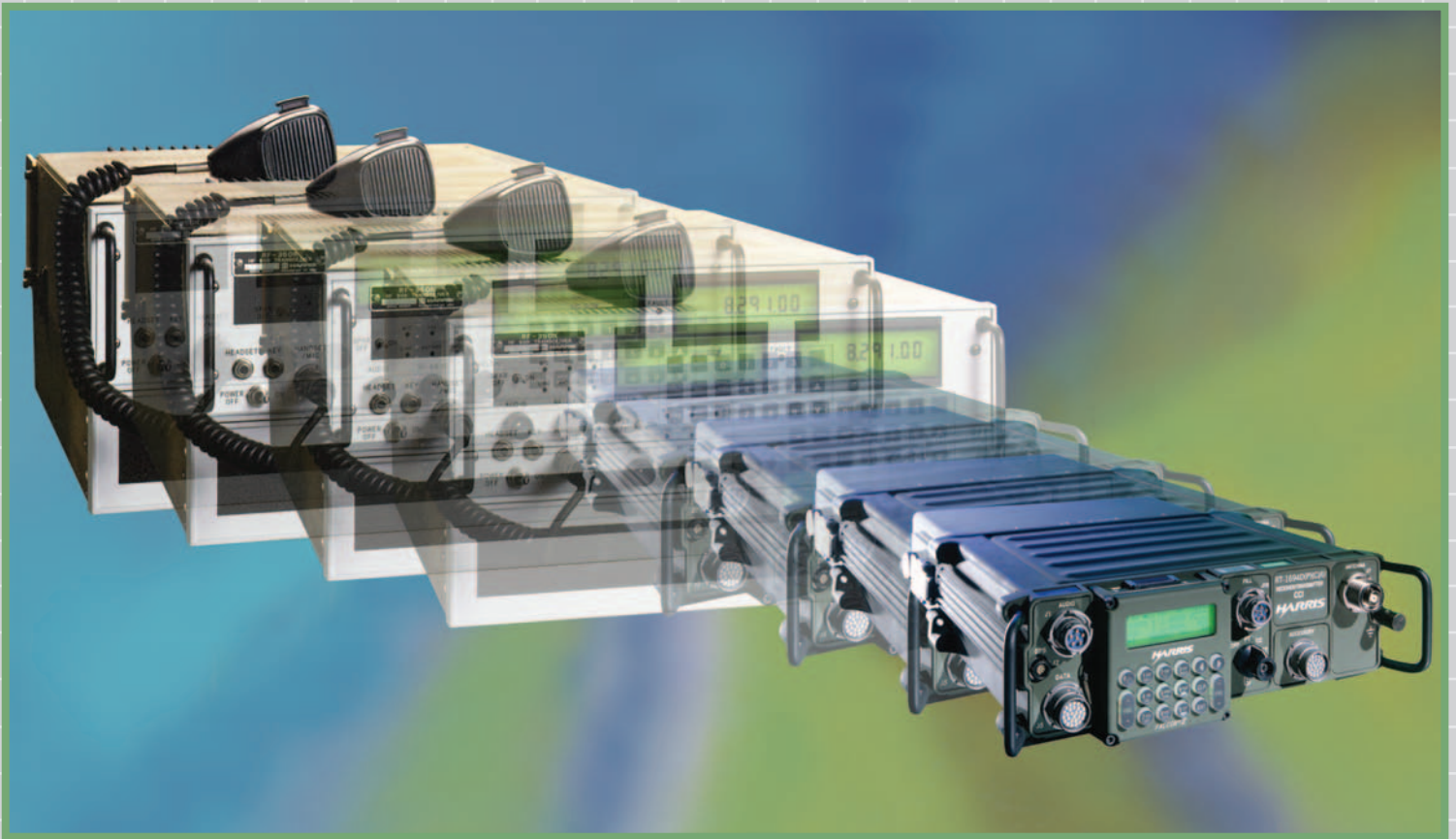


# ***Pacer Bounce***

## ***Replacement System***



**HARRIS**  
assuredcommunications™



# Pacer Bounce System Configurations

## Introduction

In the late 1980s the USAF awarded Harris Corporation the PACER BOUNCE contract for HF radios. Since then, Pacer Bounce systems have been providing reliable service, but they are reaching the end of their life cycle and new technical advances cannot be incorporated into the old system design. Maintenance parts are no longer being manufactured.

Harris has developed a new generation of tactical radios, the Falcon® II family. Included in this family is our AN/PRC-150(C) manpack. This radio utilizes the latest technology to embed many advanced features that used to require separate components, such as Automatic Link Establishment (ALE), high-speed modems, and Type I encryption. And being a software-defined radio helps make the Falcon II radios future proof. As new technology and waveforms are developed, you can upgrade your Falcon II systems to be compatible with future radios such as the Joint Tactical Radio System (JTRS) radios...and they will remain compatible with your radios currently in the field.

The AN/PRC-150(C) manpack is the basic building block for our HF systems. The Falcon II family also includes power amplifiers and antenna couplers. Our systems can be packaged for vehicular, transit case, or base station applications and we offer a number of accessories and antennas to complete your system.

This book proposes new Falcon II systems to replace your current Pacer Bounce systems, as well as help with your selection of antennas and accessories.

If you have any questions, please contact one of the Harris representatives below:

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## AN/PRC-150(C)



The AN/PRC-150(C) is an advanced HF/VHF manpack radio that provides reliable tactical communications through US Government Type 1 encryption for enhanced secure voice and data performance, reduced size/weight and extended battery life. The removable keypad/display unit enables operation on-the-move with the transceiver stowed in the user's backpack. The AN/PRC-150(C) HF-SSB/VHF-FM transceiver covers 1.6 to 60 MHz at 1, 5, and 20 watts (10 watts FM) PEP/Average. Modes include USB, LSB, CW, AME, and FM. Two types of encryption are included in this radio: US Government Type 1 and Coalition encryption.

A simple, menu-driven, man-machine interface makes operation easy. Seventy-five user defined net presets provide complete radio configuration including radio operating mode, modem settings, COMSEC and TRANSEC keys. This unit is interoperable with non-type 1 radios in secure mode with radios that include standard Citadel encryption in both the HF and VHF bands. The unit is also interoperable in non-secure mode in fixed frequency and ALE with other HF and VHF radio systems.

Key features include:

### **Encryption**

Two types of embedded encryption are included in this radio: US Government Type 1 and Coalition. The Type 1 encryption is interoperable with KY-99, KY-100, and KG-84 cryptos for HF systems and KY-57 crypto for VHF systems. Coalition encryption is based on the Harris Citadel encryption and can be used to interoperate with RF-5800H radio systems in secure mode.

### **High-Speed Modem Waveforms**

The embedded modem waveform suite offers the most advanced HF data capability available in the tactical radio market place. The supported MIL-STD-188-110B waveforms include the serial tone (2400 bps) modem, high data rate (9600 bps) modem, parallel tone (2400 bps) modem, as well as a set of narrowband FSK waveforms. Also included are the STANAG 4285 and STANAG 4415 serial tone waveforms. Adaptive excision filtering and equalization improve the data modem performance in fading and noisy channels, and counteracts jamming.

### **MELP and LPC-10, 600/2400 bps digital voice**

The digital voice mode utilizes the latest military MELP and LPC-10 algorithms for high-quality secure narrowband voice at 2400 bps. The Harris 600 bps vocoders extend the communication range beyond conventional 2400 bps systems.

### **Enhanced Frequency Hopping (ECCM)**

A proprietary serial tone ECCM provides digital voice and data performance comparable to single channel serial tone modem.

### **MIL-STD-188-141B, Appendix A Automatic Link Establishment (ALE)**

ALE allows the transceiver to automatically locate the best available channel and link with a desired station or net. The radio also provides AL-1 Linking Protection.

### **STANAG 4538 Third generation HF Link Automation**

Latest integrated high performance Automated Link Establishment (ALE) and data link protocols. Provides superior linking and error free data performance. Fast link setup (FLSU) protocol suite is supported.

### **Tactical Internet**

An embedded wireless networking capability provides the ability to connect outside IPV4 devices and applications over HF circuits. It utilizes 3rd generation HF Link Automation to efficiently route secure IP-based traffic.

