

Operational Manual **PLISN**

Model 3925/2



USA
2205 Kramer Lane, Austin, Texas 78758-4047
P.O. Box 80589 Austin, Texas 78708-0589
Tel 512.835.4684 Fax 512.835.4729

FINLAND
Euroshield OY
Fankkeen Teollisuusalue
27510, Eura, Finland
Tel 358.2.838.3300 Fax 358.2.865.1233

E-MAIL & INTERNET
support@emctest.com
<http://www.emctest.com>

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WARRANTY

The Electro-Mechanics Company (EMCO) warrants that our products are free from defects in materials and workmanship for a period of two years from the date of shipment. If you notify us of a defect within the warranty period, we will, at our option, either repair or replace those products which prove to be defective. If applicable, we will also recalibrate the product.

There will be no charge for warranty services performed at the location we designate. You must however, prepay inbound shipping costs and any duties or taxes. We will pay outbound shipping costs for a carrier of our choice, exclusive of any duties or taxes. You may request warranty services to be performed at your location, but it is our option to do so. If we determine that warranty service can only be performed at your location, you will not be charged for our travel related costs.

This warranty does not apply to:

1. Normal wear and tear of materials
2. Consumable items such as fuses, batteries, etc.
3. Products which have been improperly installed, maintained, or used.
4. Products which have been operated outside of specifications.
5. Products which have been modified without authorization.
6. Calibration of products, unless necessitated by defects.

THIS WARRANTY IS EXCLUSIVE. NO OTHER WARRANTY, WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

THE REMEDIES PROVIDED BY THIS WARRANTY ARE YOUR SOLE AND EXCLUSIVE REMEDIES. IN NO EVENT ARE WE LIABLE FOR ANY DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO, DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY.

Please contact our Sales Department for a Return Material Authorization Number before shipping equipment to us.

TABLE OF FIGURES AND GRAPHS

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3925/2 Accessories

This PLISN package should contain:

- 1 AC Adaptor Box**
- 2 14" Type "N" Coax Cables**
- 3 50 OHM Terminators (P4665051)**
- 1 PPS25GGN Superior Plug Socket**
- 1 PPS25GR Superior Plug Socket**
- 1 PPS25GB Superior Plug Socket**

POWER LINE IMPEDANCE STABILIZATION NETWORK
MODEL 3925/2
OPERATING INSTRUCTIONS

The Model 3925/2 Power Line Stabilization network is a two channel low pass filter network designed to isolate an electrically operated device from an external power source so that high frequency conducted measurements may be made in accordance with certain electronics standards.

The High Frequency Section of this device is nominally designed for a 25 ampere maximum load capacity with a maximum voltage drop of 2.5%. The low frequency section is nominally rated at 15 amps (10% voltage drop) although the unit will handle 25 amps with a substantial voltage drop (18-20%). Overload protection is provided by a two pole 25 ampere circuit breaker located on the rear panel.

The allowable AC line frequency is DC-62 Hz and maximum line to ground voltage is set at 220 VAC and line to line at 440 VAC.

Line side of the PLISN should be connected to the power source with the three pin receptacles located on the rear panel. Three socket plugs are provided to make the necessary connections. Load side of the unit should be connected through the Type "N" receptacles of the desired channel. The ground connector located on the rear panel should be connected to a safety ground.

