

MIK-21

Satcom on the Move System



Operational and Maintenance Manual

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Chapter 1 - General Information

1.1 Scope

This manual has been prepared by McDowell Research for the purpose of providing the user information necessary to understand and maintain the MIK-21 Satcom on the Move System.

- **Chapter 1 – General Information**
 - This chapter provides safety and important information about the MIK-21.
- **Chapter 2 – Operation**
 - This chapter provides information necessary for operating the MIK-21, and theory of operating procedures describing how the MIK-21 accomplishes its intended purpose.
- **Chapter 3 – Maintenance**
 - This chapter provides information regarding MIK-21 preventive care and corrective maintenance procedures.

1.2 Introduction

- The MIK-21 Satcom on the Move System is a self contained Satcom on the Move System which is accompanied by the following equipment.
 - MRC-99 – Interoperable Power Adapter and Charger
 - MRC-67A – Amplified Speaker
 - TRI-COM Sat 50 Amplifier with bias tee
 - MIK1-1012 – Power Distribution Unit

1.3 Important Safety Instructions

- A. This manual contains important safety and operating instructions for the MIK-21 Satcom on the Move System.
- B. Before using the MIK-21, read all instructions and cautionary markings on the Amplifier.
- C. Use of an attachment not recommended or sold by McDowell Research may result in risk of fire, electric shock, or personal injury.
- D. Make sure cords are positioned so that they will not be stepped on, tripped over, or otherwise subjected to damage or stress.
- E. Do not operate the system with damaged cable or connector - replace it immediately.

1.4 Serviceable Parts and Repair

The MIK-21 has **NO** user serviceable parts. Units requiring repair should be sent to a qualified service depot for repair or follow instructions in the maintenance chapter of this manual.

1.5 Physical Description

1.5.1 Parameters

- **Length:** 15.8 inches
- **Width:** 17 inches
- **Height:** 15.6 inches
- **Weight:** 57.5 lbs. without Transceiver

1.6 Equipment Provided

Equipment	Quantity
MIK-21 Operational Manual	1
MIK-21 Satcom on the Move System	1
TRI-COM Sat 50 Operating Manual	1

1.7 External Components

- MRC-99
- MRC-67A
- TRI-COM Sat 50 Amplifier with Bias Tee
- MIK1-1012

1.8 Technical Specifications

AC Input Range	95-265 VAC, 47 to 440 Hz
Operating Temperature	-30°C to 55°C
Storage Temperature	-50°C to 65°C
Operating Altitude	27,000 Feet
Storage Altitude	55,000 Feet
Humidity	95% Relative

Chapter 2 - Operation

2.1 Operating Procedures

The subsequent sections will list in chronological order how to operate the MIK-21 safely and efficiently.

2.2 Controls and Indicators

- The MRC-67A has an on/off switch which is positioned on the populated side of the speaker box.
 - The MRC-67A has volume controls for both the speaker and the handset clearly labeled on the front of the speaker.
 - The green LED indicates that the unit is receiving power.
 - The amber LED indicates that the unit is receiving an audio signal.
- The PDU has an on/off switch located at the opposite end of the input connector.
 - The switch is down, the PDU is on.
 - The switch is up, the PDU is off.

- The MRC-99 has an arm/disarm switch located inside the lip of the housing as well as three LED's that indicate operating status.
 - The arm button will provide power to the unit.
 - The disarm button will cease power provisions to the transceiver.
- See TRI-Com Sat 50 amplifier with bias tee documentation provided with the MIK-21 for controls and indicators.

2.3 Start Up

- Confirm that the MRC-99 is receiving power by pushing the arm button.
- Slide transceiver into case and connect to the MRC-99. Secure the transceiver to the MRC-99 using the latches.
- Secure a cable to the RF output connector on the TRI-COM Sat 50 and connect it to an antenna.
- Connect Bias Tee to the transceiver.
- Connect the power source, using a power cable, to the input connector of the MRC-99. McDowell Research can fit any need for a particular cable.
- Turn the Transceiver on.
- Flip the PDU switch to the down position to power up the MIK-21, the unit is now operational. To receive audio ensure the MRC-67A is on. Also see the installation instructions provided with this manual.

Chapter 3 – Maintenance and Warranty Information

3.1 Preventative Maintenance

All maintenance procedures should be in the subsequent sections.

3.2 Dirt and Dust

All external components to the MIK-21 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.

3.3 Oils and Grease

All external components of the MIK-21 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.

3.4 Corrective Maintenance

The MIK-21 has **NO** user serviceable parts. Units requiring corrective maintenance should be sent to McDowell Research for repair. Contact information is provided below in section 3.6.

3.5 Contact Information:

Please call (254) 752-1411 to obtain an RMA number prior to returning any failed unit(s) to:

**McDowell Research, an Ultralife Company
300 South 8th Street
Waco, Texas 76701
Phone: (254) 752-1411
Fax: (254) 752-1812**

**Online RMA requests can be located and submitted at:
<http://www.mcdowellresearch.com/shop/RMArequest.asp> or
service@mcdowellresearch.com**

3.6 Systems Diagram

- This section will contain all relevant diagrams for the MIK-21 Satcom on the move system.

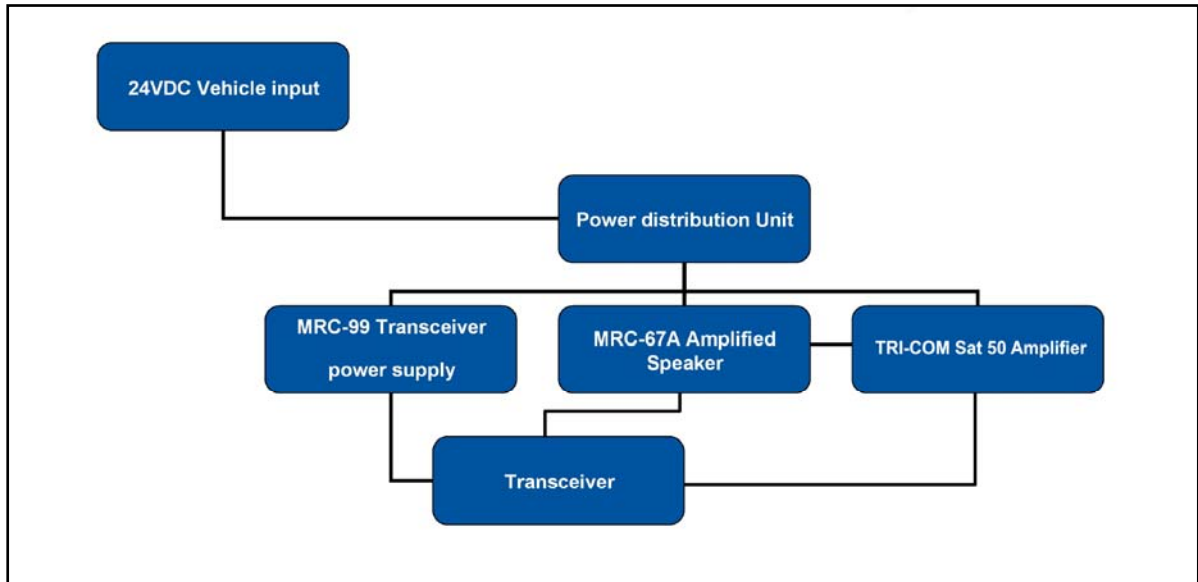


Figure 1 MIK-21 Interconnect Diagram

Description of Change	Revision	Date
Initial release	A	05-09-2006