# Pacer Bounce System Configurations

## Currently Fielded System

### R/T-1446/URC Transceiver



#### Specifications

- 100 Watts PEP/Average
- 1.6 to 30 MHz
- 115/230 VAC, 12/24 VDC
- No Longer in Production

See page 8 for  
Antenna Couplers



See page 9 for  
Antennas



See page 19 for  
Accessories



See page 25 for  
Frequently Asked  
Questions



## New System—125W

### Option 1 RF-5800H-V004 Vehicular System



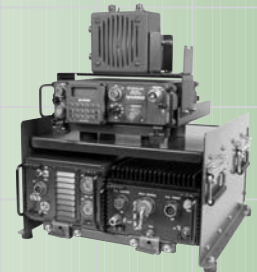
#### Specifications

- 125 Watt PEP/Average
- 1.6 to 30 MHz
- 30 to 60 MHz FM Operation
- Internal ALE and 3rd Generation ALE
- Internal High Speed Modem Waveforms
- Internal Type I Encryption
- Internal Digital Voice
- 26.5 VDC Operation

### Option 2 RF-5800H-B004 Base Station System

#### Specifications

- 125 Watt PEP/Average
- 1.6 to 30 MHz
- 30 to 60 MHz FM Operation
- Internal ALE and 3rd Generation ALE
- Internal High Speed Modem Waveforms
- Internal Type I Encryption
- Internal Digital Voice
- 115/230 VAC Operation

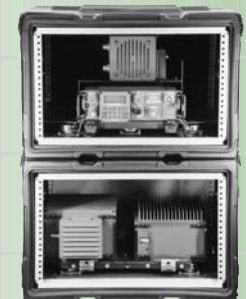


*PRC-150(C)  
Not Included,  
Order Separately*

### Option 3 RF-5800H-TM004 Transit Case System

#### Specifications

- 125 Watt PEP/Average
- 1.6 to 30 MHz
- 30 to 60 MHz FM Operation
- Internal ALE and 3rd Generation ALE
- Internal High Speed Modem Waveforms
- Internal Type I Encryption
- Internal Digital Voice
- 115/230 VAC Operation



*PRC-150(C)  
Not Included,  
Order Separately*

## Currently Fielded System

## New System—150W

### R/T-1446/URC Transceiver



#### Specifications

- 100 Watts PEP/Average
- 1.6 to 30 MHz
- 115/230 VAC, 12/24 VDC
- No Longer in Production

See page 8 for  
Antenna Couplers →

See page 9 for  
Antennas →

See page 19 for  
Accessories →

See page 25 for  
Frequently Asked  
Questions →

### Option 1 AN/VRC-104(V)3 Vehicular System

#### Specifications

- 150 Watt PEP/Average
- 1.6 to 30 MHz
- 30 to 60 MHz FM Operation
- Internal ALE and 3rd Generation ALE
- Internal High Speed Modem Waveforms
- Internal Type I Encryption
- Internal Digital Voice
- 26.5 VDC Operation



### Option 2 RF-5800H-B001, RF-5800H-B002 Base Station System

#### Specifications

- 150 Watt PEP/Average
- 1.6 to 30 MHz
- 30 to 60 MHz FM Operation
- Internal ALE and 3rd Generation ALE
- Internal High Speed Modem Waveforms
- Internal Type I Encryption
- Internal Digital Voice
- 115/230 VAC Operation
- RF-5800H-B002 includes Collocation Filtering and Internal Pre/Post Selector

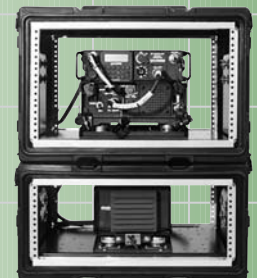


*PRC-150(C)  
Not Included,  
Order Separately*

### Option 3 RF-5800H-TM001, RF-5800H-TM002 Transit Case System

#### Specifications

- 150 Watt PEP/Average
- 1.6 to 30 MHz
- 30 to 60 MHz FM Operation
- Internal ALE and 3rd Generation ALE
- Internal High Speed Modem Waveforms
- Internal Type I Encryption
- Internal Digital Voice
- 115/230 VAC Operation
- RF-5800H-TM002 includes Collocation Filtering and Internal Pre/Post Selector



*PRC-150(C)  
Not Included,  
Order Separately*

# Pacer Bounce System Configurations

## Currently Fielded System

### R/T-1446/URC Transceiver, AM-7223 Power Amplifier



#### Specifications

- 500 Watts PEP/250 Watts Average
- 1.6 to 30 MHz
- 115/230 VAC, 28 VDC (optional)
- No Longer in Production

See page 8 for  
Antenna Couplers



See page 9 for  
Antennas



See page 19 for  
Accessories



See page 25 for  
Frequently Asked  
Questions



## New System—400W

### Option 1 RF-5800H-V003 Vehicular System



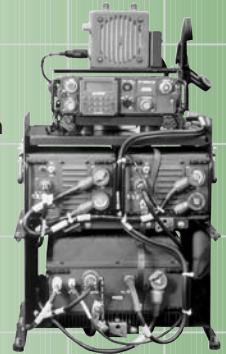
#### Specifications

- 400 Watt PEP/Average
- 1.6 to 30 MHz
- 30 to 60 MHz FM Operation
- Internal ALE and 3rd Generation ALE
- Internal High Speed Modem Waveforms
- Internal Type I Encryption
- Internal Digital Voice
- 26.5 VDC Operation

### Option 2 RF-5800H-B003 Base Station System

#### Specifications

- 400 Watt PEP/Average
- 1.6 to 30 MHz
- 30 to 60 MHz FM Operation
- Internal ALE and 3rd Generation ALE
- Internal High Speed Modem Waveforms
- Internal Type I Encryption
- Internal Digital Voice
- 115/230 VAC Operation



PRC-150(C)  
Not Included,  
Order Separately

### Option 3 RF-5800H-TM003 Transit Case System

#### Specifications

- 400 Watt PEP/Average
- 1.6 to 30 MHz
- 30 to 60 MHz FM Operation
- Internal ALE and 3rd Generation ALE
- Internal High Speed Modem Waveforms
- Internal Type I Encryption
- Internal Digital Voice
- 115/230 VAC Operation



PRC-150(C)  
Not Included,  
Order Separately

# Pacer Bounce System Configurations

## Currently Fielded System—1kW

R/T-1446/URC Transceiver,  
AM-7224 Power Amplifier,  
AM-7913 Power Amplifier



### Specifications

- 1kW PEP/Average
- 1.6 to 30 MHz
- 115/230 VAC

See page 8 for  
Antenna Couplers



See page 9 for  
Antennas



See page 19 for  
Accessories



See page 25 for  
Frequently Asked  
Questions



## New System—400W

### Option 1 RF-5800H-V003 Vehicular System



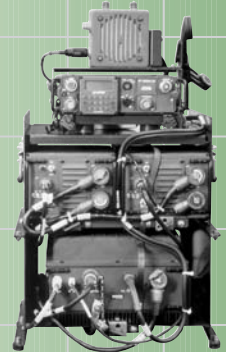
#### Specifications

- 400 Watt PEP/Average
- 1.6 to 30 MHz
- 30 to 60 MHz FM Operation
- Internal ALE and 3rd Generation ALE
- Internal High Speed Modem Waveforms
- Internal Type I Encryption
- Internal Digital Voice
- 26.5 VDC Operation

### Option 2 RF-5800H-B003 Base Station System

#### Specifications

- 400 Watt PEP/Average
- 1.6 to 30 MHz
- 30 to 60 MHz FM Operation
- Internal ALE and 3rd Generation ALE
- Internal High Speed Modem Waveforms
- Internal Type I Encryption
- Internal Digital Voice
- 115/230 VAC Operation



PRC-150(C)  
Not Included,  
Order Separately

### Option 3 RF-5800H-TM003 Transit Case System

#### Specifications

- 400 Watt PEP/Average
- 1.6 to 30 MHz
- 30 to 60 MHz FM Operation
- Internal ALE and 3rd Generation ALE
- Internal High Speed Modem Waveforms
- Internal Type I Encryption
- Internal Digital Voice
- 115/230 VAC Operation



