

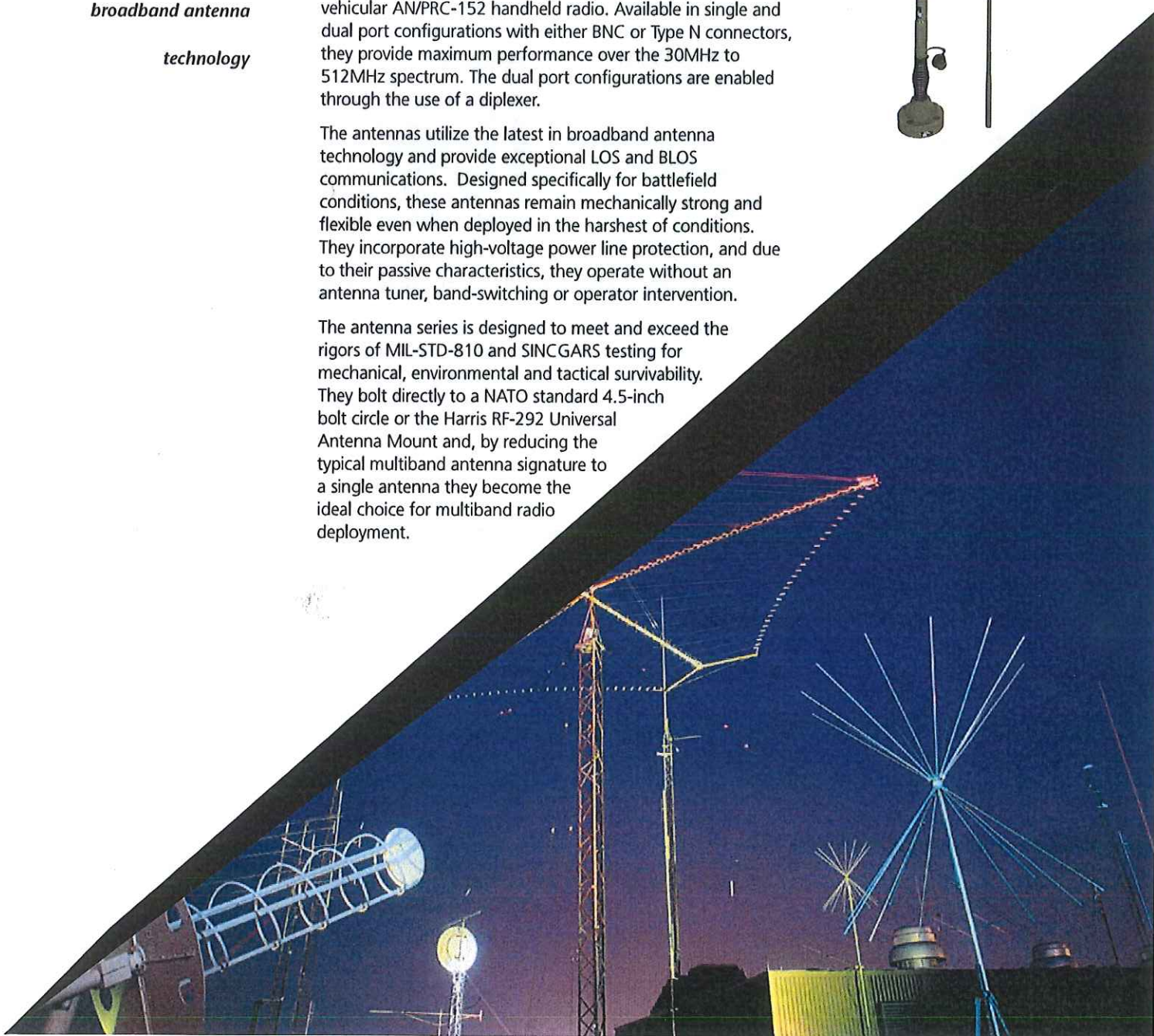
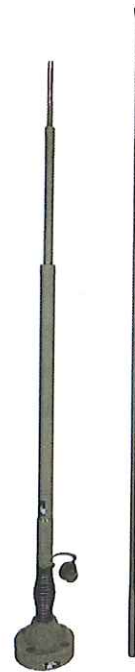
**RF-3183-ATOXX  
MULTIBAND  
VEHICULAR  
ANTENNA  
SERIES**

