



MTL1 MRI TEST LOAD INSTRUCTION SHEET

The AE Techron **MTL1 MRI Test Load** is a 1.2 kW resistive test load designed for the testing of power amplifiers used in MRI systems. It provides a load of a 0.5-ohm 1.2-kW resistor in series with a 100µH coil.

A rugged chassis provides for bench-top or rack-mounted operation. A 50-amp circuit breaker protects the unit against over-current conditions.

UNIT SETUP

Safety First

Throughout these instructions special emphasis is placed on good safety practices. The following graphics are used to highlight certain topics that require extra precaution.

Unpacking

Carefully unpack and inspect the unit. Please note any damage for future reference and notify the shipping company immediately if damage is found. Also, please save the shipping carton and materials as evidence of damage and/or for returning the unit for repair.



Installation

The MTL1 is packaged in a rugged stainless-steel chassis. The chassis is 2U (rack units) tall and has rack “ears” on each side of the front panel for mounting to a standard EIA (Electronics Industries Association) rack. Use standard rack-mounting hardware to mount the unit. Use nylon washers if you wish to protect the powder-coat finish on the front of the unit. Optionally, the unit can be placed on a bench top or stacked on other equipment.

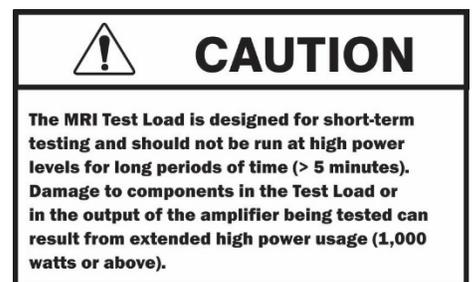
Allow ample space around the unit for heated air to escape. The unit should be mounted in a rack that is adequately ventilated and not sealed.

Connecting the MTL1 Test Load

Before connecting the MTL1 MRI Test Load to the amplifier being tested, make sure the amplifier’s AC power cord is unplugged and the input level controls are turned fully down.

For your convenience, a 10-gauge, two-conductor, 6-foot (2-meter) wire has been included with the test load for use in making the load-to-amplifier connection. You may use this connection wire or, if the length is not adequate for your installation, you can supply your own connection wire.

Connect to the MTL1 using the dual-banana 5-way binding posts located on the MTL1 front panel. Use of the connection wires included with this kit is recommended. Connection can also be made with user-supplied cables terminated with spade lugs, pin connectors or bare wire.



Whether using the AE Techron supplied connection wire or one of your own choosing, always use the appropriate wire size and insulation for the maximum current and voltage expected at the amplifier output. Connect the positive and negative terminals of the amplifier being tested across the MTL1 using connectors appropriate for the amplifier's output terminals. See **Figure 1** for wiring instructions.

TO TEST AMPLIFIER OUTPUT (-) TERMINAL TO TEST AMPLIFIER OUTPUT (+) TERMINAL



ALTERNATE OUTPUT TERMINAL LABELS:

| AMP | (-) TERMINAL LABEL | (+) TERMINAL LABEL |
|------|--------------------|--------------------|
| 7224 | COM | OUTPUT |
| 7548 | SAMPLED COMMON | OUTPUT |
| 7796 | SAMPLED COMMON | OUTPUT |

Figure 1 - Test Load Wiring

Performance

Power Rating:

1.2 kW, continuous

Impedance:

0.5 ohms ±10%, in series with 100µH inductor

Front Panel Controls and Connectors

Load Terminals:

Dual-banana 5-way binding posts

Circuit Breaker:

50 amp circuit breaker; push to reset

Physical Characteristics

Chassis:

Black powder-coat finish on a rugged steel chassis; the unit occupies two EIA 19-inch wide rack units.