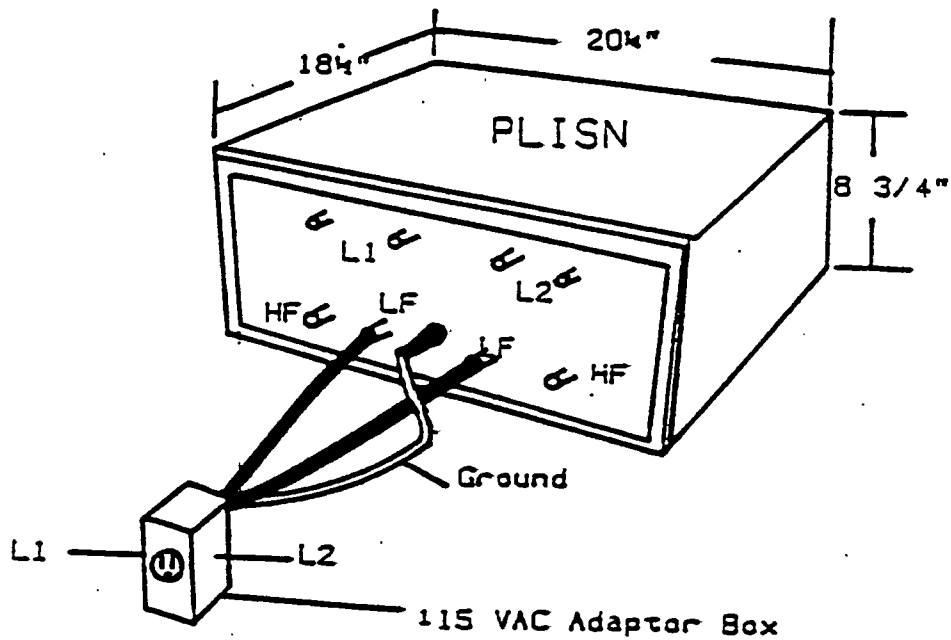
If a ground contact to the instrument under test is made to the power source ground, it should be made the ground terminal (socket receptacle or ground stud) on the front panel. No radio frequency isolation is provided at this terminal and connection is made directly to the chassis of the PLISN. There are two BNC type coaxial connectors for each line. There is one for higher frequencies and one for lower frequencies. The BNC type coaxial connector of the line under test and the frequency range of interest should be connected to the field intensity meter or spectrum analyzer input. The other three BNC receptacles must be terminated with a 50 ohm termination. It is advisable to connect the input terminals to their proper power source and load before connecting the line under test to the measurement instrumentation, otherwise it is possible to damage the mixers or attenuators or the test instrumentation due to power surges. Again, when the power is to be disconnected, remove the measurement instrument at the coaxial receptacle before removing the power source.

Graphs of the isolation impedance curves for the two isolated lines of the Model 3925/2 are shown on the following pages.

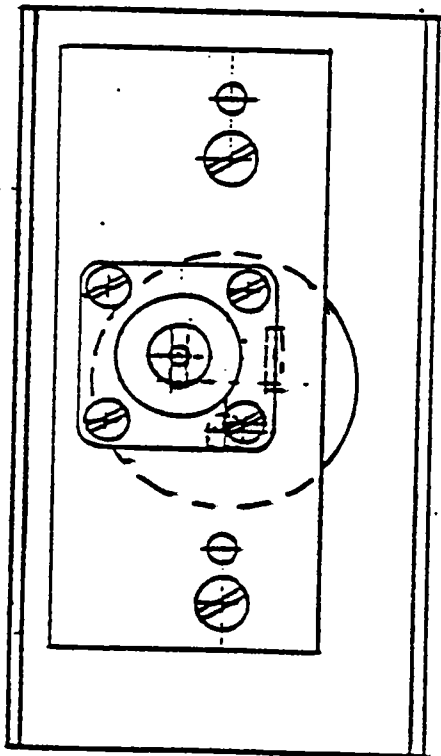
Specification:

Weight: 27.3 Kg (60 lbs)
Size: (HLW) 23.5 cm X 51.4 cm X 47 cm
(9.25" X 20.25" X 18.5")
Maximum AC: Line to Line 440 VAC
Line to Ground 220 VAC
Operating Frequency: DC to 62 Hz

*
* W A R N I N G *
*
* SAFETY GROUND SHOULD BE CONNECTED FIRST AND DISCONNECTED LAST *
* ON INPUT POWER SIDE OF LISN. *
*
* NOTE: A BRASS RF GROUND STUD IS PROVIDED FOR YOUR CON- *
* VENIENCE ON BOTH FRONT AND BACK PANELS FOR CONNECTING TO *
* YOUR SHIELDED ENCLOSURE OR GROUND PLANE. *
*



