AN – Delta Configuration

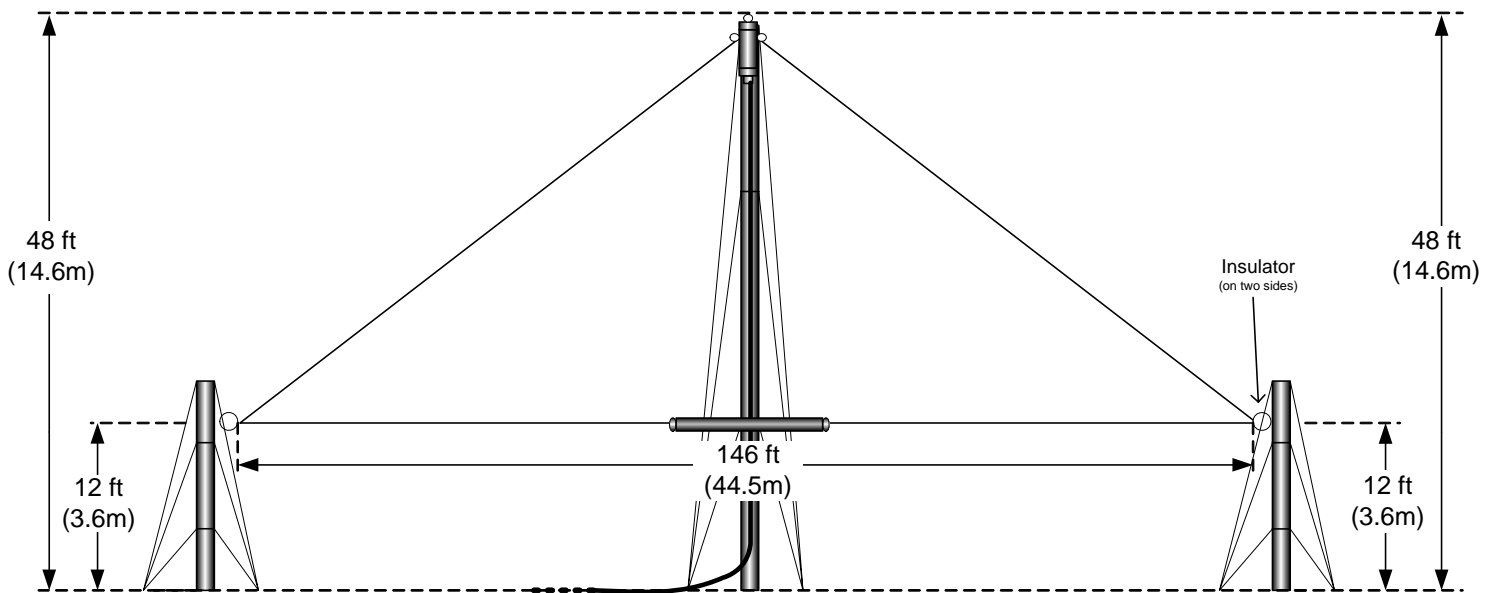


