INSTRUCTION SHEET

FOR

MODEL 8075

TERMALINE®

LOAD RESISTOR

GENERAL

The Bird Model 8075 TERMALINE® Coaxial Load Resistor is a specially designed, liquid-free, conduction cooled type 50 ohm RF line termination. It is capable of dissipating 1000W of continuous power when properly fastened to the requisite heat sink or up to 65 watts in free air (see Summary below), and furnishes an accurate termination of 50 ohm transmission systems in which it is installed. The load performs with equal efficiency in any position; i.e., attitude insensitive. The Model 8075 is normally supplied with a Bird SQC (small pattern) "Quick-Change" connector of the standard Female N type. "SQC" connectors are also available in certain other types, see Page 2.

DESCRIPTION

The Model 8075 is of a compact and very efficient design, being quite small for its relatively large power handling capability. This is achieved through the use of a flat plane dissipating resistor and a substrate of exotic materials for high heat conduction systems. The unit is intended primarily to be permanently installed in an RF transmission system.

INSTALLATION

A suitable heat sink must be attached to both sides of the load and of such a capacity that at 1000 watts continuous input, the temperature next to the "SQC" connector will not exceed 135°C (275°F). Two aluminum plates of at least 1350 square inches each by at least 1/8 inch thick, but preferably 1/4 inch thick (8710cm^2 x 6.4mm each) or equivalent is recommended. Use twelve 10-32 to 1/4-20 mounting screws, preferably stainless steel, and of suitable length to include the 1-1/32 inch of load body, heat sink thickness, plus washer and nut. The heat sink may be tapped with an appropriate thread in lieu of the washer and nut. The twelve mounting holes in the load are positioned on a rectangle of 2.380 inches wide with the pairs of holes spaced as shown per attached diagram.

The mounting surface must be flat and thoroughly clean. When clamping the load to the heat sink, a film of heat transfer compound must be used

(such as Wakefield Engineering Type 120 Thermal Joint Compound or Emerson & Cuming TC-4). The film must be applied over the entire mating surface and when flattened not exceed a thickness of .001 inch. To assure proper thermal contact, tighten the mounting screws to a torque of not more than 30 inch pounds but not less than 25 inch pounds.

Attach the RF power source to the load with a mating plug on a suitable cable, such as RG-8A, -9B, -213, -214, or RG-87A in certain cases. Keep the cabling as short as convenient and plug connections tightened firmly. Avoid the use of angle plugs or adapters. In operation, be careful not to exceed the ratings of the 8075 Load Resistor. Be sure the heat sink has ventilation adequate for the requirements of this load (to maintain body temperature maximum of 135°C next to the "SQC" connector).

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* W A R N I N G *
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* This product contains a resistor substrate made of *
* beryllia oxide. This is a potentially toxic ceramic *
* and may be harmful to your health. Beryllia oxide *
* must be disposed of in accordance with the legal *
* statutes dealing with hazardous materials. *
*
* Do not attempt to repair this unit, but return it to *
* BIRD ELECTRONIC CORPORATION. *
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MAINTENANCE

The Model 8075 Coaxial Load Resistor is rugged and simple. Keep the load and particularly the heat sink wiped free of dust. Principal maintenance required will be the cleaning of the input connector. Wipe the insulator and metallic contact surfaces using a dry cleaning solvent; an aerosol spray contact cleaner or alcohol is recommended. Avoid breathing the fumes. The load resistor may be checked for basic condition by measuring the dc resistance between the center conductor and body of the RF input connector. Use a resistance bridge or ohmmeter with an accuracy of ±1% or better at 50 ohms. Connect with a short length of low resistance cable equipped with a Male N (or applicable) plug. The measured resistance should be a nominal 50 ohms ±2 ohms. Don't attempt to repair the load in the field.