*for tactical, C3I, or battlefield  
conditions using new  
broadband antenna  
technology*

The RF-3183 vehicular whip antennas are a series of tactical, multiband antennas that are designed for use with Harris multi-mission military radios, including the RF-300M-MP, RF-7800M-MP, AN/PRC-117F, RF-5800M-MP, RF-5800V and the vehicular AN/PRC-152 handheld radio. Available in single and dual port configurations with either BNC or Type N connectors, they provide maximum performance over the 30MHz to 512MHz spectrum. The dual port configurations are enabled through the use of a diplexer.

The antennas utilize the latest in broadband antenna technology and provide exceptional LOS and BLOS communications. Designed specifically for battlefield conditions, these antennas remain mechanically strong and flexible even when deployed in the harshest of conditions. They incorporate high-voltage power line protection, and due to their passive characteristics, they operate without an antenna tuner, band-switching or operator intervention.

The antenna series is designed to meet and exceed the rigors of MIL-STD-810 and SINCGARS testing for mechanical, environmental and tactical survivability. They bolt directly to a NATO standard 4.5-inch bolt circle or the Harris RF-292 Universal Antenna Mount and, by reducing the typical multiband antenna signature to a single antenna they become the ideal choice for multiband radio deployment.



## Specifications for the RF-3183

### Electrical

- **Frequency Range:** Without Diplexer: 30 to 512 MHz  
With Diplexer: 30 to 88 MHz  
108 to 512 MHz
- **Polarization:** Vertical
- **Impedance:** 50  $\Omega$  (nominal)
- **VSWR:** <3.5:1 over 95% of the pass band
- **Gain:** -5 dB to +1.5 dB rel 1/4 Wave radiator  
on 10'x10'x10' Ground Plane
- **Power Rating:** 50 W, 1 hour
- **Matching:** Passive, distributive
- **Radiation Pattern:** Omnidirectional

### Mechanical

- **Height:** 2.7 m (105 in., 8.75 ft.)
- **Weight:** 4 kg. (8.75 lbs.)
- **RF Connector:** Single connector, BNC female or Type N  
Dual feed, Diplexer BNC Female only
- **Wind Rating:** 123 mph
- **HV Protection:** 20 kV RMS
- **Mounting:** Four 0.5 in holes spaced on 4.5" BHC  
(Hardware included)  
Bolts directly to RF-292 (not included)