ABB100AN – Rectangular Configuration

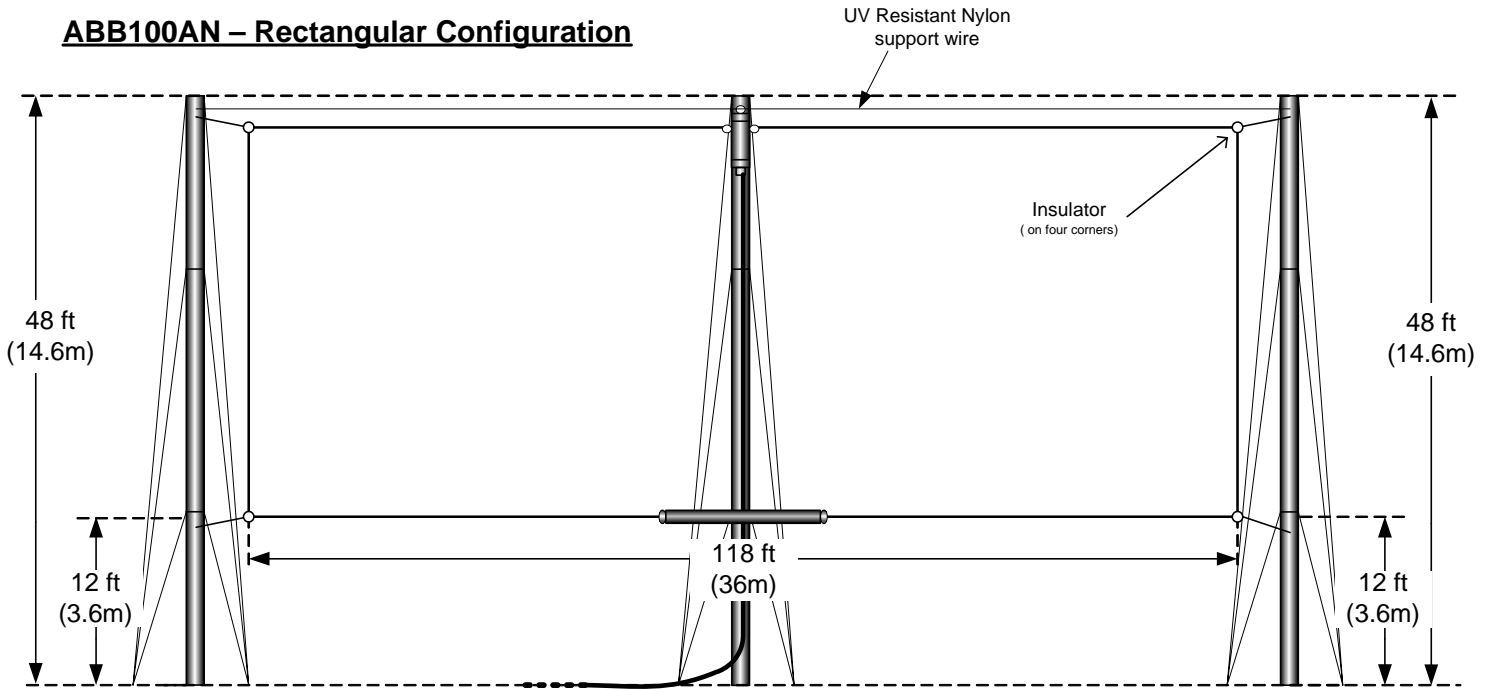
