

ALTRONIC RESEARCH, INC.

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U.S.A.

MODEL 6402FT

COAXIAL LOAD RESISTOR



MODEL 6402FT
RF COAXIAL AIR COOLED LOAD

LIMITED WARRANTY

We take pride in manufacturing products of the highest quality and we warrant them to the original purchaser to be free from defects in material and workmanship for the period of one year from date of invoice. Additionally, products of our manufacture repaired by us are warranted against defects in material and workmanship for a period of 90 days from date of invoice, with the provisions described herein.

Should a product, or a portion of a product of our manufacture prove faulty, in material or workmanship, during the life of this warranty, we hereby obligate ourselves, at our own discretion, to repair or replace such portions of the product as required to remedy such defect. If, in our judgment, such repair or replacement fails to be a satisfactory solution, our limit of obligation shall be no more than full refund of the purchase price.

This warranty is limited to products of our own manufacture. Equipment and components originating from other manufacturers are warranted only to the limits of that manufacturer's warranty to us. Furthermore, we shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use, or misuse (by operation above rated capacities, repairs not made by us, or any misapplication) of the equipment. Before using, the user shall determine the suitability of the product for the intended use; and the user assumes all risk and liability whatsoever in connection therewith.

The foregoing is the only warranty of Altronic Research Incorporated and is in lieu of all other warranties expressed or implied.

Warranty returns shall first be authorized by the Customer Service Department and shall be shipped prepaid. **Warranty does not cover freight charges.**

TABLE OF CONTENTS

MODEL 6402FT

<u>SECTION</u>	<u>PAGE</u>
Warranty	3
Precautions	6
Introduction	7
I. Description and Leading Particulars	
1-1 Purpose and Application of Equipment	7
1-2 Equipment Supplied	7
1-3 Equipment Required But Not Supplied	7
1-4 General Description	7
1-5 Electrical Description.....	7
1-6 Mechanical Description.....	7
1-7 General Principle of Operation.....	7
1-8 Operating and Adjustment Controls	7
II. Test Equipment and Special Tools	
2-1 Test Equipment Required.....	8
2-2 Special Tools Required.....	8
III. Preparation for Use and Reshipment	
3-1 Unpacking Equipment	9
3-2 Pre-Installation Inspection	9
3-3 Pre-installation Test	9
3-4 Installation	9
3-5 Location	9
3-6 Mounting	9
3-7 Connections	10
3-8 Adjustments	10
3-9 Preparation for Reshipment	10
IV. Theory of Operation	
4-1 General	11
4-2 Control Circuits.....	11

SECTION

PAGE

V. Maintenance

- 5-1 Cleaning.....12
- 5-2 Lubrication12
- 5-3 RF Circuit (including resistor replacement)12

VI. Diagrams & Illustrations

- Model 6402FT RF Coaxial Air-Cooled Load.....2
- Outline and Dimensions13
- Parts List14

VIII.Specifications15

PRECAUTIONS

⚡WARNING⚡

Do not attempt any service or parts replacement without first disconnecting all RF power. Failure to do so may result in serious or *fatal electrical shock*.

CAUTION

Do not block air grills or restrict airflow when ducting inlet and discharge air. Restrictions in airflow limit the load's ability to dissipate RF power and could damage and/or cause the unit to fail.

☠CAUTION☠

When using any cleaning solvents or solutions, assure that there is adequate ventilation to protect personnel from breathing any irritable or possibly toxic fumes.

SECTION II

TEST EQUIPMENT AND SPECIAL TOOLS

2-1. Test Equipment Required. No test equipment is required for routine maintenance. In some circumstances it may be desirable to determine the temperature differential (outlet air minus inlet air) and ambient air temperature which the equipment is experiencing. We recommend the John B. Fluke Mfg. Co. Model 52 or equivalent instrument for this function.

2-2. Special Tools Required. Although no non-standard tools are required for routine maintenance, we recommend the technician have the following specialized tools available:

1 Torx T-15 driver

1 Tee handle hex key, 1/8" bit

1 Power screwdriver with 1/8" hex key & torx T-15 bit

SECTION III

PREPARATION FOR USE AND RESHIPMENT

3-1. Unpacking Equipment. The units should be handled and unpacked with care. Inspect outer cartons for evidence of damage during shipment. *Claims for damage in shipment must be filed promptly with the transportation company involved.* No internal packaging or bracing is used for shipments and the units should not rattle when being unpacked.