WARNING: Caution must be exercised when connecting 115 VAC adapter Box to PLISN. Always connect Adapter Box when power is removed from PLISN. Always connect Adapter Box to L1-LF and L2-LF or L1-HF and L2-HF. Rating for Adapter Box is 120 VAC, 20 AMPS. If the AC voltage requirement is greater than 120 VAC, 20 AMPS, consult the factory to obtain alternate Adapter Box.



ROTATE
TOOL
180 DEGREES

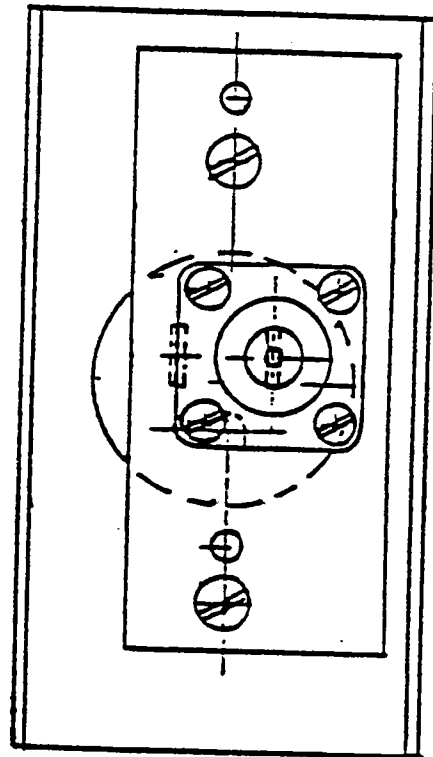


FIGURE 1. Connection of Calibration Tool for 3925 for Line One(L1).

FIGURE 2. Connection of Calibration Tool for 3925 for Line Two(L2).

NOTE: Contact Factory for Price and Delivery of the 3925CTL Calibration Tool for the EMCO Model 3925/2 PLISN.

LOW FREQUENCY SECTION:

Signal Coupling loss: 3 dB max. at 5 KHz; less than 1 dB from 10 KHz to 20 MHz.

VSWR: 1.25 Typical

Input Impedance: 50 ohms +/-20%

Maximum Leakage Current (each line-to-ground) at 115 VAC, 60 Hz: 25 Milliamperes (measured per UL 114).

Current: 15 amperes (see figure 1.)

At the rated current load of 15 amperes, the voltage drop due to the inductive reactance becomes significant. Refer to Figure 1 for the output voltage derating curve. Raising the input voltage may be necessary to compensate for the output voltage drop across the inductors.