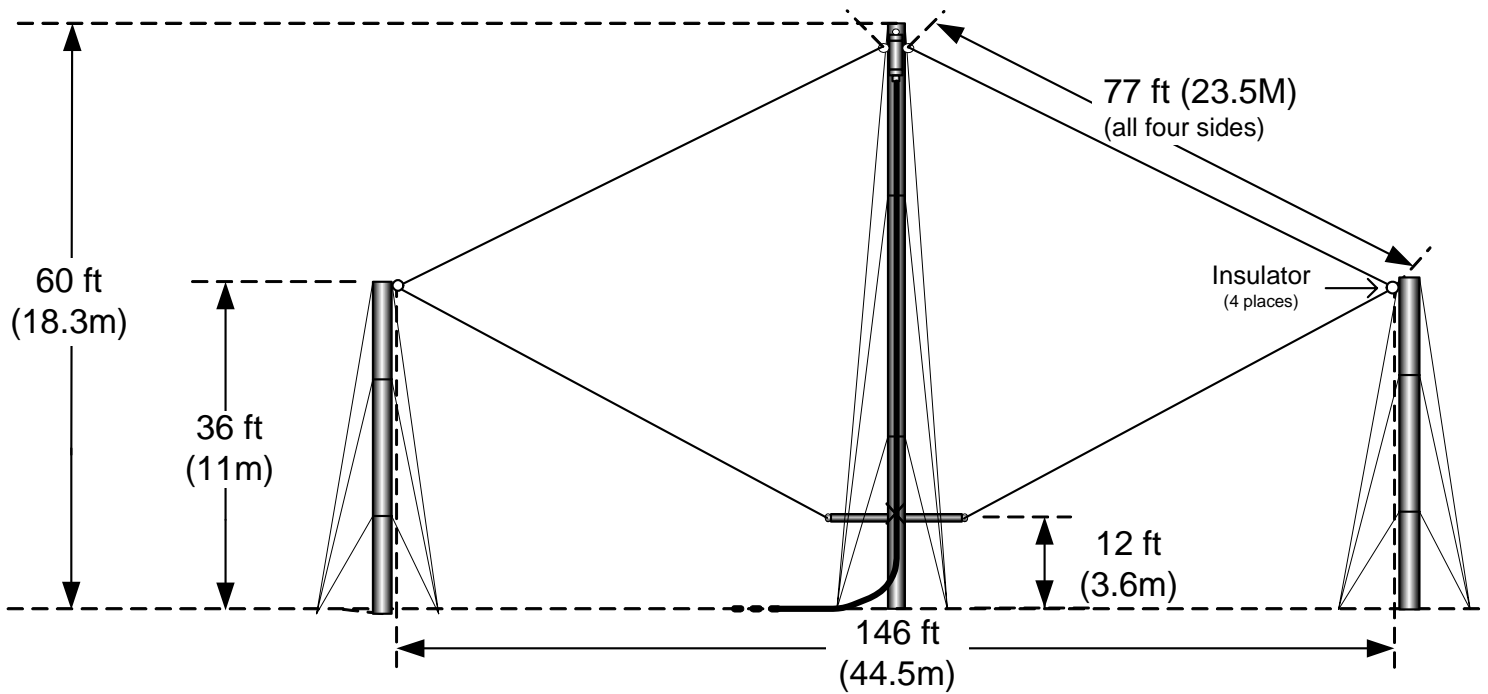
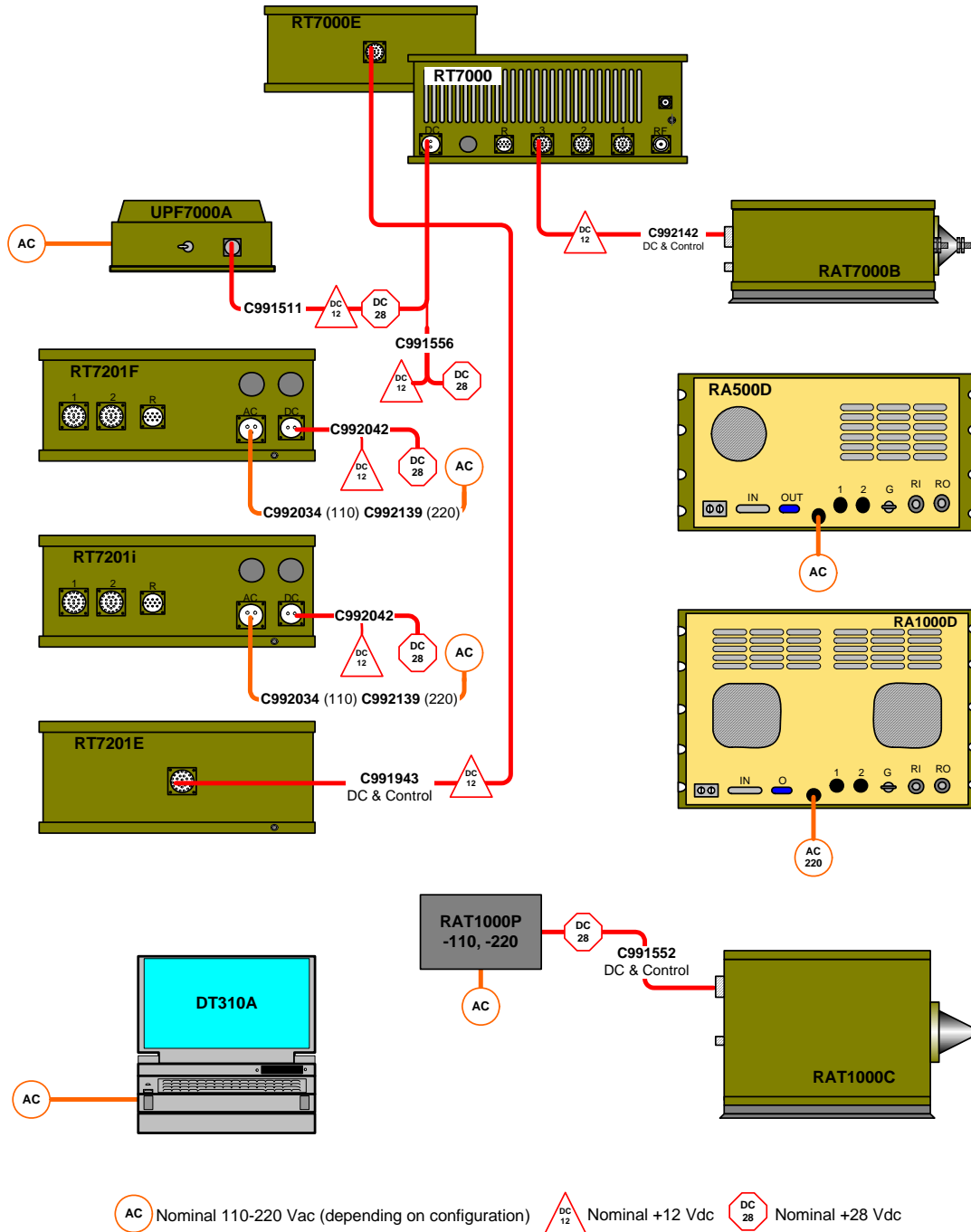


