

Models 8087/8088 TERMALINE  
Coaxial Load Resistors  
Instruction Sheet

Purpose

The Bird Models 8087/88 TERMALINE Load Resistors are liquid-free, air-cooled RF line terminations able to absorb 25 watts continuous power in 75-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 of low power coaxial systems for design, maintenance, testing, and adjustment operations. These load resistors may also be used for RF power measurement (up to 25 watts) in conjunction with a Model 4307 THRULINE (or similar) Wattmeter using applicable low power Elements. In this manner the load is very useful for making insertion loss measurements on connectors, cables, filters, etc.

Description and Operation

The Models 8087/88 Resistors comprise a combination of compactness and utility - with the square shaped body affording additional 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 3.0 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 incorporated into the load resistor body of the respective model and is not subject to removal or replacement. The two models are: 8087 - Female N connector, 8088 - Male N. (Both 75-ohm)

Attach the load resistors 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 below and provide adequate air space around unit - at least 4 inches on sides and above.

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 measurement 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  $\pm 2$  ohms from nominal. VSWR may be easily determined by use of a Bird Model 4307 Wattmeter set-up. The load resistor is of a permanent type unit construction and not subject to disassembly.

Model 8087/77 (Con'td)

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 carefully inside connector. Avoid breathing cleaner vapors.

Use care in handling the Models 8087/88 - do not drop.

Characteristics Summary

|                              |   |
|------------------------------|---|
| Power Rating . . . . .       | 25 watts continuous   |
| Frequency Range . . . . .    | DC to 3 GHz   |
| VSWR . . . . .               | 1.00 max. DC to 1 GHz<br>1.15 max. 1 to 2 GHz<br>1.25 max. 2 to 3 GHz |
| Input Connector . . . . .    | Per Model (above)   |
| Impedance. . . . .           | 75-ohm nominal  |
| Ambient Temperature. . . . . | -40° to -45°C   |
| Dimensions . . . . .         | 1-1/4 sq. x 5-1/8 lg (32 x 130mm)                                     |
| Weight . . . . .             | 8 oz. (227 g)   |
| Operating Position . . . . . | Any   |
| Finish (Body). . . . .       | Lustreless Black Enamel   |