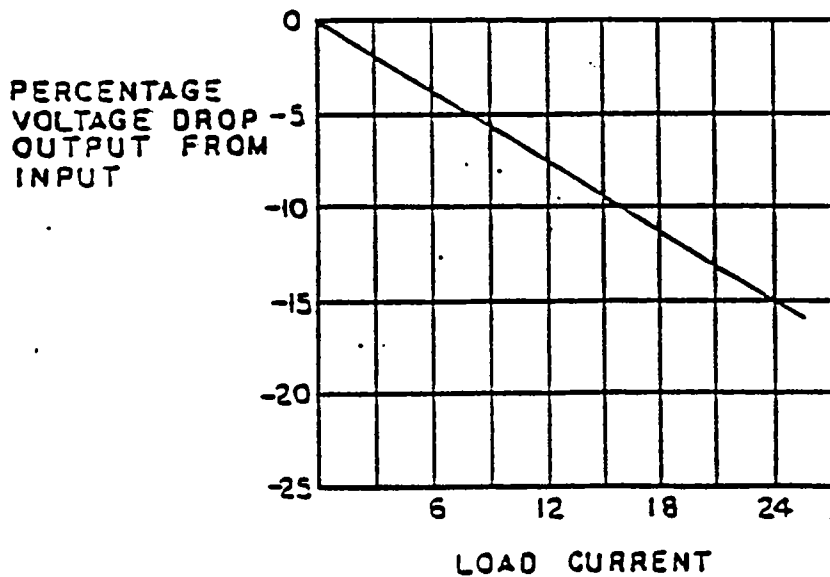
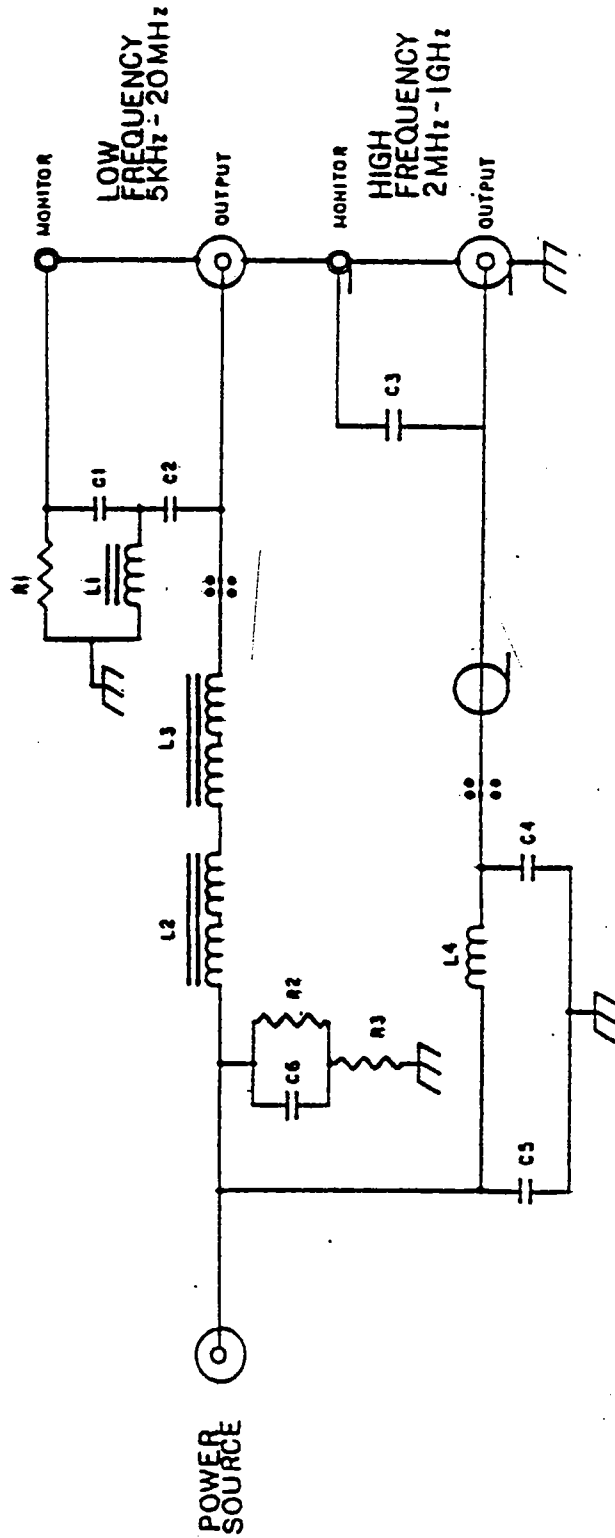