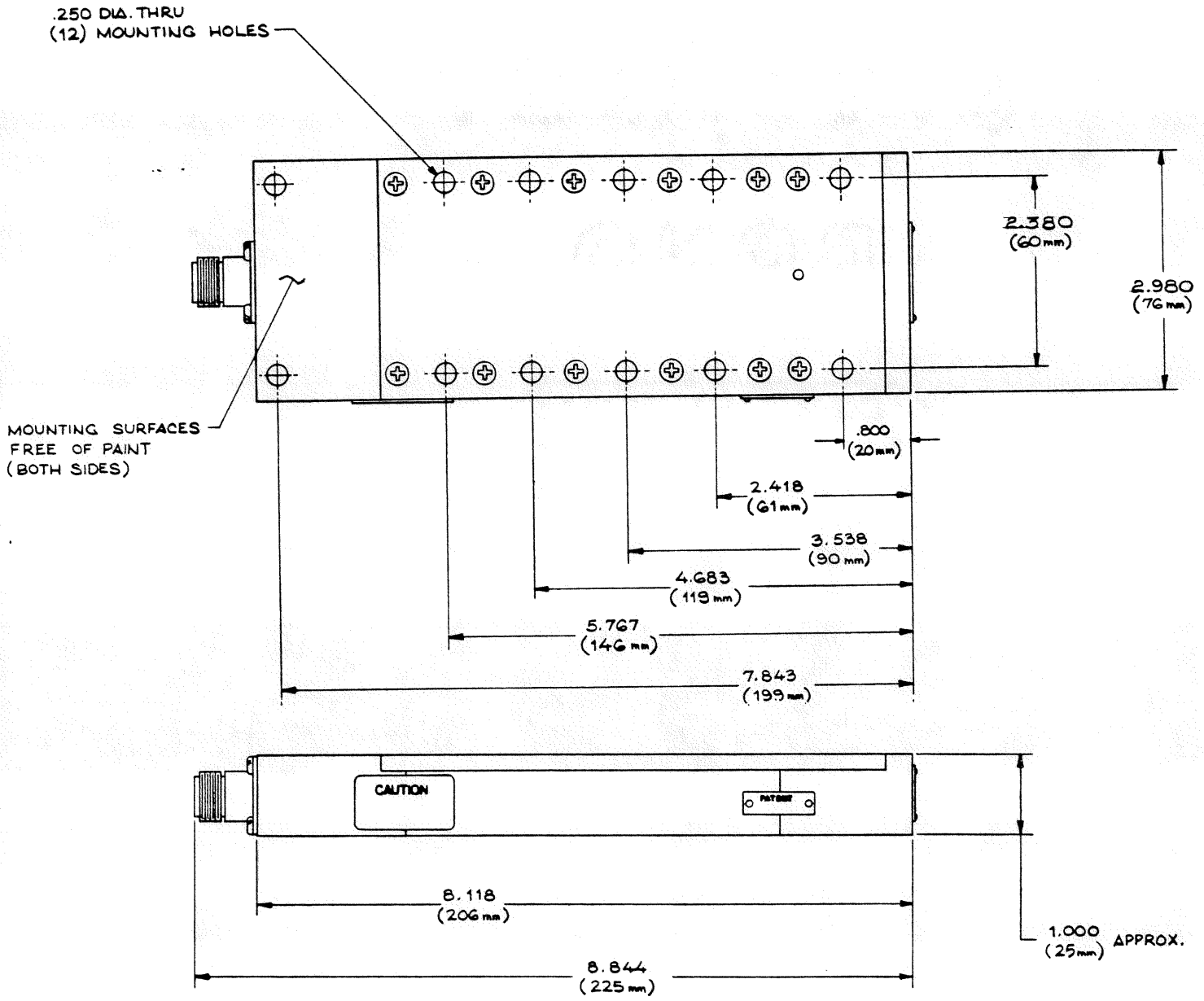
If replacement of the RF "SQC" connector is desired or necessary, proceed as follows: Remove the 4-40 machine screws from the corners of the connector and pull straight out. To install a new connector, reverse this procedure, making certain that the projecting center pin is properly engaged with the mating socket of the load resistor. The "SQC" connector may be replaced with another AN type connector.

Available "SQC" Type Connectors

N-Female	4100-014
UHF-Female	4100-017
N-Male	4100-015
SC-Female	4100-021
C-Female	4100-045
TNC-Female	4100-055
BNC-Female	4110-014

SPECIFICATIONS FOR MODEL 8075 TERMALINE® LOAD RESISTOR

Power Rating Conduction Mode.....	1000 watts maximum (with appropriate heat sink)
Maximum Body Temperature - Measured..... next to "SQC" connector	135°C (275°F)
Power Rating - Free Convection.....	65 watts maximum at 25°C air ambient (77°F)
Frequency Range.....	dc-400MHz
VSWR.....	1.10 maximum dc-400MHz
Input Impedance.....	50 ohms
Input Connector.....	Bird Small Pattern Quick-Change "SQC" Type
Model 8075.....	Female N supplied
Dimension.....	8-1/8"L x 1-1/32"H x 3"W (206 x 26 x 76mm) Length given without connector. Add 47/64" (18mm) for N Connector.
Weight.....	3 lbs. (1.4kg)
Finish.....	Lusterless black enamel (Fed. Spec. TT-E-527)
Housing Material.....	Aluminum and Copper
Mounting.....	Twelve 10-32 to 1/4-20 machine screws required (stainless steel) Torque to 30 in/lbf maximum - 25 in/lbf minimum
Heat Sink Requirements..... (Provided by user)	Two aluminum plates 1350 in^2 x 1/8 to 1/4 inch thick each (8710cm^2 x 6.4mm)



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