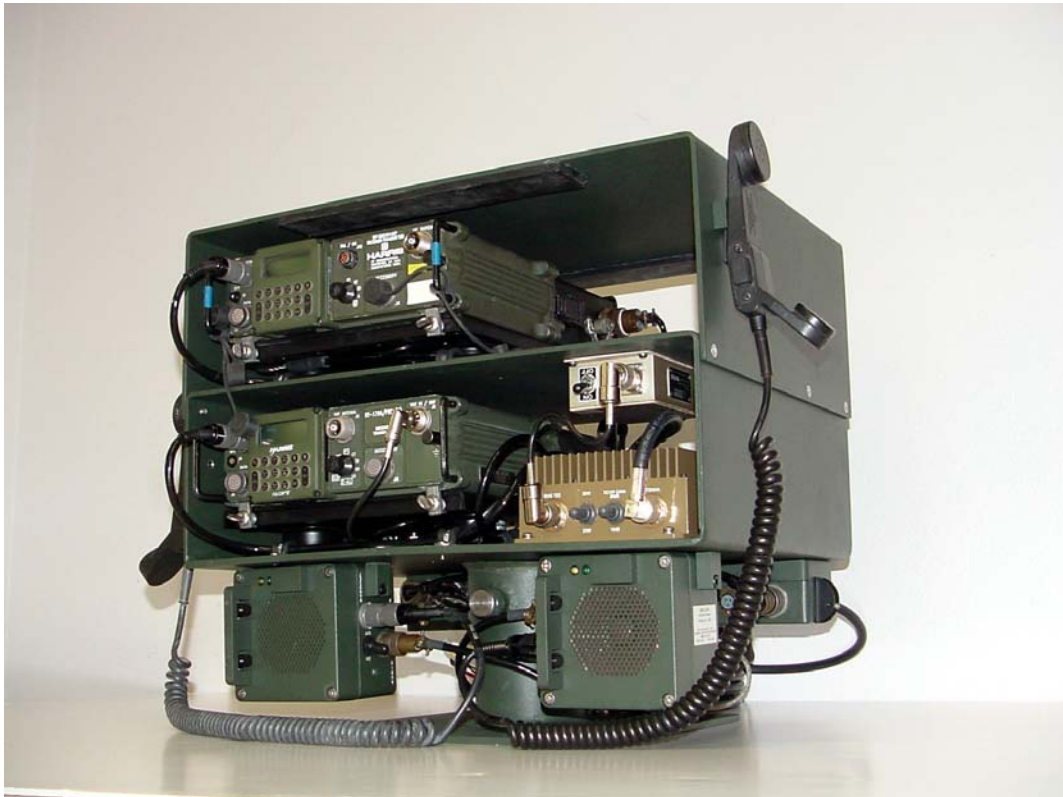


MIK-16-2 Two Radio Swivel Mounting System



Installation Manual

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Revision History

Version	Description of Change	Effective Date
REV: A	Previous revision	DEC 01 2003
REV: B	This manual has been updated to reflect the new template design.	MAY 01 2008

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1 ABOUT THIS MANUAL

Please read the following sections before proceeding.

1.1 Symbols Used

The symbols shown in this section appear throughout this manual, the first one shown being the *NOTE* symbol, below, which is self-explanatory.



NOTE: *Note statements contain important information that may affect how you use this product.*

The other symbols represent *important safety advice*, and they appear throughout this manual in the form of *WARNINGS* and *CAUTIONS* against possible hazards to people or equipment, respectively. These safety *WARNINGS* and *CAUTIONS* must be followed at all times. They are flagged by use of a triangular alert icon shown just to the left of the cautionary advice given, as shown below:



WARNING: *Warning statements mean danger. They identify practices, procedures or conditions such as high voltage that could result in injury or loss of life and which, therefore, require extreme care before proceeding.*



CAUTION: *Caution statements denote a hazard. They identify practices, procedures or conditions that could result in damage to or destruction of this product or other equipment or property.*

McDowell Research assumes no liability for the customer's failure to comply with these *WARNINGS* and *CAUTIONS*.

