

# MAINTENANCE

The OMEGALINE® RF loads will require little in the way of maintenance. Components located inside the unit other than the resistor element and the filter screen are not subject to field maintenance. The resistor is field replaceable in those instances where there is no extensive damage to the resistor contacts or rupture of the teflon water jacket, due to improper operation of the load. In the event of mechanical damage to the unit, operational difficulty, or information concerning a desired unusual application of the load, contact the factory.

**NOTE: ANY LEAK FROM THE MAIN BODY OF THE LOAD IS AN INDICATION THAT THE UNIT SHOULD BE RETURNED TO THE FACTORY FOR REPAIRS.**

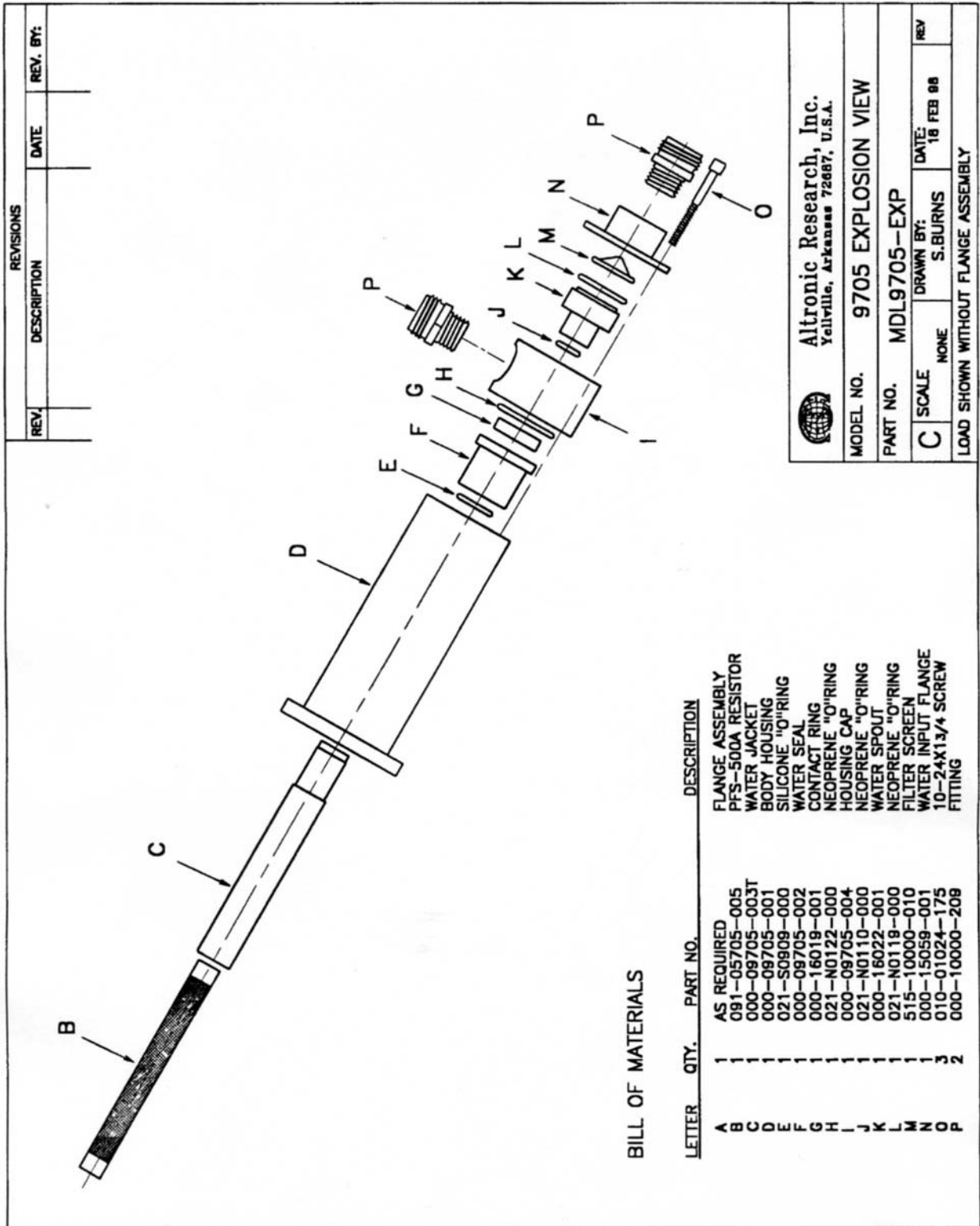
The following checks, tests and procedures may be used periodically, when necessary, or when a malfunction is suspected.