Weight:

10 lbs. (4.5 kg)

Recommended Ambient

Temperature:

25°C (77°F)

Cooling:

Natural air convection

Dimensions (WxDxH):

19 in. x 6 in. x 3.5 in. (48.3 cm x 15.2 cm x 8.9 cm)

Factory Service

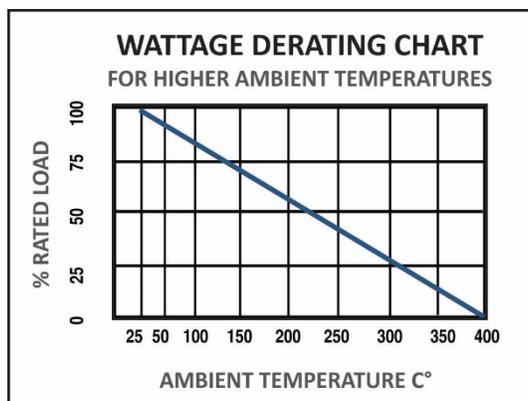
If the unit fails to perform, it may need to be returned for Factory Service. All units under warranty will be serviced free of charge (customer is responsible for one-way shipping charges as well as any custom fees, duties, and/or taxes). Please review the Warranty included with this Instruction Sheet for more information.

All service units must be given Return Authorization by AE Techron, Inc. before being returned. Return Authorizations can be requested on our website or by contacting our Customer Service Department.

Please take extra care when packaging your unit for repair. It should be returned in its original packaging or a suitable alternative. Replacement packaging materials can be purchased for a nominal fee.

Please send all service units to the following address and be sure to include your Return Authorization Number on the box.

AE Techron, Inc.
Attn: Service Department / RMA#
2507 Warren Street
Elkhart, IN 46516



Three-Year, No-Fault Warranty

SUMMARY OF WARRANTY

AE TECHRON INC., of Elkhart, Indiana (Warrantor) warrants to you, the ORIGINAL COMMERCIAL PURCHASER and ANY SUBSEQUENT OWNER of each NEW **AE TECHRON INC. product, for a period of three (3) years from the date of purchase, by the original purchaser (warranty period) that the product is free of defects in materials and workmanship and will meet or exceed all advertised specifications for such a product. We further warrant the new AE Techron product regardless of the reason for failure, except as excluded in the Warranty.**

ITEMS EXCLUDED FROM WARRANTY

This AE Techron Warranty is in effect only for failure of a new AE Techron product which occurred within the Warranty Period. It does not cover any product which has been damaged because of any intentional misuse, or loss which is covered under any of your insurance contracts. This warranty does not extend to any product on which the serial number has been defaced, altered, or removed. It does not cover damage to loads or any other products or accessories resulting from **AE TECHRON INC.** product failure. It does not cover defects or damage caused by the use of unauthorized modifications, accessories, parts, or service.

WHAT WE WILL DO

We will remedy any defect, regardless of the reason for failure (except as excluded), by repair or replacement, at our sole discretion. Warranty work can only be performed at our authorized service centers or at our factory.

Expenses in remedying the defect will be borne by **AE TECHRON INC.**, including one-way surface freight shipping costs within the United States. (Purchaser must bear the expense of shipping the product between any foreign country and the port of entry in the United States and all taxes, duties, and other customs fees for such foreign shipments.

HOW TO OBTAIN WARRANTY SERVICE

When you notify us of your need for warranty service, we will give you an authorization to return the product for service. All components must be shipped in a factory

pack or equivalent which, if needed, may be obtained from us for a nominal charge. We will take corrective actions within a reasonable time of the date of receipt of the defective product. If the repairs made by us are not satisfactory, notify us immediately.

DISCLAIMER OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

You are not entitled to recover from us any consequential or incidental damages resulting from any defect in our product. This includes any damage to another product or products resulting from such a defect.

WARRANTY ALTERATIONS

No person has the authority to enlarge, amend, or modify this warranty. The warranty is not extended by the length of time for which you are deprived of the use of this product. Repairs and replacement parts provided under the terms of this warranty shall carry only the unexpired portion of this warranty.

DESIGN CHANGES

We reserve the right to change the design of any product from time to time without notice and with no obligation to make corresponding changes in products previously manufactured.

LEGAL REMEDIES OF PURCHASER

There is no warranty that extends beyond the terms hereof. This written warranty is given in lieu of any oral or implied warranties not contained herein. We disclaim all implied warranties, including, without limitation, any warranties of merchantability or fitness for a particular purpose. No action to enforce this Warranty shall be commenced later than ninety (90) days after expiration of the warranty period. This statement of warranty supersedes any others contained in this manual for AE Techron products.

AE Techron, Inc.

Customer Service Department

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Elkhart, IN 46516

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www.aetechron.com