1.2 General Safety Instructions



WARNING: *This manual contains important safety and operating instructions for the MIK-16-2. Before using the MIK-16-2, read all instructions in this manual and cautionary markings, if any, on the device. Specifically:*

- *Do not operate the MIK-16-2 if it has received a sharp blow, been dropped, or otherwise damaged in anyway; take it to a qualified repair technician for servicing.*
- *Do not disassemble the MIK-16-2; take it to a qualified repair technician when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.*
- *To reduce risk of electric shock, unplug the MIK-16-2 from its power source before attempting any maintenance or cleaning. Turning off controls will not eliminate this risk.*
- *If there are any questions regarding maintenance or safety-of-use issues pertaining to the MIK-16-2, please contact our service department at:*

Service Department
McDowell Research, an Ultralife Company
(PHONE) (315) 332-7100 (FAX) (315) 331-7800
(Email) service@mcdowellresearch.com

2 INSTALLATION

Please pay close attention to the following installation instructions.

2.1 Equipment Mount Installation

The MIK-16-2 is designed to be mounted using the following procedure:

1. Select a location for mounting the system. The Base Plate requires a flat surface with a minimum area of 12" x 15" for installation. In order to swivel the radio mount, a minimum 25" diameter area is required to allow for proper clearance while rotating the mount.
2. Place Radio Equipment Mount into designated area of vehicle.



NOTE: Do not install any mounting hardware at this time.

3. Using a pencil or pen, and using the pre-drilled mounting holes in the Base Plate, mark the mounting surface where mounting holes will be drilled according to Figure 1. Remove the equipment mount.

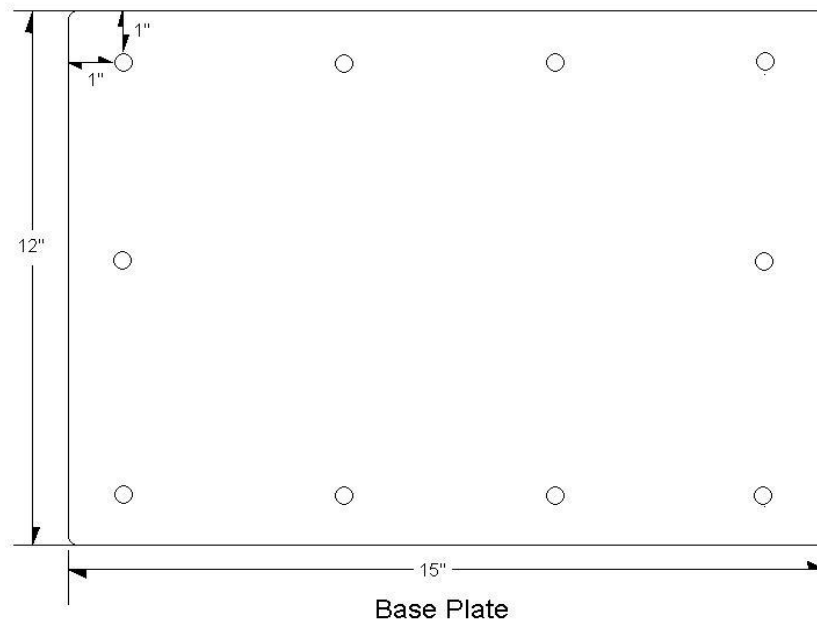


Figure 1 Mounting Holes for Base Plate



CAUTION: Due to the weight of the mounting system and radio, it is advised that all ten holes and mounting hardware be used. It is also recommended that mounting should be through a metal surface whenever possible.

2.1.1 Mounting to Plywood Surface Only

This type of mounting is used to mount to, for example, the center floor board in the HMMWV and does not require drilling through the floorboard:

1. Once drill holes are marked, remove the plywood mounting surface from the vehicle.
2. Using an electric drill, and a 3/8" drill bit, drill all ten holes into plywood mounting surface.
3. Insert "T" nuts (see Figure 2) into the drilled holes on the underside portion of the plywood mounting surface. Using a mallet or hammer, drive "T" nuts into the holes until they are flush with the surface of the plywood.