1. **DC Resistance** - The DC resistance of the load may be checked at the RF input connector and a value within 4% of the required resistance is acceptable.
2. **Filter Screen** - The flanged water connector located at the rear of the load is equipped with a cone-shaped brass screen to prevent the entrance of foreign particles into the water circuit of the load. (Back flushing may be used to clean out foreign materials trapped in the screen.) If it becomes necessary to remove the screen, remove three socket head screws to disengage the flanged water fitting to gain access to the screen.
3. **VSWR** - The voltage-standing-wave-ratio of the load is the same with "stand still" water as it is with flowing water. To test for VSWR, fill the load with water. When filling with water, many small bubbles will form inside. These must be flushed out with excess water before measuring VSWR. After filling, cork it, connect to a slotted line or directional coupler and measure the VSWR at SIGNAL GENERATOR LEVELS ONLY.
4. **Resistor Replacement** - (Refer to Fig. 14) To replace the resistor element, remove the three 10-24x1-3/4" cap screws (item O). Remove water input assembly (items M, N, and P). Inspect filter screen for damage, replace if eroded or torn. Remove housing cap assembly (items G, H, I, P, J, K and L). Inspect all O-rings for distortion or damage. Replace if pinched, cut, burned or no longer round in cross section. Inspect ring contact (item G) for signs of arcing or loss of silver in the area of contact with the resistor contact band. Replace if damage is noted. If resistor (item B) is not broken, grasp by the end

extending from the water seal (item F) and pull it straight out of the load. (If resistor is broken, complete disassembly of load is necessary.) Inspect the silver contact band on the RF input end of the resistor element for signs of arcing or loss of silver as an indication of the condition of the front resistor contact. Visually inspect the inside of the water jacket and front resistor contact for any signs of overheat or damage. Any sign of internal damage indicates further disassembly and repairs are necessary.


- 5. Removal of RF Input** - (Refer to Figure 15) To remove the RF input line adaptor flange, remove four 10-24x 3/8" socket head screws (item 2) that secure the line adaptor flange (item 1) to the load body housing (item D, Fig. 14). The RF input assembly consisting of the center conductor, anchor insulator and front resistor contact (items C, D, E, F, G, H, I and J) will normally remain in the load body. Grasp the center conductor (item 3) by hand and attempt to pull the input assembly out of the load body using slight side to side motion while pulling. If strong resistance is encountered, it may be necessary to chill the load to allow the anchor insulator to shrink away from the load housing. This can be done by placing the load in a freezer, or packing the load in ice for 20 to 30 minutes. Once the anchor insulator has shrunk away from the load housing, the RF input assembly should be easily removed. At this point of disassembly, all components of the load can be inspected or replaced as needed. Reassembly should be done in the reverse order of sequence. See Figure 16 for individual component identification.

**For technical assistance, call 870-449-4093 or fax 870-449-6000.**



REVISIONS		
REV.	DESCRIPTION	DATE

REV. BY:

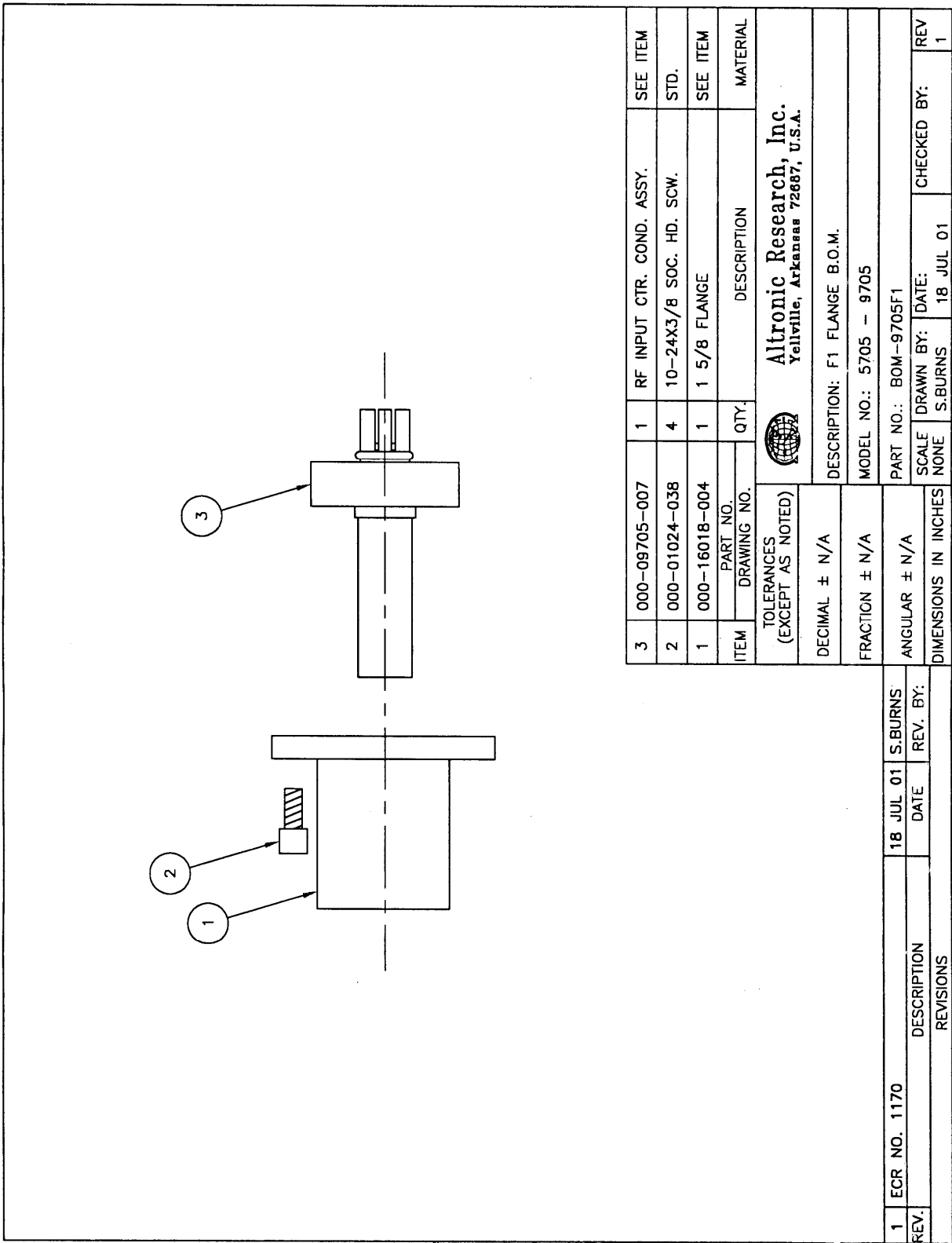
 **Altronic Research, Inc.**  
 Fayetteville, Arkansas 72687, U.S.A.

MODEL NO. 9705 EXPLOSION VIEW  
 PART NO. MDL9705-EXP  
 C SCALE NONE DRAWN BY: S. BURNS DATE: 18 FEB 68 REV  
 LOAD SHOWN WITHOUT FLANGE ASSEMBLY


**BILL OF MATERIALS**

LETTER	QTY.	PART NO.	DESCRIPTION
A	1	AS REQUIRED	FLANGE ASSEMBLY
B	1	091-05705-005	PFS-500A RESISTOR
C	1	000-09705-003T	WATER JACKET
D	1	000-09705-001	BODY HOUSING
E	1	021-50909-000	SILICONE "O"RING
F	1	000-09705-002	WATER SEAL
G	1	000-16019-001	CONTACT RING
H	1	021-N0122-000	NEOPRENE "O"RING
I	1	000-08705-004	HOUSING CAP
J	1	021-N0110-000	NEOPRENE "O"RING
K	1	000-16022-001	WATER SPOUT
L	1	021-N0119-000	NEOPRENE "O"RING
M	1	515-10000-010	FILTER SCREEN
N	1	000-15059-001	WATER INPUT FLANGE
O	3	010-01024-175	1/4" SCREW
P	2	000-10000-208	FITTING

**Fig. 14**



**Fig. 15**

3	000-09705-007	1	RF INPUT CTR. COND. ASSY.	SEE ITEM
2	000-01024-038	4	10-24X3/8 SOC. HD. SCW.	STD.
1	000-1601B-004	1	1 5/8 FLANGE	SEE ITEM
ITEM	PART NO.	QTY.	DESCRIPTION	MATERIAL
DRAWING NO.				
 <b>Altronic Research, Inc.</b> Yellville, Arkansas 72887, U.S.A.				
TOLERANCES (EXCEPT AS NOTED)				
DECIMAL ± N/A				
FRACTION ± N/A				
ANGULAR ± N/A				
DIMENSIONS IN INCHES				
1	ECR NO. 1170	18 JUL 01	S. BURNS	REV. BY:
REV.	DESCRIPTION	DATE	REV. BY:	
	REVISIONS			
SCALE NONE			DRAWN BY: S. BURNS	CHECKED BY:
PART NO.: BOM-9705F1			DATE: 18 JUL 01	REV 1
DESCRIPTION: F1 FLANGE B.O.M.				
MODEL NO.: 5705 - 9705				