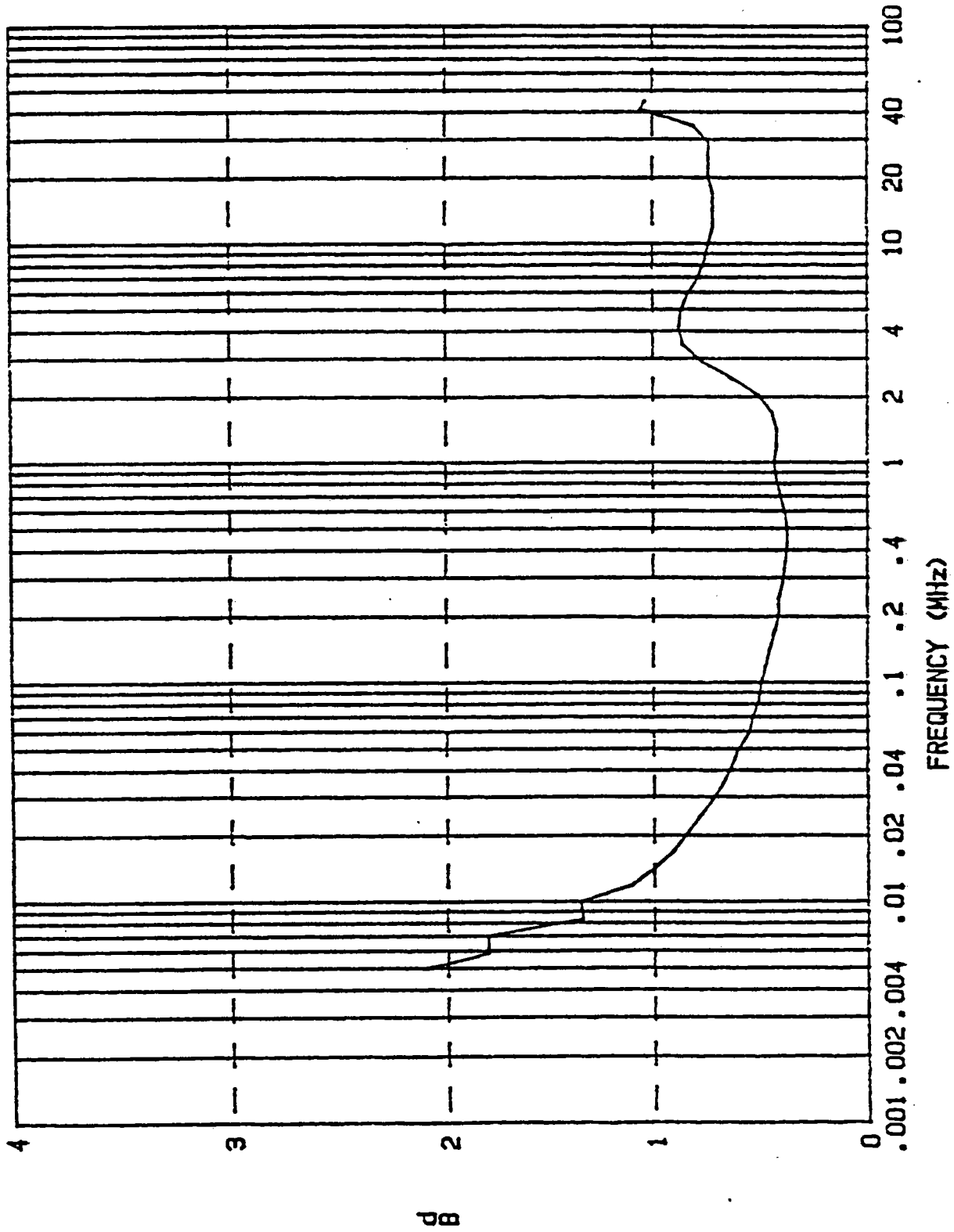