Figure 2 T-Nut

4. Using ten (10) 3/4" hex bolts, ten (10) lock washers and ten (10) flat washers provided, loosely secure the Base Plate to the mounting surface.
5. Tighten the mounting bolts securing the mounting system to the mounting surface of the vehicle.



NOTE: Leave at least one base plate bolt loose in order to attach power and antenna cable clamp(s).

6. Re-mount the plywood plate into its original position.

2.1.2 Mounting to Metal Surface (Recommended)

This type of mounting is used to mount to, for example, the center floor board in the HMMWV and does require drilling through the floorboard (Recommended).

1. Using an electric drill, and a 3/8" drill bit, drill all ten holes into mounting surface.
2. Using (10) 1 1/2" hex bolts, ten (10) lock washers, twenty (20) flat washers and ten (10) 5/16" nuts provided, loosely secure the Base Plate to the mounting surface.
3. Ensuring the mounting system is in the desired position, tighten the mounting bolts and nuts securing the mounting system to the mounting surface of the vehicle.

2.2 DC Power Input and RF Cable Installation



WARNING: Ensure that batteries are disconnected prior to attaching power cable leads to the positive stud and negative shunt ground screw, and that batteries are reconnected after these connections are made. Disconnect and reconnect battery leads in accordance with HMMWV maintenance documentation.

DC power and antenna RF cables should run down through the cable hole in the mount and attach to one of the base plate bolts using a cable clamps (provided). Cable clamps should be used to secure the cables where ever required. Cabling should follow shortest path to batteries and antenna mounting area.

1. Power cable should be routed into the battery box and be connected to the battery (red lead to positive stud of frame and black lead to negative shunt ground screw).
2. Antenna RF cable should be routed so there are no "kinks" in the cable. RF cable should have smooth even bends when installed.

2.3 Antenna Mount Installation (Optional)



NOTE: The antenna mount is not part of the MIK-16-2 installation kit. It must be purchased separately.

2.3.1 For Soft-top HMMWV with No Rear Seat Safety-belt Bracket

This installation uses an RMT-25 antenna mount on right rear fender.

1. Remove front bolts and rear plugs from right rear fender (see arrows in Figure 3).



Figure 3 HMMWV Front Bolts and Rear Plugs

2. Place antenna bracket (Figure 4) into position insuring alignment of the four mounting holes.
3. Using the four mounting bolts, washers and nuts provided in the antenna mount kit, tighten antenna mount into place.



Figure 4 RMT-25 with X-wing Antenna Attached

2.3.2 For Soft-top HMMWV with Rear Seat Safety-belt Bracket

This installation use an RMT-25 antenna mount on right rear fender.

1. Remove front and rear bolts from right rear fender safety belt bracket (see arrows in Figure 5).
2. Place antenna bracket (Figure 4) into position insuring alignment of the four mounting holes.
3. Place safety belt bracket onto the fender plate of the antenna mount ensuring that the mounting holes are aligned.
4. Using the four mounting bolts, washers and nuts provided in the antenna mount kit, tighten antenna mount into place.



Figure 5 Right Rear Fender Safety Belt Bracket

2.3.3 For Hard-back HMMWV with or without rear seat Safety-belt Bracket

This installation uses an RMT-25 antenna mount on right rear fender.

1. Remove front and rear bolts from right rear fender safety belt bracket (if equipped) (see arrows in Figure 5).
2. Place antenna bracket (Figure 4) into position insuring alignment of the four mounting holes.
3. If equipped, place safety belt bracket onto the fender plate of the antenna mount ensuring that the mounting holes are aligned.
4. Using the four mounting bolts, washers and nuts provided in the antenna mount kit, tighten antenna mount into place.