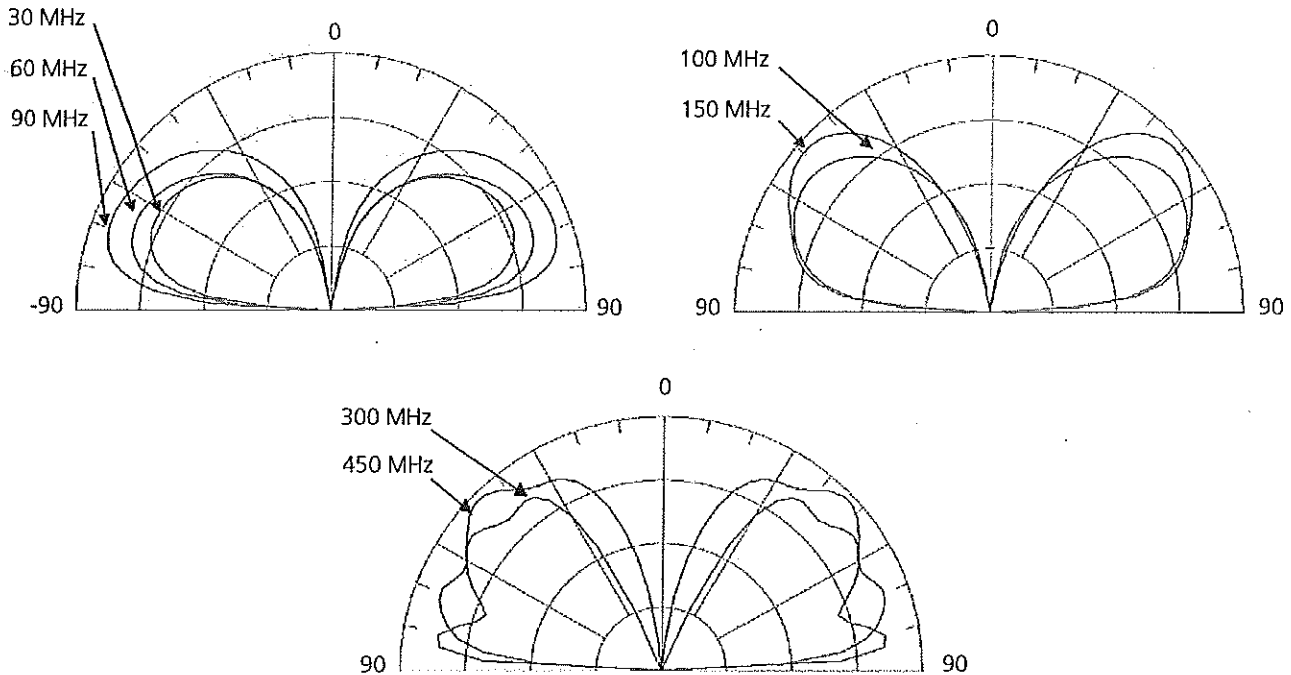
### Models

Antenna	Port / GPS / Diplexer	Color Matrix
RF-3183-AT001	Dual BNC / Yes / Yes	Green
RF-3183-AT002	Dual BNC / Yes / Yes	Tan
RF-3183-AT003	Type N / Yes / No	Green
RF-3183-AT004	Type N / Yes / No	Tan
RF-3183-AT005	BNC / Yes / No	Green
RF-3183-AT006	BNC / Yes / No	Tan
RF-3183-AT011	Type N / No / No	Green
RF-3183-AT012	Dual BNC / No / Yes	Tan
RF-3183-AT013	Dual BNC / No / Yes	Green
RF-3183-AT014	Type N / No / No	Tan
RF-3183-AT015	BNC / No / No	Green
RF-3183-AT016	BNC / No / No	Tan

### Features

- Instantaneous bandwidth for ECCM waveforms
- Dual or single port
- Multi-sectional
- Standard NATO bolt pattern
- Feed through base with spring
- High voltage protection

### Radiation Patterns Over Average Ground



Specifications are subject to change without notice.



assuredcommunications®

## AN/PRC-152

**TYPE-1 MULTIBAND  
MULTIMISSION  
HANDHELD RADIO**

SINCGARS

HAVEQUICK II

MIL-STD-188-181B

VHF/UHF, AM/FM

APCO P25

HPW

DAMA

HPW-IP



The Falcon III® AN/PRC-152 single-channel multiband, multimission handheld radio provides the optimal transition to JTRS technology. The radio covers the full 30 to 512 MHz frequency range with adjustable transmit output power up to 5 watts. With its JTRS-approved Software Communications Architecture (SCA) operating environment and the embedded Sierra II™ module, the AN/PRC-152 delivers modern programmable encryption in an SCA-compliant radio that supports current and future algorithms and waveforms.