ABB100AN – Diamond Configuration

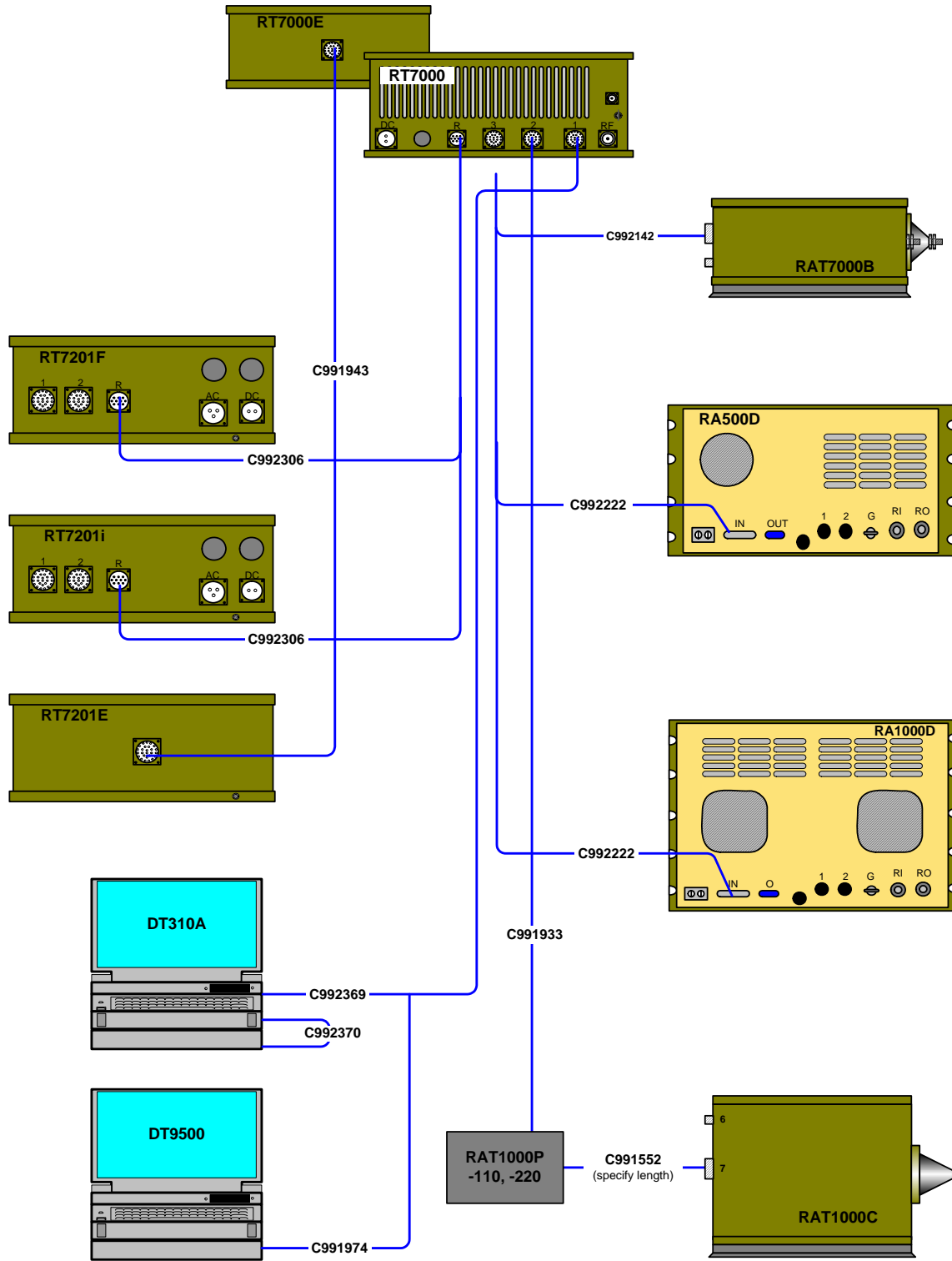


Accessory Wiring Diagrams

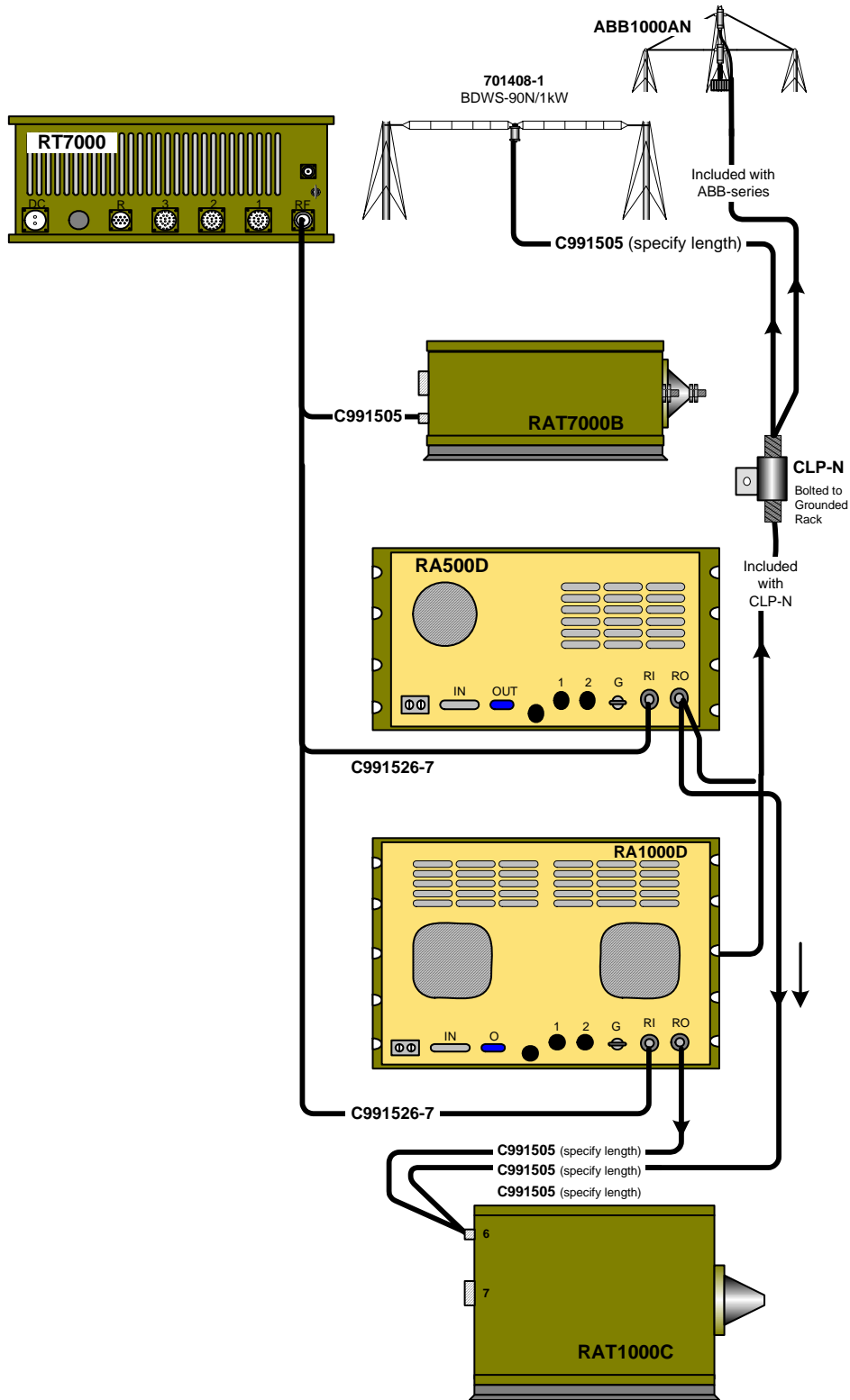
Interconnect diagrams for connection of major accessory items to the RT7000 are shown on the following pages. These three diagrams illustrate the primary power, control, and RF cabling that is used to connect the accessory items to the transceiver.