PRC-150(C)  
Not Included,  
Order Separately



# Pacer Bounce System Configurations

## Currently Fielded Antenna Couplers

**CU-2310**  
100 Watt/500 Watt Antenna Coupler



**CU-2397**  
100 Watt/500 Watt Antenna Coupler



**RF-2601**  
1 kW Antenna Coupler



## New Antenna Couplers

**RF-5382-CU001**  
125 Watt/150 Watt Antenna Coupler



**RF-382A-15**  
400 Watt Antenna Coupler



**RF-5382H-TM001** 150 Watt Antenna Coupler Mini-Transit Case System



- Includes 250 foot Control Cable and 250 foot Coax Cable

**RF-382A-15TM** 400 Watt Antenna Coupler Mini-Transit Case System



- Includes 250 foot Control Cable and 250 foot Coax Cable

## Definitions

Choosing the correct antenna for a particular application is contingent on a number of factors such as:

- **where** the antenna is configured and mounted (on the ground, vehicular, etc.)
- **how** much power is being used
- **the distance** to the receiving station

Using HF to communicate over long distances relies on the ionosphere, a region of electrically charged particles in the earth's atmosphere, extending from approximately 50 to 600 km above the earth's surface. The ionosphere makes long distance HF radio communications possible. When radio waves from a radio strike these ionized layers, depending on the frequency, they are refracted so that they return to the earth. The angle at which the radio waves strike and are refracted back determines the range of communications. Distances for HF communication are generally broken down into the following areas:

- **Groundwave** – 0 to 80 km
- **Near Vertical Incident Skywave (NVIS)** – 0 to 500 km
- **Medium Range** – 500 to 2000 km
- **Long Range** – 2000 km or greater

The type of antenna and how it's configured will determine how it radiates, resulting in how far it can be used to communicate. Below is a list of some common type of antennas:

**Vertical Whip** Antennas – Whip antennas are useful for ground wave communications as well as long range communications. These antennas radiate well in all directions. Some vehicular mounted whips can be used for NVIS communications if they are tilted using a tilt adapter.

**Dipole** Antennas – Dipole antennas are wire antennas strung between two poles or supports and the center connected to the radio. They are useful for medium range or NVIS communications. Dipoles tend to radiate in a mostly bi-directional pattern – broadside to the antenna.

**Inverted "V"** Antenna – Inverted "V" antennas are version of a wire dipole antenna that uses a single center support. The ends are brought down from the center support in a "V" shape at about a 90 degree angle, but in line with the center. An Inverted "V" antenna is useful for medium range communications. Like dipoles, Inverted "V" antennas tend to radiate in a mostly bi-directional pattern – broadside to the antenna.

**Sloping "V"** Antenna – The Sloping "V" antenna uses a single center support and the ends are brought down sloping at a low angle away from the center support. Narrowing the angle between the sloping ends from 60 degrees to 30 degrees increases the antenna's range from medium range to long range respectively. Adding terminating resistors to the ends of the wires makes the Sloping "V" antenna a directional antenna, radiating the signal in the direction of the sloping wires.

**Long Wire** Antenna – The Long Wire Antenna is just what the name implies. It's a long piece of wire connected to the radio. Typically long wire antennas are used for medium to long range communications. The longer the wire, the longer the range of the antenna. Long Wire antennas tend to radiate in a mostly bi-directional pattern – broadside to the antenna.

**NVIS** Antenna - This antenna is also useful in applications where terrain features like mountains are in between stations, effectively blocking groundwave communications. The antenna is designed to radiate mostly straight up, resulting in the signal to be refracted back within 0 to 500 km to the transmitting site, but clearing terrain features. NVIS antennas for the most part radiate well in all directions.

The system output power will also have an effect on the distance. A 20 watt manpack provides groundwave and medium range distances. 125 and 150 watt systems provide medium range and "shorter" long range distances. A 400 watt system will provide long range distances.

Antenna type and configuration, power and mounting, all factor into which antenna should be used. The following charts can be used to select the proper Harris antenna for an application based on the radio configuration: manpack, vehicular, and transportable/fixed mounting for varying distances.

Note - Most of these antennas require an antenna coupler if used in any configuration other than a manpack. Refer to the individual antenna descriptions to determine if an antenna coupler is needed.

# Antennas

## Whip Antenna Selection Chart

MODEL NUMBER	TYPE	APPLICATION			
		GROUNDWAVE	NVIS 0 to 500 km	MEDIUM RANGE 500 to 2000 km	LONG RANGE 2000 km or greater
10372-0240-02	Manpack	X			
RF-1937	Transportable	X			X
SB-V16C	Stationary Fixed	X	X *		X
SB-V16B	Vehicular	X	X *		X
SB-V16F	Vehicular	X	X *		
SB-V16T	Vehicular (Metal)	X			
SB-V35C	Stationary Transportable	X	X *		X
SB-V35B	Vehicular	X	X *		X
SB-V35F	Vehicular	X	X *		X
SB-V35S	Fixed or Shipboard	X			X
RF-1980F-AT003	Vehicular	X	X		
RF-1942-AT001	Vehicular (whip configuration)	X	X **		X

**NOTES:**

\* When used with RF-1980-AT001 Tilt Whip Adapter.

\*\* When used in tilt whip configuration.

## Wire Antenna Selection Chart

MODEL NUMBER	TYPE NUMBER	DESCRIPTION	APPLICATION			
			GROUNDWAVE	NVIS 0 to 500 km	MEDIUM RANGE 500 to 2000 km	LONG RANGE 2000 km or greater
RF-1940-AT001	Manportable	Dipole	X *	X *	X *	X *
RF-1941	Manportable	Dipole	X *	X *	X *	X *
SB-A150	Manportable	Long Wire	X			X
RF-1942-AT001	Transportable (wire configuration)	Inverted "V"	X	X	X	
RF-1944-AT150	Transportable	Inverted "V"		X	X	
RF-1944-AT400	Transportable	Inverted "V"		X	X	
RF-1912T-AT002	Transportable	Dipole	X **	X	X	X **
RF-1912B-AT001	Fixed Installation	Dipole	X **	X	X	X **
RF-1912E-AT001	Radiating Element only	Dipole	X **	X	X	X **
RF-1950-AT001	Fixed Installation	Inverted "V"		X	X	
RF-1936P-10	Manportable	Crossed Dipole		X	X	
RF-1936V-10	Vehicular	Crossed Dipole		X	X	
RF-1938AT-10	Portable Freestanding or Vehicular	Crossed Dipole		X	X	

## NOTES:

\* The RF-1940-AT001 and RF-1941 antennas can be used in many different configurations providing different range capabilities.

\*\* When configured as a top loaded monopole.

## 10372-0240-01

### Manpack HF/VHF Whip Antenna Kit



The 10372-0240-01 is a collapsible whip antenna kit for the AN/PRC-150 Manpack (one is supplied with each manpack). The antenna is capable of 20 Watt operation from 2-60 MHz, providing ground wave communications. The antenna is automatically tuned by the radios internal coupler. The kit includes:

AT271A/PRC-25	Collapsible Whip Antenna
AB-591/PRC-25	Flexible Base
10372-1215-01	Base Adapter
10372-0249-01	Antenna Bag

## RF-1940-AT001

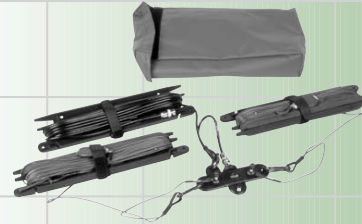
### Portable HF Dipole Antenna



The RF-1940-AT001 is a lightweight, portable dipole antenna. The antenna is capable of 400W maximum operation from 3-30 MHz. It can be configured in many different configurations (dipole, sloping dipole, or a sloping V) providing different range capabilities. The antenna is stored on self-contained flat spools, with throwing weights for connection to trees, buildings, or masts. The RF-1940-AT001 can be directly connected to the AN/ PRC-150(C) manpack using the built-in antenna coupler or connected to an external antenna coupler. The antenna includes a carrying bag, a 33 foot RG-58 coax cable with BNC male connectors, and a BNC to Type N adapter.

Deployed size:	150 feet (45.7m)
Transport size:	6" x 12" x 3" (15cm x 30cm x 7cm)
Weight:	5 lbs. (2.3 kg)

## RF-1941 Portable HF Dipole Antenna



The RF-1941 is a lightweight, portable dipole antenna. The antenna is capable of 400W maximum operation from 2-30 MHz. It can be configured in many different configurations (dipole, sloping dipole, or a sloping V) providing different range capabilities. The antenna is stored on self-contained flat spools, with throwing weights for connection to trees, buildings or masts. The RF-1941 can be directly connected to the AN/PRC-150(C) manpack using the built-in antenna coupler or connected to an external antenna coupler. The antenna includes a carrying bag, a 33 foot RG-58 coax cable with BNC male connectors, and a BNC to Type N adapter.