The versatile AN/PRC-152 supports SINCGARS and several other waveforms, including VHF/UHF AM and FM and optional Havequick I/II, which are preliminary versions ported from the JTRS library. Other optional waveforms include the APCO P25 Land Mobile Radio waveform, which allows interoperability with civilian authorities.

Additionally, the AN/PRC-152 provides robust beyond line-of-sight capability with dedicated channel MIL-STD-188-181B for 5 KHz and 25 KHz channels, including Advanced Narrow Band Digital Voice Terminal (ANDVT) with up to 56 kbps data. The latest waveform option is UHF DAMA-SATCOM, which includes MIL-STD-188-182A (5 KHz) and 183A (25 KHz). The JTRS-approved AN/PRC-152 is the first and only SCA-compliant handheld radio to provide JTC certified DAMA capability. The radio supports MELP and LPC-10 digitized voice in DAMA and dedicated SATCOM operations.

Secured by the Harris Sierra II software-programmable encryption module, the NSA-certified AN/PRC-152 supports various Type-I device compatibility modes: KY-57/VINSON, ANDVT/KYV-5, KG-84C, FED-STD-1023 (Fascinator), Suite B AES, DS-101, and DS-102. Sierra II supports all JTRS COMSEC and TRANSEC requirements and features a low-power design to conserve battery life in the compact handheld form-factor radios.

The AN/PRC-152 hardware configuration options include an embedded GPS receiver that displays local positions and provides automatic position location information for situational awareness on the battlefield. Optionally available is a high band version that extends UHF LOS, and APCO P-25 frequency coverage to the 700/800 MHz band. A maritime version of the radio, with capabilities and connectors identical to the standard radio, is water submersible to 20 meters per MIL-STD-810F.

Another first for tactical radios, the AN/PRC-152 can store multiple mission plan files to extend adaptability of fielded radios. With the unique wireless cloning feature, squads of radios can be quickly and securely reconfigured to meet dynamic operational needs. The software-upgradeable AN/PRC-152 is moving beyond legacy radios, enabling today's warfighter to take on tomorrow's missions.



**NSA  
CERTIFIED**  
★  
**JTC  
CERTIFIED  
DAMA**  
★  
**JTRS  
APPROVED**



## Specifications for the AN/PRC-152

<i>General</i>	
<b>Frequency Range</b>	30-512 MHz 30-520, 762-870 MHz (High Band option)
<b>Presets</b>	99 (standard); unlimited using multiple mission plan files
<b>Transmission Modes</b>	FM, AM, PSK, CPM, FSK
<b>Tuning Resolution</b>	10 Hz

<i>Transmitter</i>	
<b>Output Power</b>	250 mW to 5W, 10 W SATCOM Burst Mode, 4 W max in 762-870 MHz frequency range
<b>Harmonic Suppression</b>	-50 dBc
<b>Frequency Stability</b>	+/- 2.5 ppm

<i>Receiver</i>	
<b>FM Sensitivity</b>	-119 dBm (12 dB SINAD) Typical
<b>FM Deviation</b>	5, 6.5 and 8 kHz
<b>Adjacent Channel Rejection</b>	Greater than -40 dB
<b>Squelch</b>	Selectable (tone, noise, CDCSS, CTCSS)

<i>Interoperability</i>	
<b>Fill Devices</b>	AN/CYZ-10 DTD (Supports DS-101, DS-102 & Mode 2/3), KYX-15, KYK-13, DTD 2000, SKL
<b>Crypto Modes</b>	KY-57, ANDVT/KYV-5, KG-84C, FED-STD-1023, Suite B AES, Fascinator
<b>Radios</b>	AN/PRC-117F, AN/PRC-113, AN/PRC-117G, RF-310M-HH, AN/PRC-119A/B, AN/PRC-148, AN/PRC-77, PSC-5, AN/PRC-139, XTS-5000, ARC-210, ARC-164, ARC-231, XG-100 Unity
<b>GPS</b>	PLGR, DAGR