3-2. Pre-installation Inspection. Conduct a thorough inspection of the units, paying particular attention to the following items:

- Screws in place and tight.
- All panels and grills free of dents and scratches.
- RF connector visually OK.

While inspecting RF connector, measure DC resistance of the unit by reading from the center conductor to the outer conductor. Compare this reading to that on the specification sheet at the end of this manual. Reading should be ± 1 ohm. If not, consult factory.

3-3. Pre-installation Tests. There are no pre-installation tests.

3-4. Installation. The Model 6402FT must be installed in a location convenient for servicing. Consideration should be given to adequate accessibility for maintenance and unit replacement. No attempt is made in this handbook to present complete installation instructions, since physical differences in plant will determine the installation procedure. General guidelines are outlined in subsequent paragraphs.

3-5. Location. The location selected for the Model 6402FT should be dry, free of excessive dust and have an adequate cooling supply. The maximum dissipation of the unit is 2,000 watts. This is equal to 6826 Btu/hr.

3-6. Mounting. The Model 6402FT is designed to be floor, wall or bench mounted and should be securely attached to the mounting surface. The enclosure rests on two fixed aluminum feet. These are drilled for 1/4-20 machine screws.

3-7. Connections. There are two connectors on the Model 6402FT: the input RF connector, and the output RF connector.

1. The input RF connector is a 7/8" EIA coaxial connector on one end panel of the unit. Connect to the appropriate RF line from the transmitter.
2. The output RF connector is an IEC 169-4 7/16" female coaxial connector located on one end panel of the enclosure.

3-8. Adjustments. No field adjustments are necessary or possible.

3-9. Preparation for Reshipment. No special measures are required to prepare the Model 6402FT for reshipment. Care must be taken to protect the RF connector and to immobilize the swivel flange. Packaging should provide protection against abrasion and impact. Special containers are available from the factory. Please inquire.

SECTION IV

THEORY OF OPERATION

- 4-1. **General.** The Model 6402FT contains a 100 ohm non-reactive resistor assembly (4 @ 400 ohms) which is cooled by forced air supplied by the user.
- 4-2. **Control Circuits.** There are no control circuits in the Model 6402FT.

SECTION V

MAINTENANCE

⚡WARNING⚡

BEFORE PERFORMING ANY MAINTENANCE:

DISCONNECT RF CONNECTOR ASSEMBLIES AND LOCK OUT TRANSMITTER OPERATING CONTROLS.

***FAILURE TO FOLLOW THESE DIRECTIONS
MAY CAUSE FATAL ELECTRICAL SHOCK!***

- 5-1. Cleaning.** The RF connector should be cleaned with a non-residue contact cleaner such as Miller-Stephenson MS-171/CO₂. Remove dirt and dust accumulations from the grills and resistor assembly with an air jet and a soft brush.
- 5-2. Lubrication.** None required.
- 5-3. RF Circuit.** The RF Load Resistor does not require any periodic maintenance and the only repairs possible are the replacement of parts in the connector, quick-step or support portions of the resistor assembly or the replacement of the resistors.

To remove resistors it is necessary to remove the top/side panel of the unit:

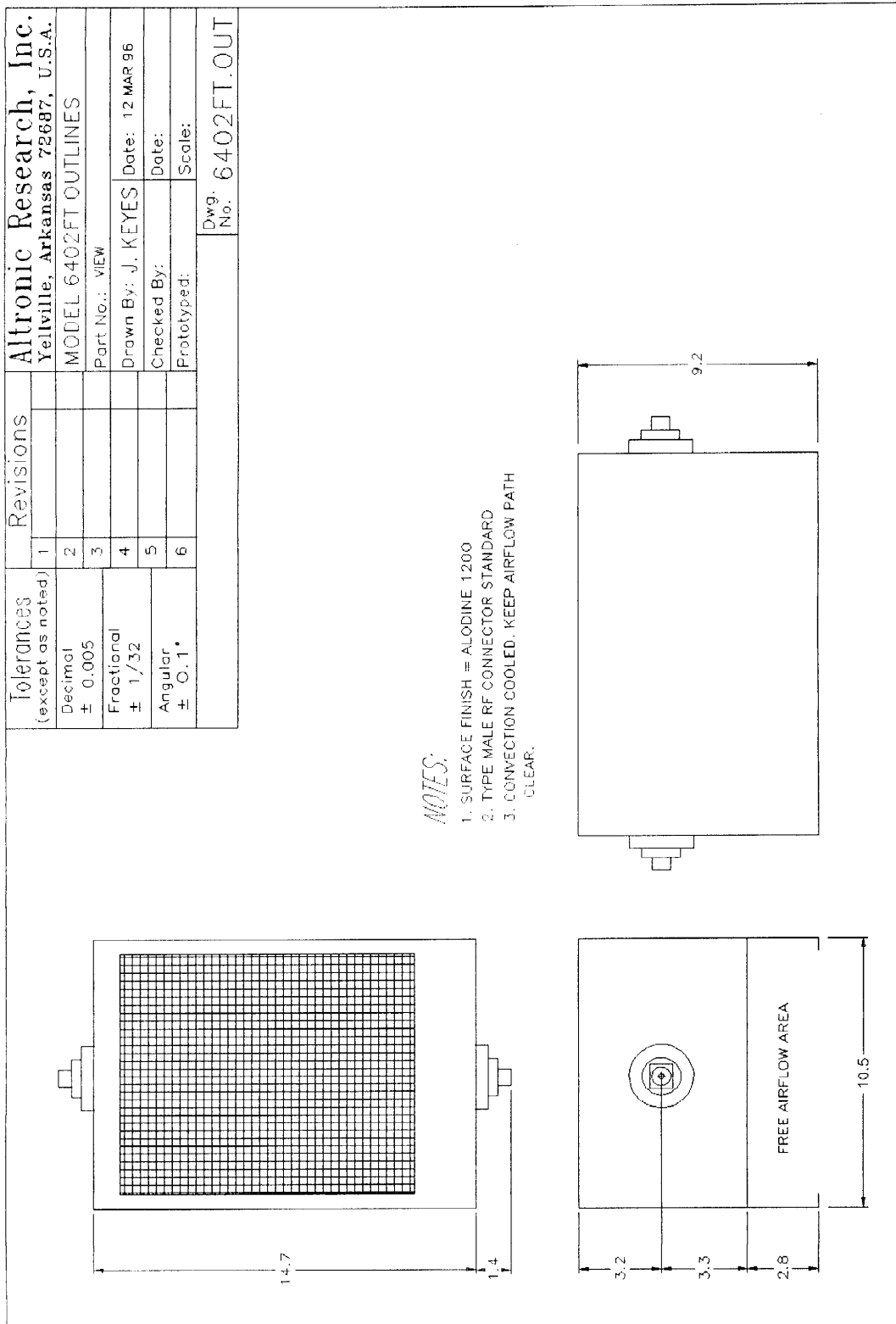
1. Remove the 8-32 x 1/2" torx head screws holding the outer half of the enclosure.
2. Slide the two sheet metal assemblies apart.
3. Reverse procedure to reassemble.

CAUTION!

Take care when tightening the 1/4-20 x 2" screws securing the lower resistor bracket to the flex panel. Overtightening can fracture the resistors. The resistors are hard, brittle ceramic material. Avoid impact and excessive force when installing or removing them.

SECTION VI

6-1 OUTLINE AND DIMENSIONS



6-3 REPLACEMENT PARTS LIST

(CONSULT FACTORY)

SPECIFICATIONS

MODEL 6402FT

Impedance-----> **100 ohms nominal**

VSWR @ DC to 100 MHz -----> **not rated**

Connectors:

**Model 6402FT ----- > 7/8" EIA swivel flange
& IEC 169-4 coaxial female**

Power Rating @ Sea Level -----> **2 KW**

Frequency Range -----> **DC to 100 MHz**

Cooling Method -----> **Forced Air**

Ambient Temperature -----> **-30°C to +43°C**

Fan Assembly -----> **User Supplied**

AC Power Requirements:

None

Finish-----> **Chromate Conversion Coating**

Serial No._____ **Frequency**_____ **Resistance**_____

Model_____ **Inspected by**_____ **Date**_____



CRAFTED WITH PRIDE IN ARKANSAS, U.S.A.