Deployed size:	250 feet (76.2m)
Transport size:	6" x 12" x 3" (15cm x 30cm x 7cm)
Weight:	5 lbs. (2.3 kg)

## RF-1944-AT150

### Transportable HF Broadband - Inverted V Antenna



The RF-1944-AT150 is a low profile, lightweight, tactical broadband dipole antenna for operation in an inverted-V configuration, utilized for NVIS communications. The antenna is capable of 150W maximum operation from 1.6-30 MHz. The RF-1944-AT150 antenna provides broadband performance over the entire frequency range without use of an antenna coupler. This antenna is an excellent choice when operating in ALE or ECCM modes in applications where an antenna coupler is not practical. The antenna is comprised of a balun, dipole elements, termination resistors, 33 feet coaxial cable and halyard, and stows into a small canvas bag.

Deployed size:	164 ft. (50 m)
Transport size:	12" x 20" x 3" (30cm x 51cm x 7cm)
Weight:	11 lbs. (5 kg)

## **RF-1936P-10**

Portable HF Crossed Dipole Antenna



The RF-1936P-10 is a rapid-deployment crossed dipole antenna designed specifically for NVIS communications. The antenna is capable of 400W maximum operation from 2-30 MHz and requires an antenna coupler. The RF-1936P-10 antenna is designed for free-standing operation when erected on the ground or on flat surfaces and can be erected by two people in five minutes.

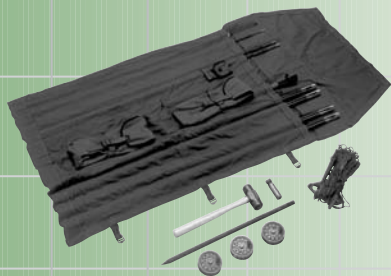
Deployed size:  
61'L x 61'W x 15'H (18.6m x 18.6m x 4.6m)

Transport size:  
7" diameter x 26" (19cm diameter x 65cm)

Weight:  
15 lbs. (6.8 kg)

## **RF-1937**

Transportable HF Ground Stake Antenna Kit



The RF-1937 is a vertically erected, ground stake antenna designed around the SB Series whip antennas. The antenna is capable of 1kW maximum operation from 2-30 MHz and requires the use of an antenna coupler. The antenna is intended to be used for groundwave or long range communications. It can be set up with whip heights between 16 feet and 32 feet. The RF-1937 is designed for ground level mounting. The base mount is installed on a base stake driven into the ground. The kit includes a guy rope assembly for semi-permanent installations and four ground radials on reels for improved performance.

## **SB-A150**

HF Long Wire Antenna Kit

The SB-A150 includes all materials required to construct a 150-foot long-wire antenna. The antenna is capable of 1kW maximum operation from 1.6 to 30 MHz. The antenna is intended to be used for groundwave or long range communications. The antenna can be cut to a specific frequency for single channel operation or used with an antenna coupler for broadband operation. The SB-A150 kit includes: ground rod, insulators, wire, and nylon braided support rope.

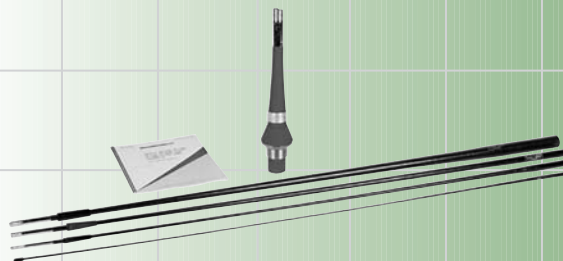
Deployed size: Up to 150 ft.

Transport size: 6 ft ground rod with wire spool

Weight: 5 lbs. (2.3 kg)

## **SB-V16B**

Feed-through Base 16 Foot HF Whip Antenna



The SB-V16B is a self-supporting fiberglass whip antenna with a feed-through base that is easily assembled and erected. The antenna is capable of 1kW maximum operation from 2-30 MHz and requires the use of an antenna coupler. The antenna radiates well in all directions and is intended for groundwave communications. The antenna consists of a feed-through base, four 4-foot sections extending to a height of 16 feet. The SB-V16B mounts directly to the RF-292-01 Mounting Base for vehicular application. The RF-292-01 must be ordered separately.

Deployed size: 16 ft (4.8 m)

Weight: 5 lbs. (2.3 kg)

## **SB-V16C**

### Flange Base 16 Foot HF Whip Antenna



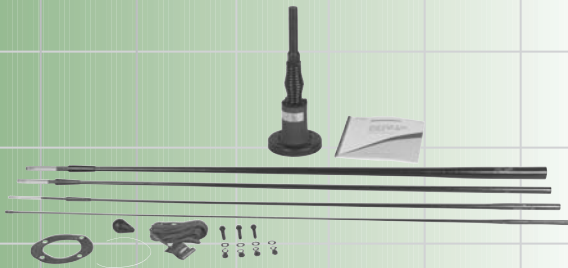
The SB-V16C is a self supporting fiberglass whip antenna with a flange base that is easily assembled and erected. The antenna is capable of 1kW maximum operation from 2-30 MHz and antenna requires the use of an antenna coupler. The antenna radiates well in all directions and is intended for groundwave communications. The antenna consists of a flange base, four tapered 4-foot sections extending to a height of 16 feet. The SB-V16C has a flange base designed for stationary applications.

Deployed size: 16 ft (4.8 m)

Weight: 9 lbs. (4.1 kg)

## **SB-V16F**

### Spring Base 16 Foot HF Whip Antenna



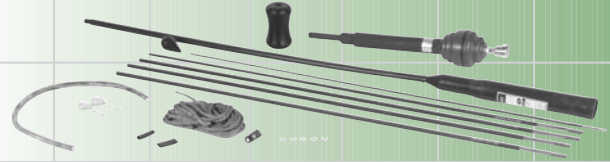
The SB-V16F is a self-supporting fiberglass whip antenna with a spring base that is easily assembled and erected. The antenna is capable of 1kW maximum operation from 2-30 MHz and requires the use of an antenna coupler. The antenna radiates well in all directions and is intended for groundwave communications. The antenna consists of a spring base, four tapered 4 foot sections extending to a height of 16 feet. The SB-V16F mounts directly to the RF-292-01 Mounting Base for vehicular application. The RF-292-01 must be ordered separately.

Deployed size: 16 ft (4.8 m)

Weight: 14 lbs. (6.4 kg)

## **SB-V16T**

### Self Supporting 16 Foot HF Whip Antenna



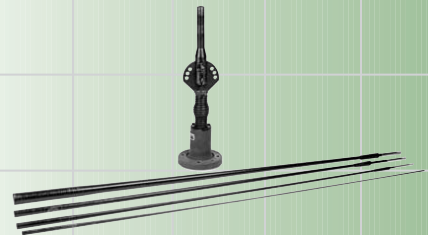
The SB-V16T is a coated metal whip antenna that is easily assembled and erected. The antenna is capable of 400W maximum operation from 2-30 MHz and requires the use of an antenna coupler. The antenna radiates well in all directions and is intended for groundwave communications. The antenna consists of a feed-through base, four 4-foot metallic sections extending to a height of 16 feet. The SB-V16T also contains an adapter plate and mounting hardware to permit mounting to a RF-292-01 Mounting Base. The RF-292-01 must be ordered separately. The SB-V16T is not compatible with the RF-1980 Tilt Whip Adapter.

Deployed size: 16 ft (4.8 m)

Weight: 5 lbs. (2.3 kg)

## **RF-1980F-AT003**

### Spring Base 16 Foot HF Tilt Whip Antenna

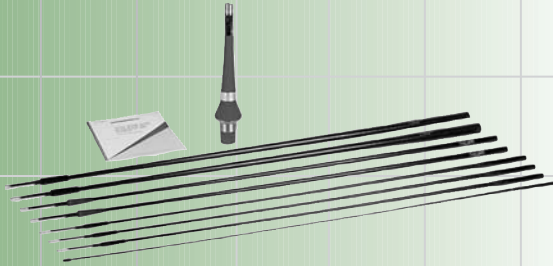


The RF-1980-AT003 is a self-supporting fiberglass whip antenna that is easily assembled and erected. The antenna is capable of 1kW maximum operation from 2-30 MHz and requires the use of an antenna coupler. The antenna radiates well in all directions and is intended for groundwave communications or can be tilted over for NVIS communication. The antenna consists of spring base and four tapered 4 foot sections extending to a height of 16 feet, and a tilt whip adapter. The tilt adapter mechanism allows the antenna to tilt at 0° (vertical), 50°, 70°, and 90° (horizontal). This unique capability allows a groundwave whip to tilt over and become ideal for NVIS communications on the move. The RF-1980F-AT003 bolts directly to the RF-292-01 Mounting Base for vehicular application. The RF-292-01 must be ordered separately.