<i>Interfaces</i>	
<b>External Data</b>	RS-232, RS-422, MIL-STD-188-114A
<b>Programming/Remote Control</b>	USB/RS-232
<b>Antenna</b>	50 Ohm TNC
<b>Audio</b>	Six-pin (standard)

<i>Physical</i>	
<b>Dimensions</b>	2.9 W x 9.6 H x 2.5 D in. (with battery and GPS)
<b>Weight</b>	2.6 lbs. (with battery)
<b>Volume</b>	42 in. <sup>3</sup> (with battery and GPS)

<i>Environmental</i>	
<b>Temperature</b>	Radio: -31° to +60°C Radio with Li Ion Battery: -20° to +60°C
<b>Immersion</b>	2 Meter standard (watertight for 30 minutes minimum) 20 Meter option (watertight for 2 hours minimum)
<b>Test Method</b>	MIL-STD-810F
<b>Finish</b>	CARC Green

<i>Key Features</i>	
SCA v2.2 compliant (no waivers)	
Sierra II programmable crypto	
Built-in speaker/mic	
Full numeric keypad	
NVG compatible display	
High Band UHF/APCO P-25 (option)	
Embedded GPS (optional)	
DAMA (optional)	
MELP	
Wireless cloning	
TX/RX OTAR	
Long-life removable/replaceable Hold-up Battery (HUB)	
Supports multiple mission plans	

<i>Waveforms</i>	
DAMA with MIL-STD-188-182A and MIL-STD-188-183A (optional)	
SINGARS	
VHF/UHF AM/FM	
MIL-STD-188-181B	
Havequick II	
HPW-IP (optional)	
High Performance Waveform (HPW) (optional)	
APCO P25 (optional)	

<i>Accessories</i>	
30-512 MHz 45-inch blade antenna (included)	
Rechargeable lithium-ion battery (included)	
Operator's manual (included)	
Holster	
RF-5912-PS001 Battery Eliminator	
RF-5911-PS001 AA Battery Adapter	
RF-6650 Communication Programming Application (CPA)	
Audio headsets, H-250 handset	
RF-300M-HV Vehicular Adapters	
12041-3100-01 Lapel Speaker/Mic	



High Band AN/PRC-152 with GPS



20-meter submersible AN/PRC-152



RF Communications | 1680 University Ave. | Rochester, NY USA 14610 | 585.244.5830 | [www.harris.com](http://www.harris.com)

Get quotes real-time at eHarris. Order parts online at: <https://premier.harris.com/rfcommsales>

## RF-3183-AT012, -AT013, -AT112, -AT113 USER MANUAL

### DESCRIPTION OF THE ANTENNA

The antenna is an Ultra Wide Band antenna covering the 30 to 512 MHz frequency range. The antenna does not need any separate tuning. The complete antenna weighs 9 lbs (3.9 kg) and is 104-inch (2.64 m) tall.

This version of the antenna contains a diplexer to give separate connections for the VHF and UHF transceiver parts.

A detailed drawing is available on page 2, together with an indication of the drill template.

### INSTALLATION PREPARATIONS

The following parts are included for both configurations:

Description	Quantity	Item in Fig. 2a	Item in Fig. 2b
Antenna top whip	1	1	1
Antenna lower whip	1	2	2
Antenna base	1	4 (10)	4 (10)
Tie-down kit	1*	8/9	8/9
Installation kit:			
Bolt, 3/8-16 x 2.5 in.	4	3	3
Bolt, 3/8-24 x 2.0 in.	4	4	4
Flat washer	8	5	5
Nut, 3/8 x 16 UNC	4	6	6
Ground strap	1	8	8
Lock washer	4	7	7
Conductive Gasket	1	11	11

Complete antenna as above, BNC, Green      RF-3183-AT013    RF-3183-AT113\*  
 Complete antenna as above, BNC, Tan      RF-3183-AT012    RF-3183-AT112\*