RT-Series – DC & AC Cabling



RT-Series – Accessories Control Cabling



RT-Series – Accessories RF Cabling

Rack Equipment Configuration

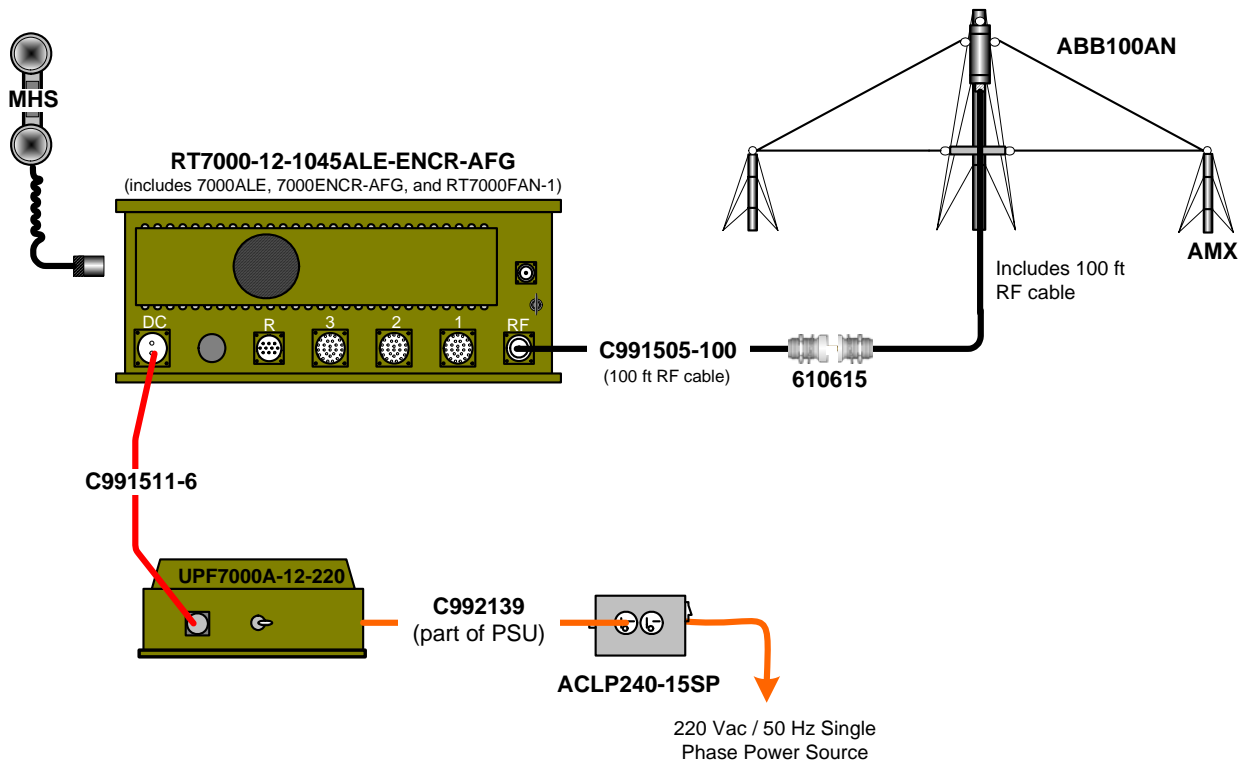
The following table shows the rack heights for various RT7000 equipment. Rack heights are given in “U” units, where one “U” unit is equal to 1.75 inches. Blank rack panels are also available to complete the rack if the equipment doesn’t use the full height. These panels are Olive Drab (OD) green for the RT7000 equipment. They have part numbers RP1OD through RP9OD, with the digit indicating the rack height.