Deployed size: 16 ft (4.8 m)

Weight: 25 lbs. (11.3 kg)

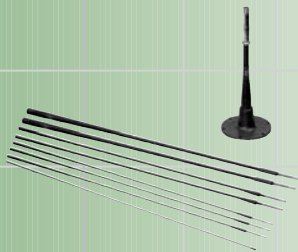
**SB-V35B**  
Feed-through Base 32 Foot HF Whip Antenna



The SB-V35B is a self-supporting fiberglass whip antenna with a feed-through base that is easily assembled and erected. The antenna is capable of 1kW maximum operation from 2-30 MHz and requires the use of an antenna coupler. The antenna radiates well in all directions and is intended for groundwave communications. The antenna consists of a feed-through base, four straight and four tapered 4-foot sections extending to a height of 32.5 feet. The SB-V35B mounts directly to the RF-292-01 Mounting Base for vehicular application. The RF-292-01 must be ordered separately.

Deployed size: 32.5 ft (10 m)  
Weight: 11 lbs. (5 kg)

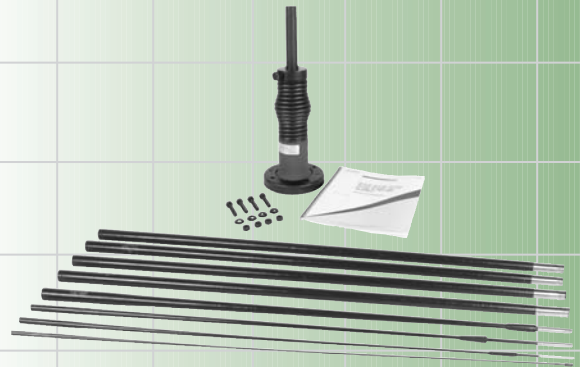
**SB-V35C**  
Flange Base 32 Foot HF Whip Antenna



The SB-V35C is a self-supporting fiberglass whip antenna with a flange base that is easily assembled and erected. It is self-supporting, but may be guyed. The antenna is capable of 1kW maximum operation from 2-30 MHz and antenna requires the use of an antenna coupler. The antenna radiates well in all directions and is intended for groundwave communications. The antenna consists of a flange base, four tapered 4-foot sections extending to a height of 32.5 feet. The SB-V35C has a flange base designed for stationary applications.

Deployed size: 32.5 ft (10 m)  
Weight: 15 lbs. (6.8 kg)

**SB-V35F**  
Locking Spring Base 32 Foot HF Whip Antenna



The SB-V35F is a self-supporting fiberglass whip antenna with a locking spring base that is easily assembled and erected. The antenna is capable of 1kW maximum operation from 2-30 MHz and requires the use of an antenna coupler. The antenna radiates well in all directions and is intended for groundwave communications. The antenna consists of spring base, four straight and four 4 foot sections extending to a height of 32.5 feet. The spring base permits the flexible spring to be locked in either a rigid vertical position (stationary operations) or left in a flexible mode (mobile or NVIS operations). The SB-V35F mounts directly to the RF-292-01 Mounting Base for vehicular application. The RF-292-01 must be ordered separately.

Deployed size: 32.5 ft (10 m)  
Weight: 20 lbs. (9.1 kg)

**SB-V35S**  
Shipboard Flange Base 35 Foot HF Whip Antenna

The SB-V35S is a heavy-duty fiberglass whip antenna with a flange base intended for shipboard or stationary use. The antenna is capable of 5kW maximum operation from 2-30 MHz and requires the use of an antenna coupler. The antenna radiates well in all directions and is intended for groundwave communications. The antenna consists of a flange base, two sections extending to a height of 35 feet. The SB-V35S is not compatible with the RF-1980 Tilt Whip Adapter.

Deployed size: 35 ft (11 m)  
Weight: 65 lbs. (30 kg)



## RF-1936V-10

Portable Vehicle Mounted HF Crossed Dipole Antenna



The RF-1936V-10 is a portable vehicle mounted crossed dipole antenna designed for NVIS communications. The antenna is capable of 400W maximum operation from 2-30 MHz and requires an antenna coupler. This antenna is easy to carry and can be erected by two people in five minutes. The RF-1936V-10 is used in conjunction with the mounting bases of the SB-V16B/C/F or SB-V35B/C/F series of fiberglass whip antennas to provide improved operation when the vehicle is in a fixed, temporary location. This antenna can also be used with an RF-5351 Siting Kit. The RF-1936V-10 is not compatible with the SB-V16T, SB-V35S or RF-1930CHD bases.

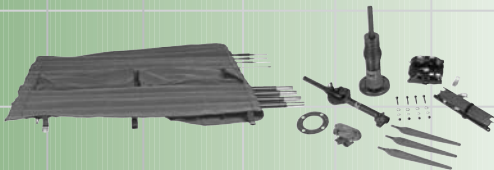
Deployed size: 61'L x 61'W x 15' H (18.3 m x 18.3 m x 4.5 m)

Transport size: 7" diameter x 26" (18 cm diameter x 65 cm)

Weight: 15 lbs. (6.8 kg)

## RF-1942-AT001

HF Vehicular Antenna Kit



The RF-1942-AT001 HF antenna kit includes all accessories for quick deployment of mobile and stationary configurations. The antenna is capable of 1kW maximum operation from 2-30 MHz and requires use of an antenna coupler. The RF-1942-AT001 is a combination of antennas that can be configured into:

- 32 foot whip for exceptionally efficient groundwave and long range communications
- 16 foot tilt whip for on-the-move NVIS communications
- Inverted V for enhanced long range performance

The RF-1942-AT001 includes whip sections, wire elements and tilt whip adapter stowed in a canvas bag for transportability. The RF-292-01 Antenna Mount can be used to mount the antenna to a vertical surface. The RF-292-01 must be ordered separately.

Deployed size: (Inverted V): 16.4'H x 72'W (5m x 22m)

Weight: 37 lbs. (16.8kg)

## RF-1912B-AT001

Fixed HF Fan Dipole Antenna



The RF-1912B-AT001 is a fixed installation fan dipole antenna that includes all the components needed to transport and permanently install the antenna. The antenna is capable of 1kW maximum operation from 1.6-30 MHz and requires an antenna coupler.

The RF-1912B has been optimized for both NVIS communications between 1.6 and 10 MHz and medium range communications out to 1200 km for 10 to 30 MHz. The element length and height above ground has been designed for optimal HF propagation. It can also be configured as a top loaded monopole for groundwave and long range communications. The antenna includes all materials for a permanent installation. Included are two black masts, guy assemblies, guy anchors, a pre-constructed radiating element assembly, vertical feedline, antenna coupler baseplate, installation kit, and a spare parts kit.

Deployed size: 105'L x 26'W x 30'H  
(32 m x 8 m x 9 m)

## RF-1912E-AT001

HF Fan Dipole Antenna Radiating Element



The RF-1912E-AT001 is a fan dipole antenna radiating element. The antenna is capable of 1kW maximum operation from 1.6-30 MHz and requires an antenna coupler. The RF-1912E has been optimized for both NVIS communications between 1.6 and 10 MHz and medium range communications out to 1200 km for 10 to 30 MHz. The element length has been designed for optimal HF propagation. It can also be configured as a top loaded monopole for groundwave and long range communications. The antenna includes the radiating elements and 24-feet of vertical feedline. This antenna is supplied with 100-feet of rope to support the RF-1912E-AT001 on customer-supplied masts.

