INSTRUCTION MANUAL

COUPLING/DECOUPLING

NETWORK C1

MODEL EM-7804

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ELECTRO-METRICS

MODEL EM-7804

SERIAL NO: N/A

ELECTRO-METRICS CORPORATION

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WARRANTY

This Model EM-7804 Coupling/Decoupling Network C1 is warranted for a period of 12 months (USA only) from date of shipment against defective materials and workmanship. This warranty is limited to the repair of or replacement of defective parts and is void if unauthorized repair or modification is attempted. Repairs for damage due to misuse or abnormal operating conditions will be performed at the factory and will be billed at our commercial hourly rates. Our estimate will be provided before the work is started.

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EM-7804 ACCESSORIES

The following accessories are standard with the **EM-7804 Coupling/Decoupling Network C1**.

a. 50-ohm Termination, BNC Connector.

b. 50/150-ohm Impedance Matching Network.

Quantity: 2

c. 6 dB Attenuator

DESCRIPTION AND USE
COUPLING/DECOUPLING NETWORK C1
ELECTRO-METRICS MODEL EM-7804

1.0 Introduction

The EM-7804 Coupling/Decoupling Network C1 is a low pass filter network that allows coupling of RF signals onto coaxial cables according to IEC-1000-4-6 (formerly IEC 801.6).

The EM-7804 is used for conducted susceptibility testing on lines using coaxial cables. The network is designed to be fully compliant with IEC-1000-4-6.

Included with each unit, as required by IEC-1000-4-6:

a. High power 6 dB attenuator, quantity: 1,

b. 50/150-ohm matching networks, quantity: 2.

2.0 Specifications

2.1 Electrical

Injection Frequency Range:		150 kHz-80 MHz.
Input/Output Frequency Range:		DC-500 MHz.
Current:		1 Ampere AC/DC.
Voltage:		50 VAC/DC.
Injection Port Voltage:		20 Vrms.
Connectors:	Injection Port:	BNC
	Input/Output:	BNC, female.
Grounding Connector:		Threaded Stud.

2.2 Mechanical

Height:		100 mm (3.95")
Length:		218 mm (8.6")
	Over Ground Stud:	239 mm (9.4")
Width:		171 mm (6.75")
Weight:		1.5 kg (3.25 lbs)

3.0 Description EM-7804

The two end panels for the EM-7804 Network are marked:

a. Auxiliary Equipment (AE),

b. Equipment Under Test (EUT).

3.1 Auxiliary Equipment Panel

a. Input Connector

Type: BNC, female.

Quantity: 1.

Function: To connect to the coaxial cable source either directly or via other equipment.

b. Ground Connector

Type: Brass Stud.

Quantity: 1.

Function: To connect to the ground plane or shielded enclosure.

3.2 Equipment Under Test Panel

a. Output Connector

Type: BNC, female.

Quantity: 1.

Function: To connect to the Equipment Under Test coaxial cable input.

4.0 Operating Instructions

The AE (Auxiliary Equipment) panel of the network is connected to the coaxial cable line (either direct or via other equipment) through the AE BNC connector. The ground connection should be made through the brass stud (marked GND) on the AE panel.

NOTE

A BRASS RF GROUND STUD IS PROVIDED ON THE AE PANEL FOR CONNECTION TO THE GROUND PLANE.

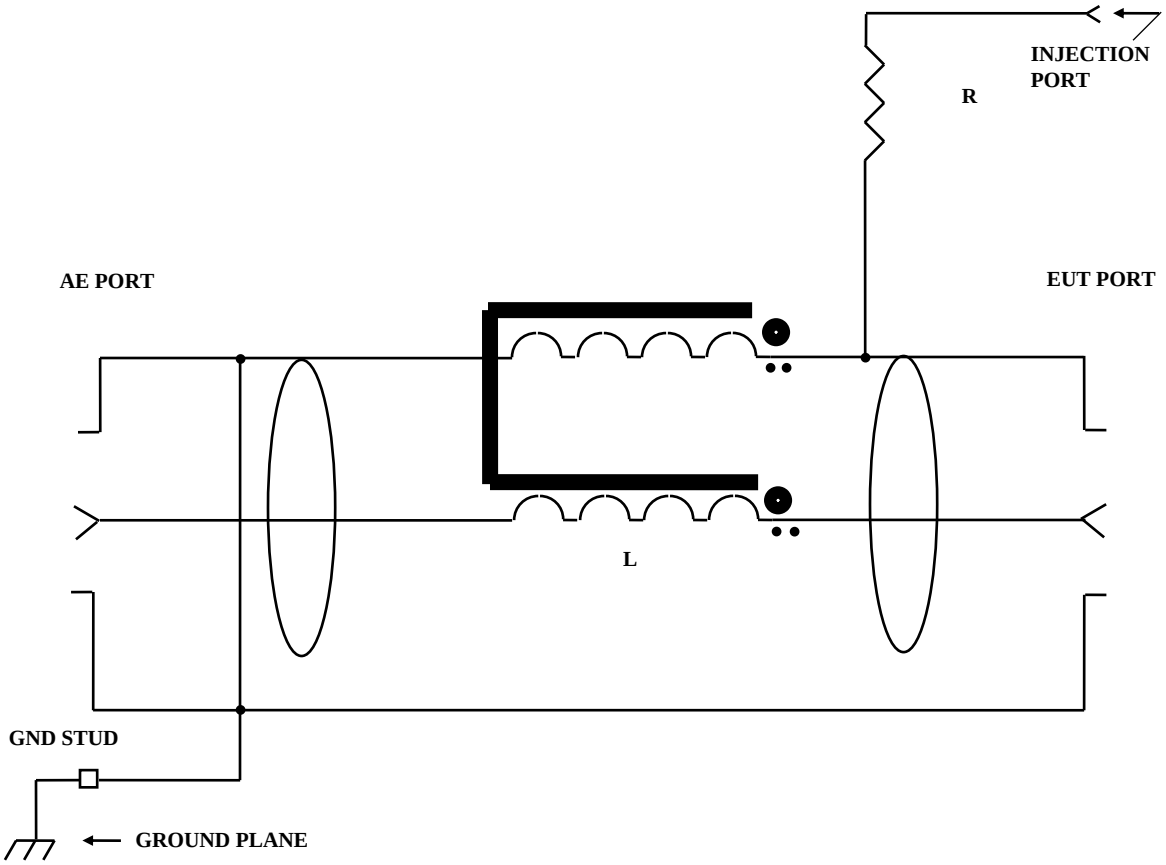
The EUT (Equipment Under Test) panel of the network is connected to the device under test coaxial cable input using the output BNC connector.

The RF test signal at the required level is applied to the BNC connector on the top panel of the network. The signal is normally applied through the 6 dB attenuator (supplied).

5.0 Reference Information

The design of the EM-7804 Coupling/Decoupling Network C1 is based on the information contained in International Electrotechnical Commission Publication IEC 1000-4-6 (Para. 6.2).

The application and verification of the coupling/decoupling network is explained in detail by the IEC publication. For any questions concerning the use of the network, 50/150-ohm impedance matching network, or procedures to be followed refer to the IEC publication.



NOTE: **R = 100 Ω, L = 684 µH**
Ferrite Beads - as required.

Figure 1

Schematic Diagram EM-7804 Coupling/Decoupling Network C1