Equipment	Rack height (U=1.75")
RT7000 (all models, w/RT7000RM or RMS)	4U
RT7201 (all models w/RT7201RM)	4U
RA500D	5U
RA500D W/RA500D-RMS (standard configuration)	6U
RA1000D	7U
RA1000D W/RA1000D-RMS (standard configuration)	8U
UPF7000A (w/UPF7000RM)	3U
REM1045A-RM (& -220)	2U
RAT1000P (w/RAT1000PRM-OD)	3U
DUALPSRM	3U

RT7000 Legacy Systems

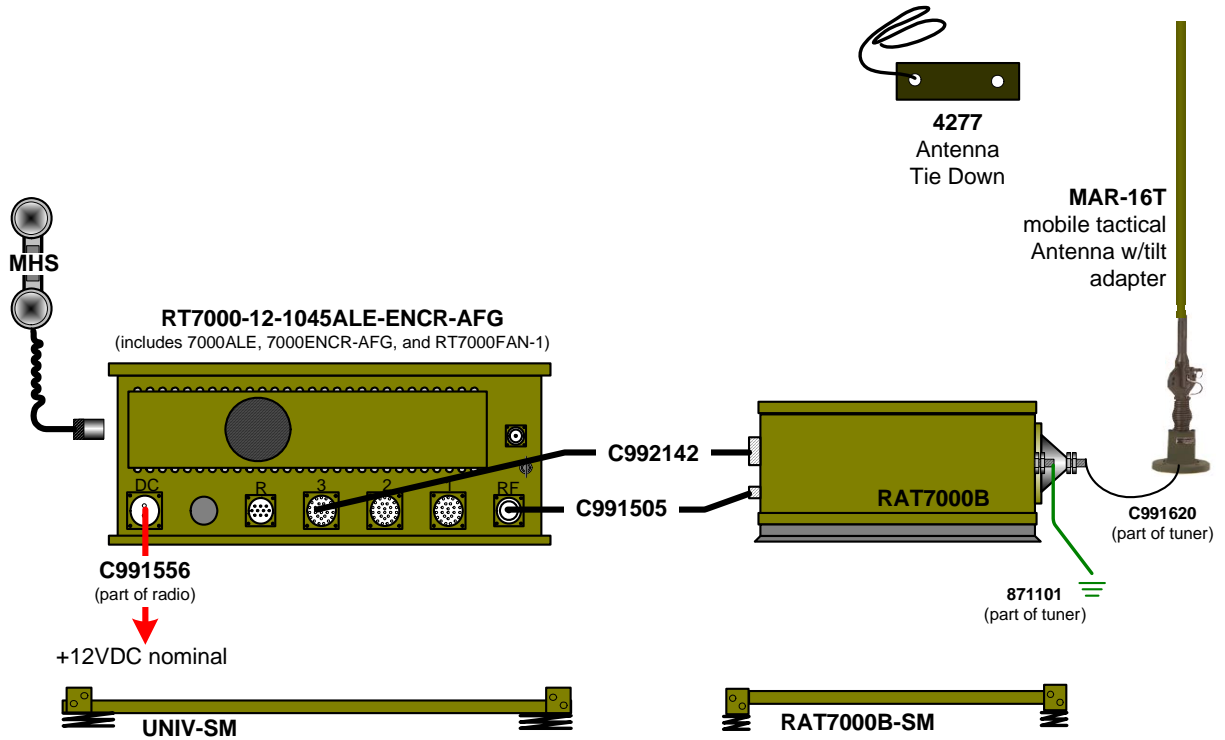
RT7000 System Descriptions	System Part Number
125W PEP, 12 Vdc, HF Fixed Station Voice System with Broadband Antenna, FED-STD-1045A ALE and AFG Encryption	RT7000-SYS150B
125W PEP, 12 Vdc, HF Mobile Voice System with Narrowband Antenna and Encryption	RT7000-SYS151V
125W PEP, 28 Vdc, HF Mobile Voice System with Narrowband Antenna and Encryption	RT7000-SYS152V

RT7000-SYS150B. 125W PEP, 12 Vdc, HF Fixed Station Voice System with Broadband Antenna, FED-STD-1045A ALE and AFG Encryption



