

MRC-64

DC to DC Power Supply



Operation Manual

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Chapter 1 - General Information

1.1 Scope

This manual has been prepared by McDowell Research, an Ultralife Company, for the purpose of providing the user information necessary to understand and maintain the MRC-64 DC to DC Power Supply.

- **Chapter 1 – General Information**

- This chapter provides safety and important information about the MRC-64.

- **Chapter 2 – Operation**

- This chapter provides information necessary for operating the MRC-64, and theory of operating procedures describing how the MRC-64 accomplishes its intended purpose.

- **Chapter 3 – Maintenance**

- This chapter provides information regarding MRC-64 preventive care and preventive maintenance procedures.

1.2 Introduction

- The MRC-64 is a self-contained sealed DC to DC power supply that allows the use of 11 to 36 VDC input power sources to provide power for the Panasonic Tough Book series portable computers. The MRC-64 supports the following computers: Panasonic CF-25, 29, 33, 35, 45, 47, and 71.

1.3 Important Safety Instructions

- A. This manual contains important safety and operating instructions for the MRC-64 DC to DC Power Supply.
- B. Before using the MRC-64, read all instructions and cautionary markings on the Power Supply.
- 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 MRC-64 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 Equipment Provided

| Equipment | Quantity |
|---|----------|
| MRC-64 DC to DC Power Supply | 1 |
| Power Input Cable | 1 |
| MRC-64 Operation Manual | 1 |
| <i>OPTIONAL</i> : MRC-64-00-09 Cig. Light Adapter Cable | 0 |

1.6 External Components

- 2 connectors

1.7 Technical Specifications

| | | |
|-----------------------|-----------------------------|----------|
| DC Input Range | 95 to 265 VDC, 47 to 440 Hz | |
| DC Output | 15.4 VDC @ 3.5 Amps | |
| Size | Length | 4.5 In |
| | Width | 2.5 In |
| | Height | 1.375 In |
| Weight | 0.9 Lbs | |
| Operating Temperature | -30°C to 55°C | |
| Storage Temperature | -50°C to 65°C | |
| Operating Altitude | 27,000 Ft | |
| Storage Altitude | 55,000 Ft | |
| Immersion | 10 Ft | |
| Humidity | 95% Relative | |

Chapter 2 - Operation

2.1 Operating Procedures

The subsequent sections will list in chronological order how to operate the MRC-64 safely and efficiently.

2.2 Start Up

- Connect the DC connector in **Figure 1** to the laptop DC Power Input Jack.



Figure 1 DC Output Connector

- Connect the polarized connector from the MRC-64 to the polarized connector of the Clion Power Input Cable. Connect the positive (red) Alligator Clip to a positive DC terminal and the negative (black) Alligator Clip to a negative DC terminal. See **Figure 2**. The unit is now ready for operation.

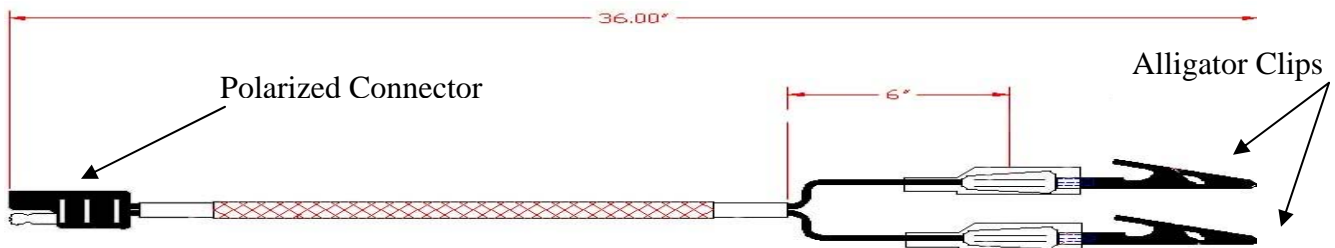


Figure 2 Power Input Cable

2.3 Controls and Indicators

- The MRC-64 has no controls or indicators.

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 MRC-64 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 MRC-64 can be cleaned with a mild soap/water solution dampened non-abrasive cloth. Rinse with water dampened non-abrasive cloth and allowed to

3.4 WARRANTY MAINTENANCE

Warranty Statement

**4 years for equipment shipped after May 1, 2004
3 years for equipment shipped prior to 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 WARRANTIED FOR 90 DAYS FROM SHIPMENT.

3.5 Contact Information:

Please call (254) 752-1411 to obtain an RMA number then you may return 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/](mailto:service@mcdowellresearch.com)**

| Description of Change | Revision | Date |
|-----------------------|----------|----------|
| Initial release | A | DEC-2006 |
| | | |