



Quality Instruments for
RF Power Measurement

BIRD

Electronic Corporation

30303 Aurora Road
Cleveland (Solon) Ohio 44139
(216) 248-1200

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Instruction Sheet
for
Model 8085 TERMALINE®

Coaxial Load Resistor

Purpose

The Bird 8085 TERMALINE Load Resistors are liquid-free, air-cooled RF line terminations that can absorb 50 watts continuous power in 50-ohm coaxial circuits with equal efficiency in any position (i.e., attitude insensitive). They are electrically almost purely resistive, and furnish a very accurate termination for adjustment operations. These load resistors may also be used for RF power measurement (up to 50 watts) in conjunction with a Model 43 THRULINE (or similar) Wattmeter using applicable Element types. In this way, the load is very useful for making insertion loss measurements on connectors, cables, filters, etc.

Description and Operation

The Model 8085 Resistor provides compactness and utility, and its square-shaped body affords handling ease and security. The resistive element is enclosed in this heat-sink housing, slotted and painted lustreless black to improve heat dissipation, and precisely contoured inside to provide a very low reflection characteristic up to 3.5 GHz. The element has a special high-temperature carbon coating and is individually selected for its accuracy. The RF input connector, on the front face of the unit, is normally Male N type. It is a special "Quick-Change" design permitting rapid and easy interchange with other Bird "QC" connectors, available in nearly all AN Types, see next page. The connectors are replaced as follows: -

- (1) Remove the four #6-32 x 5/16 round head machine screws from the corners of the RF Connector.
- (2) Pull connector straight out.
- (3) Reverse above procedure to install new connector, making certain that the projecting center contact pin of the "QC" connector is carefully engaged and properly aligned with the mating socket of the load resistor face.

Attach the load resistor as close as possible to equipment output and use only good connectors. Try to connect direct - minimize cable length and use of adapters. Do not overload, use within stated parameters, and provide adequate air space around the unit.

Maintenance

With reasonable care, the unit should give long trouble-free service. If improper operation is suspected, check dc resistance and/or VSWR. For dc resistance use a mating plug and a short length of cable with leads connected to an accurate resistance bridge such as Leeds & Northrup No. 5305 Test Set. Measured resistance should not deviate more than ± 2 ohms from nominal. VSWR may be easily determined by use of the Bird Model 43 Wattmeter equipment.

The load resistor is of a permanent type unit construction and not subject to disassembly. Do not attempt field repairs. Keep the unit dusted and clean - particularly the connector portion. When necessary, use a dry solvent (such as trichloroethylene) on a cotton swab stick and clean inside connector. Use care in handling the unit - do not drop it.

Characteristics Summary

Power Rating	50 watts continuous
Frequency Range	DC-3500 MHz
VSWR	1.1 max DC to 1.0 GHz 1.25 max 1 to 3.5 GHz
Input Connector	Bird "QC" Series Male N* Type
Impedance	50-ohm nominal
Ambient Temperature Range	-40°C to 45°C
Dimensions	1-3/4 sq x 5-1/8 long
Weight	15 oz.
Operating Position	Any

* Normally supplied

Other applicable connector types available are: -

Female N	4240-062	Female HN	4240-268	Female BNC	4240-125
Male N	4240-063	Male HN	4240-278	Male BNC	4240-132
Female C	4240-100	Female TNC	4240-156	Female UHF	4240-050
Male C	4240-110	Male TNC	4240-160	Male UHF	4240-179

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