\* Optional with Tie-down kit

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Figure 2a

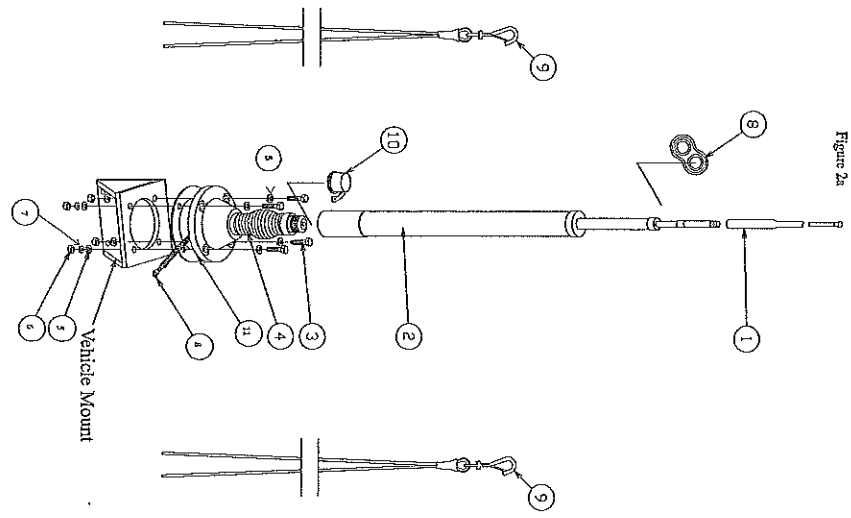
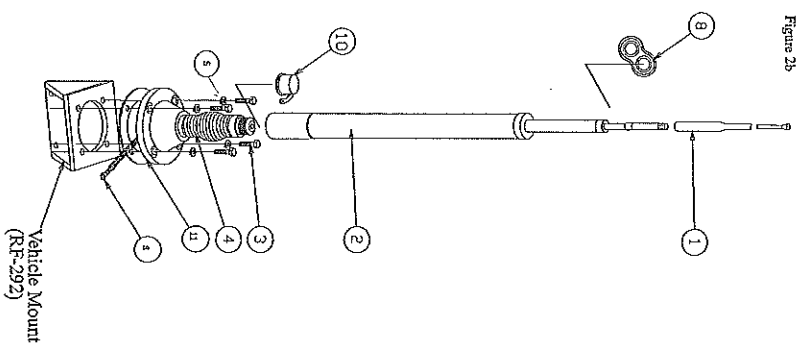


Figure 2b



TECHNICAL SPECIFICATIONS	
Frequency range	30-88 & 116-512 MHz
Power rating:	50 W MAX
Weight antenna whip:	3.3 lbs (1.51 kg)
NATO spring base:	5.3 lbs (2.42 kg)
Impedance:	50 Ohms
VSWR:	<3.5:1, slightly dependent on installation.