Deployed size: 105'L x 26'W x 30'H  
(32 m x 8 m x 9 m) Typical

Transport size: 18" x 8" x 4" (46 cm x 20 cm x 9 cm)

Weight: 7 lbs. (3.2 kg)

## RF-1912T-AT002

Transportable HF Fan Dipole Antenna

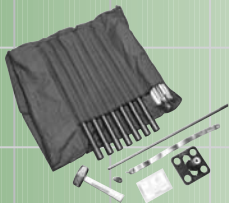


The RF-1912T-AT002 is a transportable fan dipole antenna that includes all the components needed to transport and temporarily install the antenna. The antenna is capable of 1kW maximum operation from 1.6-30 MHz and requires an antenna coupler. The RF-1912T has been optimized for both NVIS communications between 1.6 and 10 MHz and medium range communications out to 1200 km for 10 to 30 MHz. The element length and height above ground has been designed for optimal HF propagation. It can also be configured as a top loaded monopole for groundwave and long range communications. The antenna has lightweight aluminum mast sections which are easy to assemble and disassemble for tactical operations. The RF-1912T includes all materials for transportable construction including two aluminum masts, guy assemblies, halyards, ground stakes, a pre-constructed radiating element assembly, vertical feedline, and a spare parts kit. All materials are conveniently stored in two storage bags. Storage bags are green, order RF-1912T-AT001 for tan storage bags.

Deployed size: 105'L x 26'W x 30'H (32 m x 8 m x 9 m)  
 Transport size: (2 bags) 81" x 11" x 7" and 23" x 14" x 12"  
 Weight: 135 lbs. (60 kg)

## RF-1938AT-10

Extended Height HF Crossed Dipole Antenna



The RF-1938AT-10 is a rapid-deployment crossed dipole antenna designed for NVIS communications. The antenna is capable of 400W maximum operation from 2-30 MHz and requires an antenna coupler. The RF-1938AT-10 has an extended height of 8.7 meters to provide up to 10 dB of additional antenna gain at 2 to 4 MHz over the standard RF-1936P-10. The RF-1938AT-10 includes both the RF-1936-01 Antenna Adapter and RF-1936-02 Mounting Plate which allows the antenna to be used in both portable and vehicular applications.

Deployed size: 61'L x 61'W x 28'H (18.3 m x 18.3 m x 8.6 m)  
 Transport size: 2 bags of 7" diameter x 26"  
 Weight: 27 lbs. (12.3 kg)

## RF-1944-AT400

Transportable HF Broadband-Inverted Vee Antenna



The RF-1944-AT400 is a low profile, lightweight, tactical broadband dipole antenna for operation in an inverted-V configuration, utilized for NVIS communications. The antenna is capable of 400W maximum operation from 1.6 to 30 MHz. The RF-1944-AT400 antenna provides broadband performance over the entire frequency range without use of an antenna coupler. This antenna is an excellent choice when operating in ALE or ECCM modes in applications where an antenna coupler is not practical. The antenna is comprised of a balun, dipole elements, termination resistors, 33 feet coaxial cable and halyard, and stows into a small canvas bag.

Deployed size: 164 ft. (50 m)  
 Transport size: 12" x 20" x 3" (30cm x 51cm x 7cm)  
 Weight: 13 lbs. (6 kg)

## RF-1950-AT001

Roof Mounted Inverted V HF Dipole Antenna

The RF-1950-AT001 is a roof mounted inverted V dipole antenna that is designed to be installed without penetrating the roof. The antenna is capable of 1 kW maximum operation from 2-30 MHz and requires an antenna coupler. The RF-1950-AT001 has been optimized for both NVIS communications between 1.6 and 10 MHz and medium range communications out to 1200 km for 10 to 30 MHz. It incorporates galvanized steel bases and a fiberglass mast to support the antenna elements without penetration of the roof top. One platform holds the fiberglass mast and four small platforms support the guys and elements. The large platform allows direct bolting of the required RF-328A or RF-2601 Antenna Coupler.

Deployed size: 50' L x 33'W x 26' (15m X 10m X 8m)  
 Transport size: 83.5" x 21.5" x 17.25" (212cm x 54.6cm x 43.8 cm)  
 Weight: 580 lbs with shipping crate

## ANTENNA ACCESSORIES

### RF-1912T-AT002

Transportable HF Fan Dipole Antenna



### RF-1936-01

Vehicular Antenna Adapter for the RF-1936P-10

The RF-1936-01 allows the RF-1936P Series Antennas to be mounted on SB-V16B/C/F or SB-V35B/C/F series antenna bases. (The RF-1936-01 is not usable with SB-V16T, SB-V35S or RF-1930CHD Whip Antenna bases.)

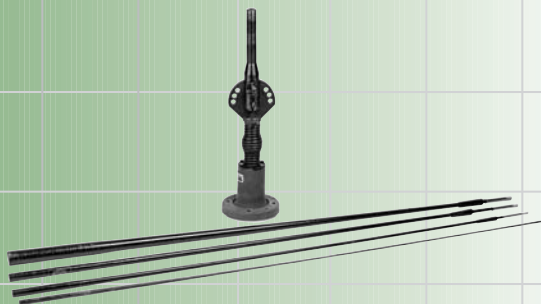
### RF-1936-02

Mounting Plate for Flat Surface Mounting for the RF-1936V-10

The RF-1936-02 is a mounting plate that allows RF-1936V series antennas to be erected on the ground or on flat surfaces. It is a part of the RF-1936P antennas.

### RF-1980F-AT001

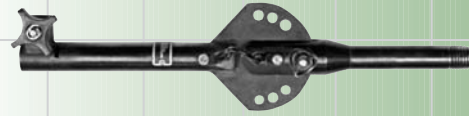
Tilt Whip Adapter, Spring Base



The RF-1980F-AT001 is a tilt mechanism built into a spring base designed for use with the SB-V16 series whip antennas. The RF-1980F-AT001 accepts up to a 16-foot whip antenna and provides the flexibility to tilt from 0° (vertical), 50° 70° and 90°, with locking pin. The RF-1980F-AT001 bolts directly to the RF-292-01 Universal Antenna Mount. Order the RF-292-01 separately.

### RF-1980-AT001

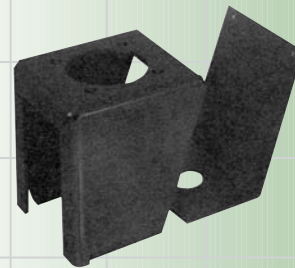
Tilt Whip Adapter



The RF-1980-AT001 is similar to the RF-1980F-AT001 Adapter, except it mounts directly on a standard SB-V16 or SB-V35 whip base. This tilt whip adapter converts a standard SB-V16 or SB-V35 whip antenna base into a tilt whip base. If used with a locking spring base or flange base, a 35-foot whip antenna may be used.

### RF-292

Universal Antenna Mount



The RF-292 is used to mount antennas to a vehicle, shelter, etc. Mounting hardware is included. Color: Olive Drab. Order the RF-292-01 for CARC Green 383, RF-292(S) for CARC Forrest Green, RF-292(S)1 for CARC Tan.

**DATA AND REMOTE CONTROL CABLES**

**10511-0707-A006**

Generic Audio/Data Cable, Unterminated

A generic audio and data cable that is un-terminated on the opposite end. Length is 6 feet.

**10535-0770-A006**

Sync / Async Data Cable with DB-9 Connector

This cable provides a synchronous or asynchronous connection to the radio. The opposite end utilizes a 9-pin D style connector. Length is 6 feet.

**10535-0780-A006**

Sync / Async Data Cable with DB-25 Connector

This cable provides a synchronous or asynchronous connection to the radio. The opposite end utilizes a 25-pin D style connector. Length is 6 feet.

**10518-1694-A006**

Data / Remote Control Y Cable

This cable provides both a synchronous/asynchronous data interface and RS-232 remote control interface to the radio. This is a Y cable that connects to the front panel J3 connector. The opposite end utilizes a 25-pin D style connector for data and a 9-pin D style connector for remote control. Length is 6 feet.

**10535-0775-A006**

Asynchronous Data (PPP) Cable

This cable provides an asynchronous data connection to the radio using the PPP connection on the front panel connector J3. The opposite end utilizes a 9-pin D style connector. This cable is supplied with every AN/PRC-150 radio. Length is 6 feet.

**10535-0740-A006**

Remote Control / Programming Cable, J6 Accessory Connector

This cable provides remote control and programming of the radio using the front panel connector J6. Length is 6 feet.