NOTE: Rubber gasket between fender and rear body cover may need to be trimmed away to ensure proper closing of cover as shown in Figure 6.



Figure 6 Rubber Gasket between Fender and Rear Body

2.4 Antenna Installation

The following two styles of x-wing antennas commonly used with the antenna mount provided:

- ◆ Magnetic style base antenna with RF connectors mounted on the side of the feed horn.
- ◆ Bolt-on style with RF connectors on the bottom of the feed horn (see Figure 4).

Each is described in the two sections that follow.

2.4.1 Magnetic Style x-wing Antenna Installation

A magnetic style antenna will come with mounting holes for semi-permanent or permanent installation, each described below:

- ◆ *Semi-permanent installation:* Place the antenna in the center of the top plate of the antenna mount using the magnet on the bottom of the antenna feed horn. Run RF cable from Radio Equipment Mounting Base to the antenna mount, up the antenna mount shaft and connect it to the feed horn.
- ◆ *Permanent installation:* Place the antenna in the center of the top plate of the antenna mount using the magnet on the bottom of the antenna feed horn. Ensuring the mounting holes are aligned on the antenna feed horn and the top plate of the antenna mount, and, using the four screws, washers and nuts provided, secure the antenna to the mount. Run RF cable from Radio Equipment Mounting Base to the antenna mount, up the antenna mount shaft and connect it to the feed horn.

2.4.2 Bolt-on Style x-wing Antenna Installation

Place the antenna in the center of the top plate of the antenna mount ensuring the mounting holes are aligned on the antenna feed horn and the top plate of the antenna mount. Using the four screws, washers and nuts provided, secure the antenna to the mount. Run RF cable from Radio Equipment Mounting Base to the antenna mount, up the antenna mount shaft and connect it to the feed horn.



NOTE: *An extra spacer plate is provided that is mounted to the top plate of the antenna mount. This spacer may or may not be used at the discretion of the unit.*

3 MAINTENANCE

Maintenance for the MIK-16-2 is described in the following sections.

3.1 Cleaning

Cleaning of the MIK-16-2 is described in the following sections.

3.1.1 Dirt and Dust

All external components to the MIK-16-2 can be cleaned with a water dampened non-abrasive cloth and allowed to air dry or wipe dry with a clean dry non-abrasive cloth.

3.1.2 Oils and Grease

All external components of the MIK-16-2 can be cleaned with a mild soap/water solution dampened non-abrasive cloth. Rinse with water dampened non-abrasive cloth and allowed to air dry or wipe dry with a clean dry non-abrasive cloth.

3.2 Corrective Maintenance

The MIK-16-2 has NO user serviceable parts. Units requiring corrective maintenance should be sent to McDowell Research for repair. Contact information is provided in the next chapter.

4 CUSTOMER ASSISTANCE

4.1 Warranty Information

Warranty Statement

4 years for equipment shipped after May 1, 2004.

McDowell Research warrants to its customers that the products it manufactures and sells will be free from defects in materials and workmanship for a period of four (4) years for equipment shipped after May 1, 2004.

This warranty shall not apply to any defect, failure or damage caused by improper use or inadequate maintenance and care. McDowell shall not be obligated to provide service under this warranty to repair, service, or modify these products.

In order to obtain service under this warranty, customers must return a failed unit to McDowell with a description of the failure, contact information (in case questions arise and to speed up processing of guarantee claims) and finally a return shipping address. McDowell will return any failed unit at McDowell's cost.



NOTE: *This warranty does not apply to batteries supplied by McDowell Research. All batteries supplied by McDowell Research are warranted for 90 days from date of shipment.*

4.2 Contact/Return Information

Please call (315) 332-7100 to obtain an RMA number prior to returning any failed unit(s) to:

McDowell Research, an Ultralife Company
2000 Technology Parkway
Dock "X"
Newark, New York 14513
Phone: (315) 332-7100
Fax: (315) 331-7800

Online RMA requests can be located and submitted at:
http://www.mcdowellresearch.com/rma_form.php or
service@mcdowellresearch.com