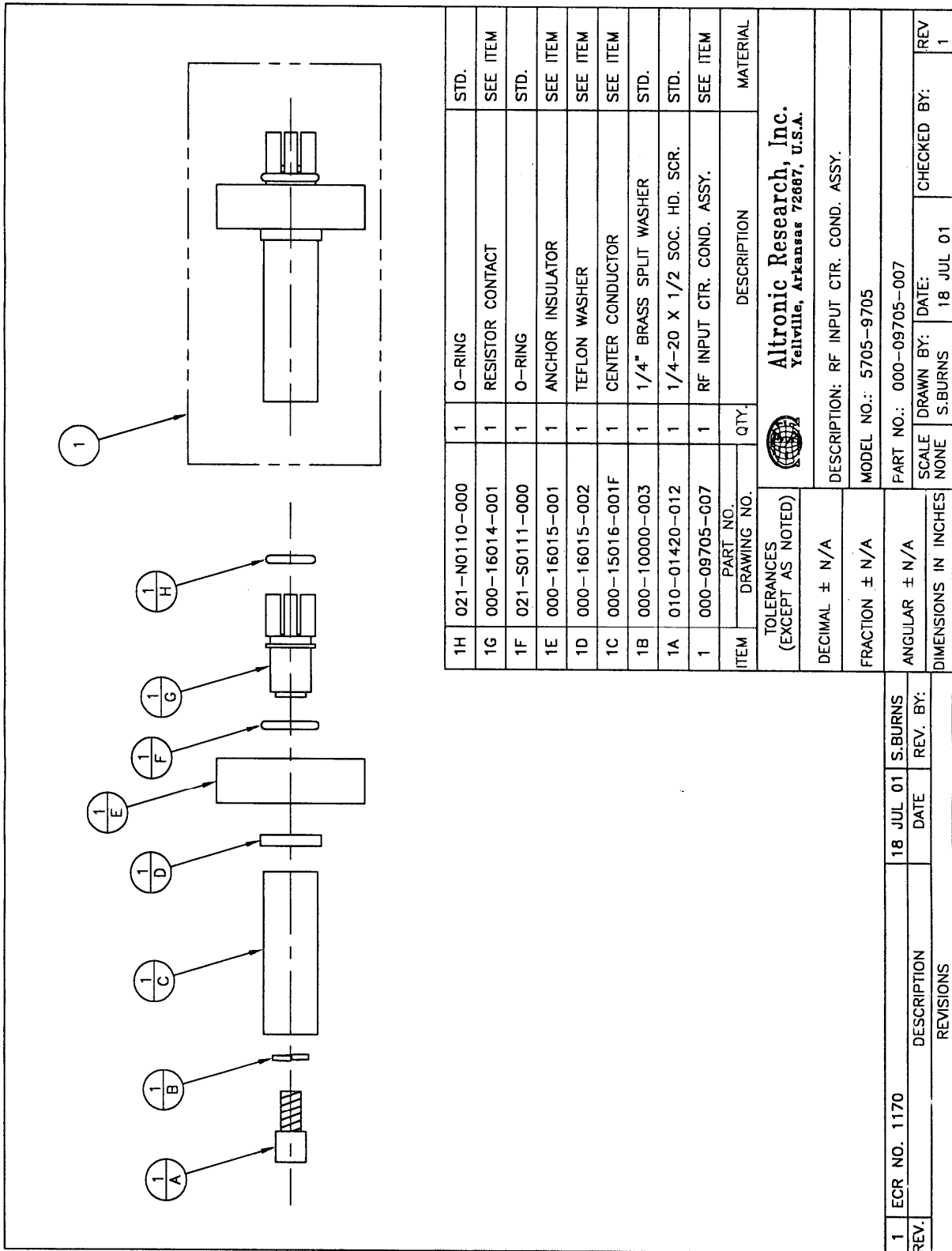


Fig. 16

# 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.**