**10535-0760-A006**

Remote Control / Programming Cable, J9 Accessory Connector

This cable provides remote control and programming of the radio using the rear panel connector J9. The opposite end utilizes a 9-pin D style connector. Length is 6 feet.

**10535-0730-A1**

Remote Control and PA Control Y Cable, J6 Accessory Connector

This cable provides both remote control of the radio and control of a power amplifier using the front panel connector J6. The opposite end utilizes a 9-pin D style connector. Length is 10 feet.

**POWER CABLES**

**10181-9833-004**

RF-5051PS-125C to Amplifier Cable

This cable connects the RF-5051PS-125C Power Supply to either the 125 watt or 150 watt amplifiers. Length is 4 feet.

**10181-9834-004**

RF-50554PS to Amplifier Cable

This cable connects the RF-5054PS Power Supply to the 400 watt amplifiers. Length is 4 feet.

**10181-9826-020**

DC Power Cable – 125 watt and 150 watt Systems

This cable connects either the RF-5832H-PA001 125 watt amplifier or the RF-5833H-PA001 150 watt amplifier to DC power. Opposite end is un-terminated. Length is 20 feet.

**10181-9828-020**

DC Power Cable – 400 watt Systems

This cable connects the RF-5834H-PA001 400 watt amplifier to DC power. Opposite end is un-terminated. Length is 20 feet.

**10181-9831-009**

AC Power Cable

This cable connects the RF-5051PS-125C to a standard US style AC outlet. Length is 9 feet. Two cables are required for use with the RF-5054PS Power Supply.

**ANTENNA COUPLER CABLES**

**10181-9823**

Antenna Coupler Control Cable (RF-382A)

This control cable connects the RF-382A Antenna Coupler to the Falcon II system. Standard lengths are 25, 75, 150 and 250 feet.

**10181-9824**

Antenna Coupler Coax Cable

This coax cable connects the RF-382A or RF-5382H-CU001 to the Falcon II system. Standard lengths are 25, 75, 150 and 250 feet.

## 12020-1460

Antenna Coupler Control Cable (RF-5382H-CU001)

This control cable connects the RF-5382H-CU001 Antenna Coupler to the Falcon II system. Standard lengths are 25, 75, 150 and 250 feet.

## KDU EXTENSION CABLES

### 10511-0704-012

KDU Extension Cable – 6 feet

### 10511-0704-150

KDU Extension Cable – 75 feet



This cable allows the user to operate the KDU when removed from the front panel of the radio.

### 11071-0900-04

KDU Gimbaled Mount

The 11071-0900-04 KDU Gimbaled Mount is used for remote mounting of the Keypad Display Unit (KDU) from the Falcon II Manpack radios. The mount can be used in vehicles or on a desktop. The KDU is easily unlatched from the radio and latched to the Gimbaled Mount for installation. It is just as easily reattached to the radio for jerk-and-run operation. The Gimbaled Mount can be used with the 10511-0704-012 6-foot KDU Extension Cable. Three 10-32 x 0.75 inch hex mounting bolts with washers and locking nuts, and five black cable ties are included to facilitate installation. KDU and cables not included.

## PLGR Cables

### 12005-0730-A006

PLGR Interface Cable

Cable to connect a PLGR to the radio via the front panel J2 Connector. Length is 6 feet.

## BATTERIES

### 10075-1345-01 (BB-590/U)

Rechargeable Nickel-Cadmium Battery



The 10075-1345-01 (BB-590/U) is a rechargeable nickel cadmium battery that works well up to 50°C.

### BB-390A/U

Rechargeable Nickel Metal-Hydrate Battery

The BB-390A/U is a rechargeable, nickel-metal hydrate battery that provides about 60% more capacity than a BB-590/U. Not recommended for use above 60°C.

### BA-5590/U

Non-Rechargeable, Disposable Lithium Battery

The BA-5590/U provides approximately three times the operation life of the BB-590/U Rechargeable Nickel-Cadmium Battery. The BA-5590/U cannot be recharged, and is recommended for use in high temperature applications when temperatures exceed 55°C.

### BB-2590/U Type

Rechargeable Lithium-Ion Battery

The BB-2590 type battery is a very high capacity, rechargeable, Lithium-Ion battery that provides up to 300% the energy density and 250% of the capacity of the BB-590/U. It is the same physical size, but is about 20% lighter than the BB-390 and BB-590 Batteries. The battery has a built-in battery life indicator. Use with Harris RF-5058-CH002 or RF-5058-CH006 Battery Chargers.

**BATTERY CHARGERS**

**RF-5058-CH002**

2-Bay Battery Charger/Conditioner

**RF-5058-CH006**

6-Bay Battery Charger/Conditioner

The RF-5058-CH00x Battery Charger/Conditioner family includes 2-bay and 6-bay versions that will charge and condition BB-590/U NiCd, BB-390/U NiMH, and BB-2590/U Type Li-Ion batteries. The charger units are identical except for physical size and weight and the number of batteries that can be simultaneously handled. A mixed combination of up to two (CH002 unit) or six batteries (CH006 unit) of these types can be simultaneously charged and/or conditioned. Indicators are provided to display the charge or conditioning status of each battery to the operator. The charging and conditioning cycles are both automatic and will shut off when charging is completed or under faulty battery conditions. Typical charging times for fully discharged batteries varies with battery capacity, temperature, and battery age but are typically 2.5 hours for BB-590, 4 hours for BB-390 and 6 hours for BB-2590 type batteries. The Charger/Conditioner is packaged in a waterproof case for transport and operation. The system operates on 95-260 VAC, 47 to 440 Hz, or 12 to 36 VDC autoranging. Includes Instruction Manual and a detachable DC power cable with alligator clips and a detachable AC cable with US NEMA 5-15P male on one end and IEC 60320 female on the other is also provided.

**RF-5059-CH002**

NiMH/Ni-Cd Battery Charger/Discharger



The RF-5059-CH002 is a quick charger system for 10075-1345-01 (BB-590/U) and BB-390A/U batteries. It can be powered by AC (95 - 265V) or DC (10 - 36V) power. AC and DC Input Cables should be ordered separately:

10488-1386-01	AC cable, U.S. (8 ft)
10488-1387-01	AC cable, Continental Europe (2.5 m)
10488-1388-A008	AC cable, UK (8 ft)
10488-1385-A005	DC cable, Alligator clip to charger (5 ft)

## AMPLIFIED SPEAKERS

**10181-5180-01**  
Tactical Amplifier Speaker



Amplifies the audio output for vehicular applications. The speaker features dual 6-pin handset/headset connectors, individual handset/headset and speaker volume controls, individual handset/headset and speaker power switches, and a vehicular mounting bolt. It requires external 26 VDC power. Two cables are required (ordered separately).

### 1. Speaker power cables:

10535-0706-A009	9 foot long speaker to 4-pin power connector
10535-0706-A075	75 foot long speaker to 4-pin power connector
10535-0708-A009	9 foot long speaker to pigtail leads
10535-0708-A075	75 foot long speaker to pigtail leads
11068-0018-A009	9 foot long speaker to RF-5850 Battery Eliminator

### 2. Audio cable:

10535-0707-A009	audio cable that connects to the PRC-150 Audio connector J1.
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## BACKPACKS

**10512-0465-01**  
FALCON II Backpack Carrying Bag

Designed for short duration, dismounted missions. This Olive Drab colored bag has pouches for accessories, antennas, and two additional batteries. The bag has holes in the top for deployment of the antennas, the Keyboard/Display Unit Extension Cable, the handset cable, and other accessory cables to pass through while the bag is closed.

**10530-0460-01**  
Backpack Carrying Bag

This Olive Drab colored bag is heavily padded and designed for use in airborne jump applications. It has HERCULON reinforced areas, and has adjustable web to set the carrying depth of the radio. It has room to store cables and two spare batteries. Designed to fit inside a larger ALICE rucksack.

## HANDSETS

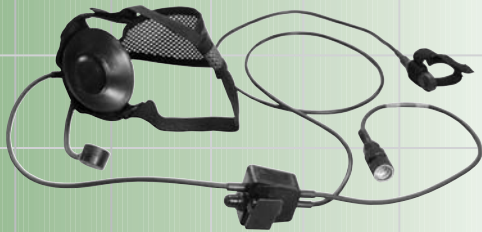
**10075-1399**  
Lightweight Handset - H-250/U (modified)



The 10075-1399 is a high-grade, lightweight MIL handset for use with the Falcon II tactical radio systems. One handset is supplied with each radio.