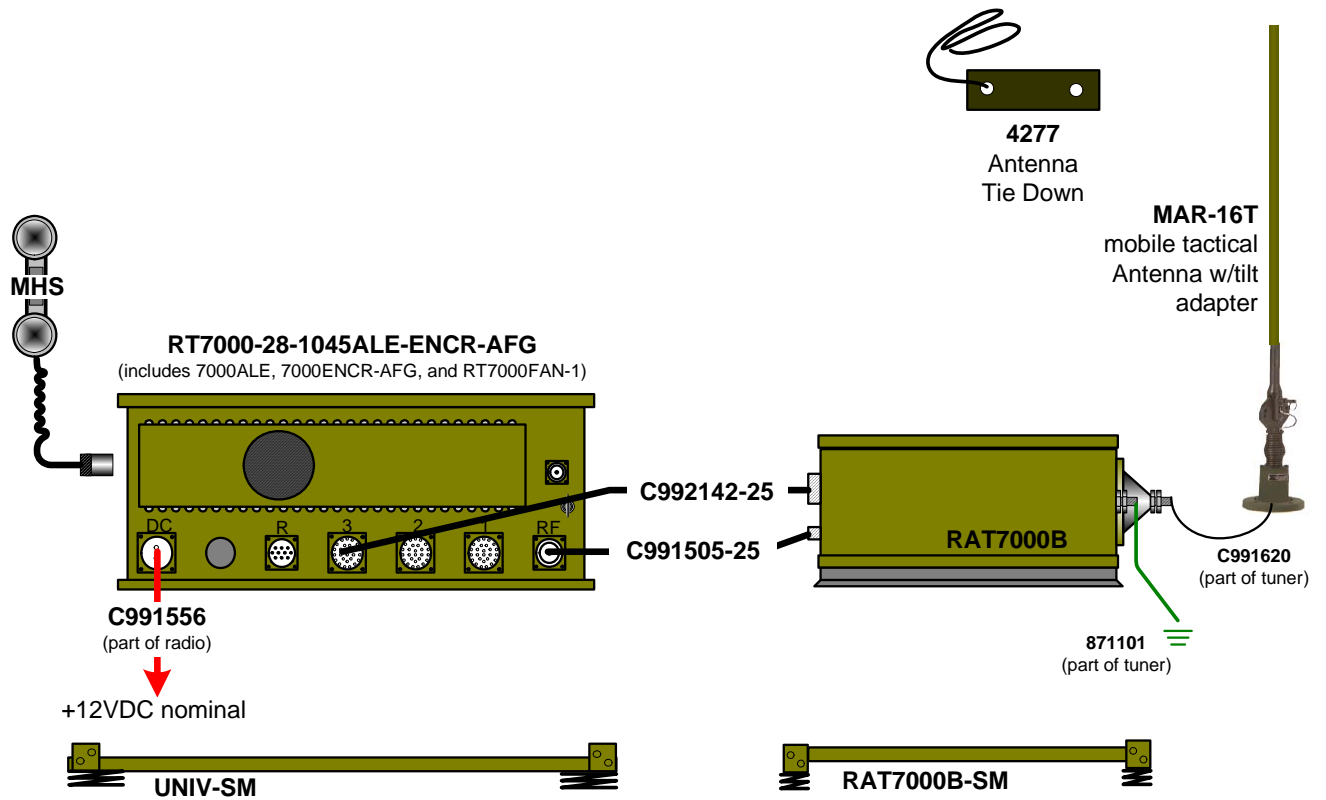
RT7000-SYS150B. 125W PEP, 28 Vdc, HF Fixed Station Voice System with Broadband Antenna, FED-STD-1045A ALE and AFG Encryption			
Item	Quantity Supplied	DWC P/N	Item Description
1	1	RT7000-12-1045ALE-ENCR-AFG	HF Transceiver, 1.6-30 MHz, 125W PEP, 12VDC, w/FED-STD-1045A ALE, AFG encryption & Fan.
2	1	MHS	Handset, military style H-189/U-type.
3	1	UPF7000A-12-220	+12 Vdc Power supply for radio, 220VAC.
4	1	ABB100AN	Antenna, broadband, 2-30 MHz, 125W, with 100 ft (30.5 m) RF cable and "N" type connector.
5	1	AMX	Tactical mast kit.
6	1	ACLP240-15SP	AC surge suppressor, 120Vac, 15A.
7	1	C991511-6	Cable, DC Power, 6 ft.
8	1	C991505-100	Cable, RF, 100 ft.
9	1	610615	Adapter, N-F to N-F, UG-29B.
10	1	670902	AC Plug, Euro, CEE 7/16.
11	1	RT7000-MSOPDA	RT7000 Operator Manual, in Dari.

RT7000-SYS151V. 125W PEP, 12 Vdc, HF Mobile Voice System with Narrowband Whip Antenna, FED-STD-1045A ALE and AFG Encryption



RT7000-SYS151V. 125W PEP, 12 Vdc, HF Mobile Voice System with Whip Antenna, FED-STD-1045A ALE and AFG Encryption			
Item	Quantity Supplied	DWC P/N	Item Description
1	1	RT7000-12-1045ALE-ENCR-AFG	HF Transceiver, 1.6-30 MHz, 125W PEP, 12VDC, w/FED-STD-1045A ALE, AFG encryption & Fan.
2	1	MHS	Handset, military style H-189/U-type.
3	1	RAT7000B	Antenna tuner, automatic, 125W. Includes C991620 antenna lead.
4	1	MAR-16T	Antenna, whip, 16 ft (4.9 m), with tilt-mount adapter.
5	1	4277	Antenna tie down kit.
6	1	UNIV-SM	Mounting kit, shock, RT7000.
7	1	RAT7000B-SM	Mounting kit, shock, RAT7000B.
8	1	C991505	Cable, RF, RT7000-28 to RAT7000B, 16 ft.
9	1	C992142	Cable, control, RT7000-28 to RAT7000B, 16 ft.
10	1	RT7000-MSOPDA	RT7000 Operator Manual, in Dari.

RT7000-SYS152V. 125W PEP, 28 Vdc, HF Mobile Voice System with Narrowband Whip Antenna, FED-STD-1045A ALE and AFG Encryption



RT7000-SYS152V. 125W PEP, 28 Vdc, HF Mobile Voice System with Whip Antenna, FED-STD-1045A ALE and AFG Encryption			
Item	Quantity Supplied	DWC P/N	Item Description
1	1	RT7000-28-1045ALE-ENCR-AFG	HF Transceiver, 1.6-30 MHz, 125W PEP, 28VDC, w/FED-STD-1045A ALE, AFG encryption & Fan.
2	1	MHS	Handset, military style H-189/U-type.
3	1	RAT7000B	Antenna tuner, automatic, 125W. Includes C991620 antenna lead.
4	1	MAR-16T	Antenna, whip, 16 ft (4.9 m), with tilt-mount adapter.
5	1	4277	Antenna tie down kit.
6	1	UNIV-SM	Mounting kit, shock, RT7000.
7	1	RAT7000B-SM	Mounting kit, shock, RAT7000B.
8	1	C991505-25	Cable, RF, RT7000-28 to RAT7000B, 25 ft.
9	1	C992142-25	Cable, control, RT7000-28 to RAT7000B, 25 ft.
10	1	RT7000-MSOPDA	RT7000 Operator Manual, in Dari.