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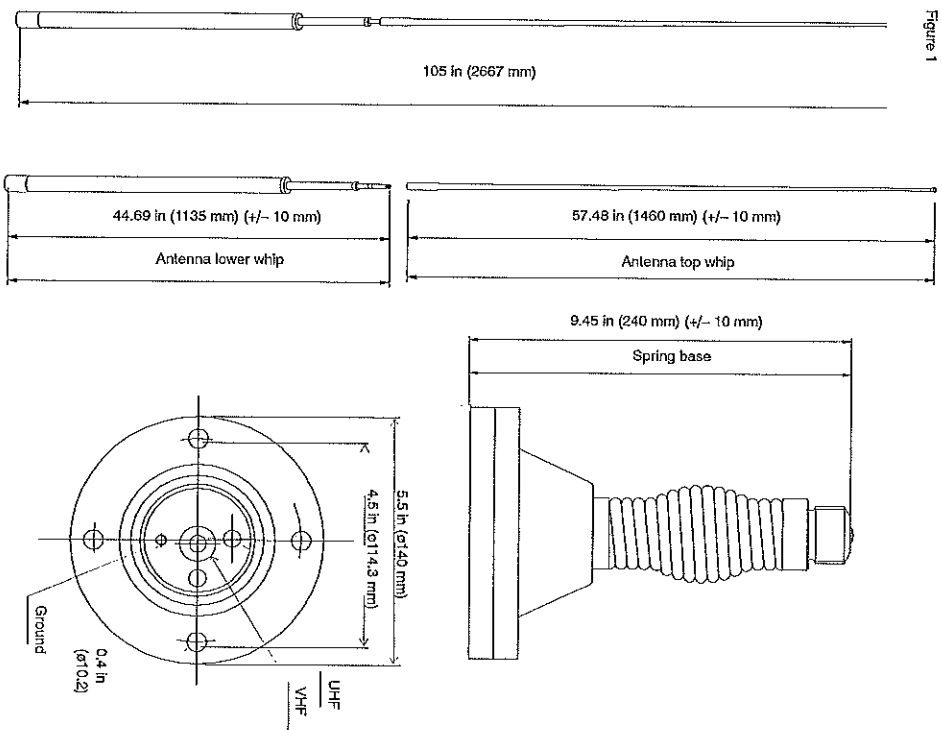


Figure 1

**INSTALLATION**

Use this manual only if the vehicle has no specific manual.

**CHECKING THE VEHICLE**

Check that the electrical conductivity between the mount (RF-292) and the vehicle is good. If this is not the case, remove any paint or other surface contaminants on the base/mount surface. The mount must have the correct holes. If the holes do not fit 3/8-inch UNC bolts, appropriate bolts/washers/nuts must be obtained. The 3/8-24 x 2.0 bolts are supplied for installation on a Harris, RF-292, Antenna Mount.

**FITTING THE ANTENNA BASE**

Fit the base to the mount, using a gasket if necessary. Remove any paint or other surface contaminants on the base/mount surface. Tighten the bolts, or bolts/nuts. Use the washers between the hex nuts and the vehicle mount as shown in Figure 2.

**ELECTRICAL CONNECTION**

Ensure the bottom plane of the base makes good electrical contact with the mount. If the contact is in doubt, measure the DC resistance from the outside of the connector to the vehicle ground. A proper connection shall have a resistance less than 2 ohms. Next connect the coaxial cable. Finally, the ground strap should be attached to a vehicle bolt in order to optimize the electrical connection.

**INSTALLING THE ANTENNA**

Screw the top and lower whip together by hand. Do not over-tighten as this can damage the ferrules. Remove the protective cap from the top of the base. Screw the assembled whip onto the base and tighten securely by hand. However, if the antenna will experience extreme vibrations, a wrench should be used near the base of the lower whip, to tighten the whip even more.

**MAINTENANCE**

No regular preventive maintenance is required. The following key items are available for replacement.

12006-0510-01	Whip Section, Lower Green
12006-0511-01	Whip Section, Upper Green
12006-0510-02	Whip Section, Lower Tan
12006-0511-02	Whip Section, Upper Tan
12006-0512-01	Base RF-3183-AT013, Black

**TROUBLESHOOTING**

Measure the resistance across the coaxial connector at the end of the lower antenna section. The resistance shall be less than 1 ohm. The base alone shall have infinite resistance across all connectors and approximately 0 ohms of resistance from the top of the base to the bottom of the VHF port on the outer and inner conductors respectively.

If a VSWR meter is available, measure the VHF and UHF VSWR of the complete antenna. The VSWR should be below 3.5:1, but can in some installations be slightly higher depending on the antenna's surroundings.

**MOUNTING TOOLS**

Four 3/8-inch bolts are required and a 9/16 wrench is used to mount the antenna base. The ground strap is attached to the antenna base with a 10 mm nut, this means a 10 mm wrench is required if the strap is to be removed and reattached.