**HEADSETS**

**RF-3020-HS001/HS002**  
Lightweight Headsets



The RF-3020-HS001 headset is a lightweight tactical headset with a single earphone, a gooseneck boom mounted microphone, and a push-to-talk switch with a clothing clip for attachment. The RF-3020-HS002 (shown) is identical to the RF-3020-HS001, but has a second, silent push-to-talk button in sniper switch fashion. The headsets are rugged, submersible, and designed to meet tactical environmental requirements.

**HUB BATTERY**

**B41-0010-003**  
Hold Up Battery (HUB)

Replacement Hold Up Battery for the PRC-150 radio.  
NSN 6135-01-461-5322

**KDU WRIST STRAP**

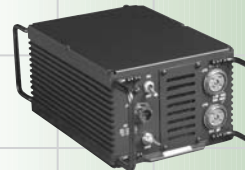
**10512-0470-01**  
KDU Wrist Strap Assembly



Provides a strap assembly to mount the removable Keypad/Display Unit (KDU) from the radio to the left or right forearm using adjustable Velcro fasteners to permit size adjustment.

**POWER SUPPLIES**

**RF-5051PS-125C**  
Power Supply



The RF-5051PS-125C provides power for the Falcon II 125 watt or 150-watt systems in base station, shipboard, or transportable operation. DC output is 28 VDC nominal at 30 amps. Input is 115 or 230 VAC, 47 to 400 Hz. Requires 10181-9831-009 AC Power Cable. Use the 10181-9833-004 cable to connect the power supply to the 125 watt or 150 watt amplifiers.

**RF-5054PS**  
Power Supply



The RF-5054PS provides power for the Falcon II 400 watt systems in base station, shipboard, or transportable operation. Two RF-5051PS-125C power supplies are connected together to provide enough power for the 400-watt system. Input is 115 or 230 VAC, 47 to 400 Hz. Two 10181-9831-009 AC Power Cables are required. Use the 10181-9834-004 cable to connect the power supply to the 400-watt amplifier.



## POWER SUPPLY

**RF-5052PS**  
12/24 VDC Converter



The converter provides 26.5 volts DC at 17 continuous amps and 20 amps peak from a 12-volt DC source. It permits the operation of Falcon II 125 watt and 150 watt systems in vehicles with 12-volt electrical systems. It will not work with 400 watt systems. It is designed for mounting in engine compartments or other harsh environments. The converter includes a 15-foot DC input fused cable.

## BATTERY ELIMINATOR

**RF-5850-PS001**  
Battery Eliminator



Used in place of battery box to provide operation of the PRC-150 from 85 to 270 VAC, 47 to 440 Hz, or 9 to 36 VDC. The power supply contains a battery to permit radio operation for short time periods without external prime power. The battery is recharged when external prime power is reapplied. The unit is supplied with both a DC power cable, and an AC power cable with a US style plug attached.

## SOFTWARE APPLICATIONS

**RF-6710W**  
Wireless Message Terminal Software

When installed on a Harris or customer provided computer, the RF-6710W Wireless Message Terminal (WMT) forms a multi-media messaging system that provides transparent relay of e-mail and files over HF, operating like a standard PC with email. The RF-6710W automatically sends messages and data to the final destination, adaptively using different channels/frequencies.

**RF-6550H**  
Radio Programming Application (RPA)

This software application allows the user to enter frequency, mode, ALE network information and other parameters into a Windows based computer program and save it to a file. The program also downloads the operating parameter into a radio using a 10535-0775-A006 Asynchronous Data (PPP) cable. The computer file can be used to program all the radios in a network. The RF-6550H RPA and 10535-0075-A006 cables are provided with each AN/PRC-150(C) manpack.

**RF-6551H**  
Tactical Chat

This easy to use Windows based computer program allows two stations to send and receive simple messages. Small data files can also transferred using this program. The RF-6551H will automatically link to the receiving station using the ALE function in the radio. Data is sent using the ARQ function – providing error free transfer of the information. The RF-6551H Tactical Chat software and 10535-0075-A006 cables are provided with each PRC-150 manpack.

## ***How Much Power Do I need?***

As a general rule, 20 watts from a manpack radio is good for ground wave distances and short links out to a couple of hundred miles. But the type of antenna used with the 20-watt manpack greatly influences this range. For 100 to 150 watts, the range is usually good for around 1,000 miles reliably or 2,000 miles intermittently. For 400 watts, the range can be around 2,000 miles, and more in good propagation conditions.

Try to think of power levels in this way. For areas up to 20 to 30 miles, use a 20- watt system. For reliable communications with an area the size of one half the continental United States; i.e., Rochester, NY to Atlanta, GA; consider using 150 watts. For communications for a distance roughly one coast of the US to the other, CONUS (i.e., New York City to Los Angeles); consider 400 watts. Occasionally, 400 watts will be good enough for OCONUS communication distances.

Again, these are rough guides for reliable communications. One could easily use 150 watts and communicate from one coast to the other given the right propagation conditions and antenna. There are exceptions to these guides as well. For example to communicate in the 50 to 100 mile gray zone, 100 to 150 watts is generally needed.

## ***I currently have a 500 watt system. Is the 400 watt system a suitable replacement?***

The currently fielded 500 watt systems are 500 watts PEP and 250 watts average. If you key the 500 watt system and whistle into the microphone you will see the power output display drop from 500 watts to 250 watts. The new 400 watts systems are 400 watts PEP and average, they will put out 400 watts continuously. The 500 watts systems also use vacuum tubes in their output stage, while the new 400 watt systems are solid state. This means the new systems are better suited to the functions that require fast tuning, Automatic Link Establishment, and frequency hopping and they don't require the maintenance annoyance of replacing tubes.

## ***I currently have a 1KW watt system. Is the 400 watt system a suitable replacement?***

The new 400 watt systems will usually provide enough power to communicate the same distances the currently field 1KW systems do. Additionally the new waveforms provide additional gain to the system resulting in better performance and requiring less power output. See How Much Power Do I need?

## ***Do I need an RF-7210(A) for Automatic Link Establishment?***

No, the new systems have the Automatic Link Establishment function embedded in the radio.

## ***Is my RF-7210(A) system compatible with the new systems?***

Yes, the new systems with built-in ALE are compatible with the currently fielded units.

## ***What is the difference between 2G and 3G Automatic Link Establishment?***

Third generation ALE or 3G is the newest version of Automatic Link Establishment. It provides faster linking times, better linking in poor channels and it allows for different channel plans for better networking, among other features. 3G and 2G ALE are not compatible with each other.

## ***Are the new systems compatible with the Scope Command Systems?***

Yes, the new systems are compatible with the Scope Command System, provided they have firmware version 1.3 or greater. Harris Software Wireless Messaging Terminal RF-6710W will also be required.

## ***Are the Falcon II systems LINK 11 compatible?***

No.

## ***How can I send data with the AN/PRC-150(C) radios?***

The Falcon II systems have a number of high-speed HF modem waveforms built in. The radios have 39 Parallel Tone, Serial Tone and other waveforms that allow data transmission up to 9600 bps over HF channels.

## ***Do I need an external encryption device with the AN/PRC-150(C) radios?***

The PRC-150(C) radios have a number of encryption capabilities built in, no need for an external crypto unit. The radios are compatible with KY-99(A), KY-100, KG-84C, and KY-57 crypto devices. The same fill devices will also fill the PRC-150(C). The radio also has coalition encryption based on Harris Citadel encryption that can interoperate with Harris RF-5800H HF manpacks used in many countries around the world.

## Frequently Asked Questions

### *How about maintenance of the Falcon II systems?*

Maintenance of the Falcon II systems is based on replacing modules. There are no operator replaceable components (tubes, etc.) in the systems. The operator can swap out the defective module and quickly return the system to service. Harris can help the customer develop a maintenance plan based on module replacement or complete radios (hot spares):

The customer can simply return the defective radio to Harris for repair.

Harris can supply a number of spare units to the customer. The customer would swap with a good unit they have in their supply and return the defective module or radio for repair. The defective unit is repaired and returned to the customer.

Harris can maintain a supply of customer spare modules or complete radios. The defective units can be returned to Harris for repair while a spare unit is shipped to the customer or quick turn around. The defective unit is repaired and placed in the customer stock.



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