RT7000 Standard Spare Equipment

Datron offers spares to support all of its 7000-series equipment. Standard spares are broken down into three complementary kits: MK, MRK, PSK. These kits are unique and do not include parts which are supplied as part of another kit.

- a. Module kit
- b. Module repair kit
- c. Part spares kit

Module Kit (MK)

A module kit contains one complete set of all replaceable printed circuit subassemblies in the product. These are the items that allow the equipment to be repaired by identifying and replacing modules in order to minimize down time. In general, a technician should be able to replace one of these subassemblies using common tools. The number of module kits required depends on the maintenance plan for the equipment. Typically, 2 module kits are held at each field service repair site – 1 for replacements and the other for backup while the defective module is returned to the factory or main service depot for repair.

Module Repair Kit (MRK)

A module repair kit contains all of the spare piece parts necessary to service the printed circuit assemblies in the product. It is designed to support up to 10 pieces of the product for 3 to 5 years. If the maintenance plan is to return all subassemblies to the factory for repair, then the MRKs are not required for equipment support.

Part Spares Kit (PSK)

A part spares kit contains the spare parts (except for basic hardware and wire) necessary to service the product with the exception of the printed circuit assemblies. It therefore contains those spares not contained in the MRK (e.g., chassis parts and front panel components). It is designed to support up to 10 pieces of the product for 3 to 5 years.

Surface Mount Repair Kit (7000-SMRK)

Surface Mount Repair Kit for the 7000-series radio consisting of various surface mount components.

DWC Product P/N	Module Kit (-MK)	Module Repair Kit (-MRK)	Parts Spare Kit (-PSK)	Surface Mount Repair Kit (-SMRK)
TW/RA1000D	>		>	
TW/RA500D	>		>	
RAT1000C	>			
RAT7000B	>	>	>	

DWC Product P/N	Module Kit (-MK)	Module Repair Kit (-MRK)	Parts Spare Kit (-PSK)	Surface Mount Repair Kit
RT7000-12	>	>	>	7000-SMRK
RT7000-28	>	>	>	7000-SMRK
RT7000-28PP	Use RT7000-28	Use RT7000-28	Use RT7000-28	7000-SMRK
RT7000E-12	Use RT7000-12	Use RT7000-12	Use RT7000-12	7000-SMRK
RT7000E-28	Use RT7000-28	Use RT7000-28	Use RT7000-28	7000-SMRK
RT7000RX-12	Use RT7000-12	Use RT7000-12	Use RT7000-12	7000-SMRK
RT7000RX-28	Use RT7000-28	Use RT7000-28	Use RT7000-28	7000-SMRK
RT7000TX-12	Use RT7000-12	Use RT7000-12	Use RT7000-12	7000-SMRK
RT7000TX-28	Use RT7000-28	Use RT7000-28	Use RT7000-28	7000-SMRK
RT7201E	>			
RT7201F	>			
RT7201I	>	>	>	
UPF7000A-12	>			
UPF7000A -28	>			

Notes:

- 1. To order an individual spares kit, add the appropriate suffix (i.e., -MK, -MRK, -PSK) to the product part number.*
- 2. When MK (Module Kits) and MRK (Module Repair Kits) are not listed, they are not available and are not required.*
- 3. System spares do not include spare handsets, microphones, antennas or other accessories that may be required for long-term support of the system.*

RT7000 Maintenance Equipment

Datron offers a number of maintenance kits to assist the repair technician in troubleshooting equipment.

- a. 7000EXT
- b. RT7000TK
- c. SMTRK

7000EXT

Extender board kit, includes boards and card puller.

RT7000TK

Basic tool repair kit with carrying case. Includes adapters, extension cables, and specialized tools to service the RT7000.

SMTRK

Surface mount technology repair kit consisting of a rework station, various soldering iron tips, solder and solder wick for a wide range of surface mount repair capability. Available for 110 VAC, 50-60 Hz or 220 VAC, 50 Hz. Specify ac operating voltage when ordering.

RT7000 Manuals

The following table summarizes the manuals available for the RT7000 transceivers and major accessories.

DWC Product P/N	Operator (-MSOP) (supplied with unit)	Technical (-MS) (order separately)	Operator/Technical (-MS) (supplied with unit)
ABB1000			>
ABB100			>
AMX			>
TW/RA1000D			>
TW/RA500D			>
RA400	>	>	
RAT1000C			>
RAT7000B			>
RT5830			>
RT7000	>	>	
RT7000-IP (IPI)	>		
RT7201F			>
RT7201I			>
UPF7000A -12			>
UPF7000A -28			>
UPF500			>
UPS500/1000			>

Note: For special system documentation, contact your Datron Sales Representative.

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