



# BIRD

# ELECTRONIC CORPORATION

30303 Aurora Road • Cleveland (Solon), Ohio 44139 • Phone 248-1200

Model 8311 TENULINE Attenuator

Instructions  
for  
Installation - Operation - Maintenance

General

The Bird 8311 TENULINE Coaxial Attenuator is a liquid-free, air-cooled RF Power Attenuator capable of dissipating 20 watts continuous rms power in 50-ohm coaxial circuits. It is furnished in attenuation values of 10 db and 20 db, respectively. The 8311 has a series of four resistive components arranged in two L configurations to provide the proper power distribution for the 50-ohm coaxial line attenuation characteristics. These resistors are thermally stable and carefully selected for resistance values to insure accurate network balance. The components are cylindrical in shape, with uniform resistive coating thickness, and enclosed by interior sections of the attenuator block which maintain a good 50-ohm impedance. The cast aluminum housing is serrated with five internal ribs to improve heat transfer.

The 8311 TENULINE may be used for isolation of power sources up to 22 watts CW, reduction of primary line signal level for low-level monitoring or measuring, counting, mixing, and visual display equipment, and for decreasing high VSWR conditions.

The 8311 is sealed and ruggedized to meet applicable MIL specs. While the Attenuator is normally supplied with a Male N input and a Female BNC output connector, it is designed to be used with any Bird "Quick-Change" (QC) RF connector (N, HN, UHF, C, SC, BNC, or TNC). These connectors may be easily changed by removing the four #8-32 round head machine screws and pulling the QC connector straight out of its socket. To replace, reverse the above procedure.

*Quality Instruments for RF Power Measurement*

Characteristics

Input Impedance . . . . .	50 ohms nominal	
Frequency Range . . . . .	DC to 1000 MHz	
Input VSWR. . . . .	1.1 max dc to 1000 MHz	
Attenuation: 8311-10 . . . . .	10 dB $\pm$ 1/2 dB	
8311-20 . . . . .	20 dB $\pm$ 1/2 dB	
Ambient Temperature Range . . . . .	-40°C to +45°C	
Max. Power Dissipation . . . . .	20 watts continuous	
QC Type Connectors . . . . .	Male N input Female BNC output	} Normally supplied
Weight. . . . .	13 ounces	
Operating Position. . . . .	Any	

Operation

Connect the Model 8311 TENULINE using suitable 50-ohm coaxial cable only (such as RG-5B/U, RG-58C/U, etc.). Make sure the cable connectors mate with the respective input and output connectors on the Attenuator. Avoid the use of adapters where possible.

Do not exceed the 20 watt continuous power rating of the Model 8311 TENULINE. Damage to the resistors may result. With 20 watts input, an output power of 2 or 0.2 watts will be obtained depending upon whether the 10 dB or 20 dB Attenuator is used.

Maintenance

The Model 8311 Attenuator is rugged and simple. The only maintenance required will be cleaning of the input and output connectors. Use a dry cleaning solvent such as Inhibisol or trichlorethylene on a cotton swab stick. Pay special attention to teflon insulators and mating metallic surfaces. Keep the radiator block dust free. A defective unit must be returned to the factory for repair. Do not attempt to disassemble in the field.

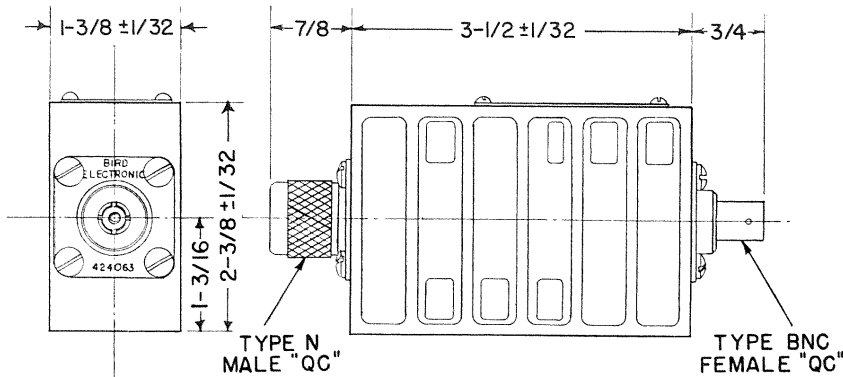


Figure 1: Outline, Model 8311 TENULINE Attenuator.