FIG 1. OUTPUT VOLTAGE DERATING CURVE



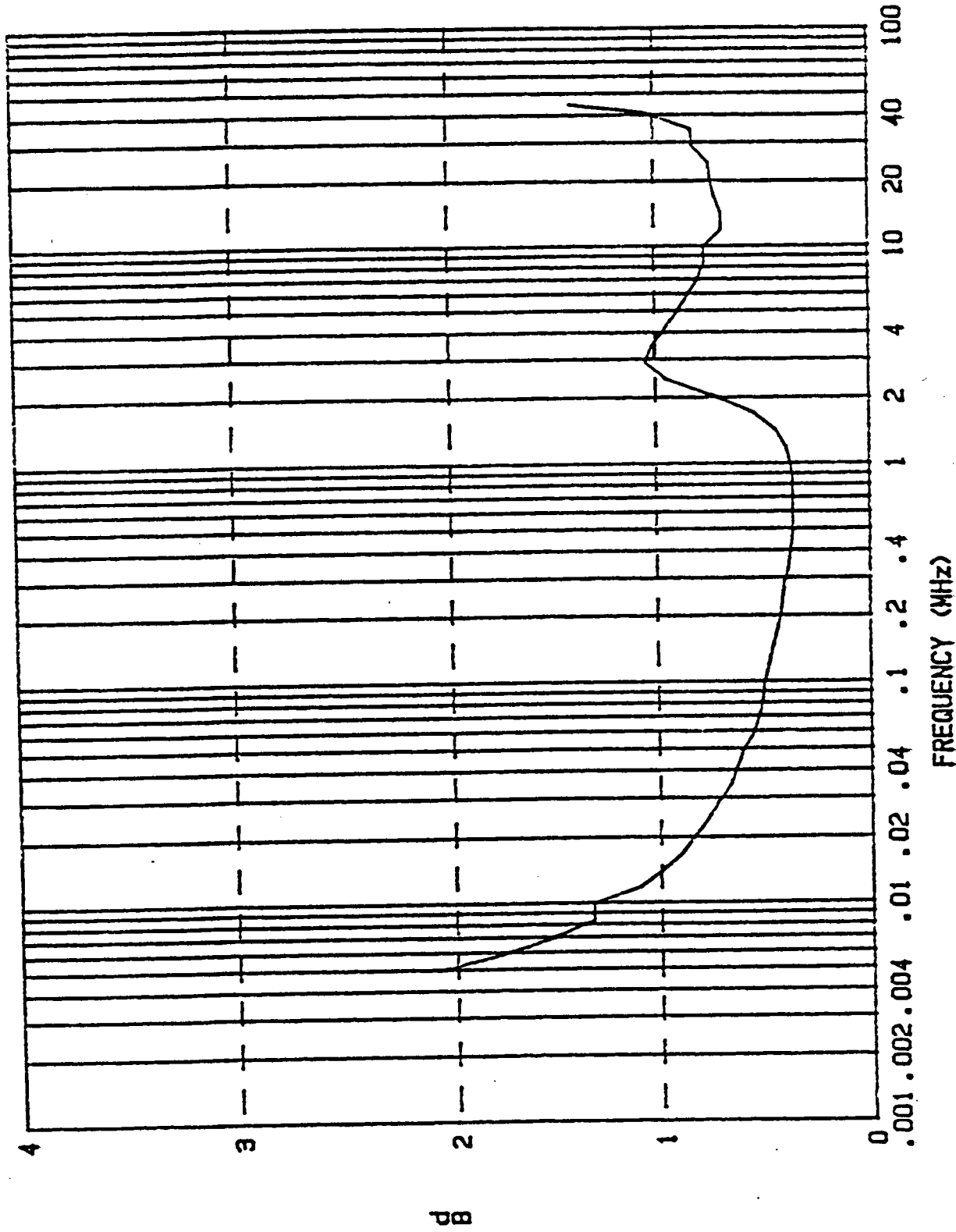
NOTE:
ONE LINE SHOWN
LINES ARE IDENTICAL

REV. NO.		DESCRIPTION		DATE	
1		DRN. JCP	TITLE		
2		DATE: 4-17-66	MODEL 3925/2		
3		CHK.	PLISN		
4		DATE	50 OHM IMPEDANCE		
5		PROG.	THE ELECTRO-MECHANICS CO.		
6		DATE	AUSTIN, TEXAS		
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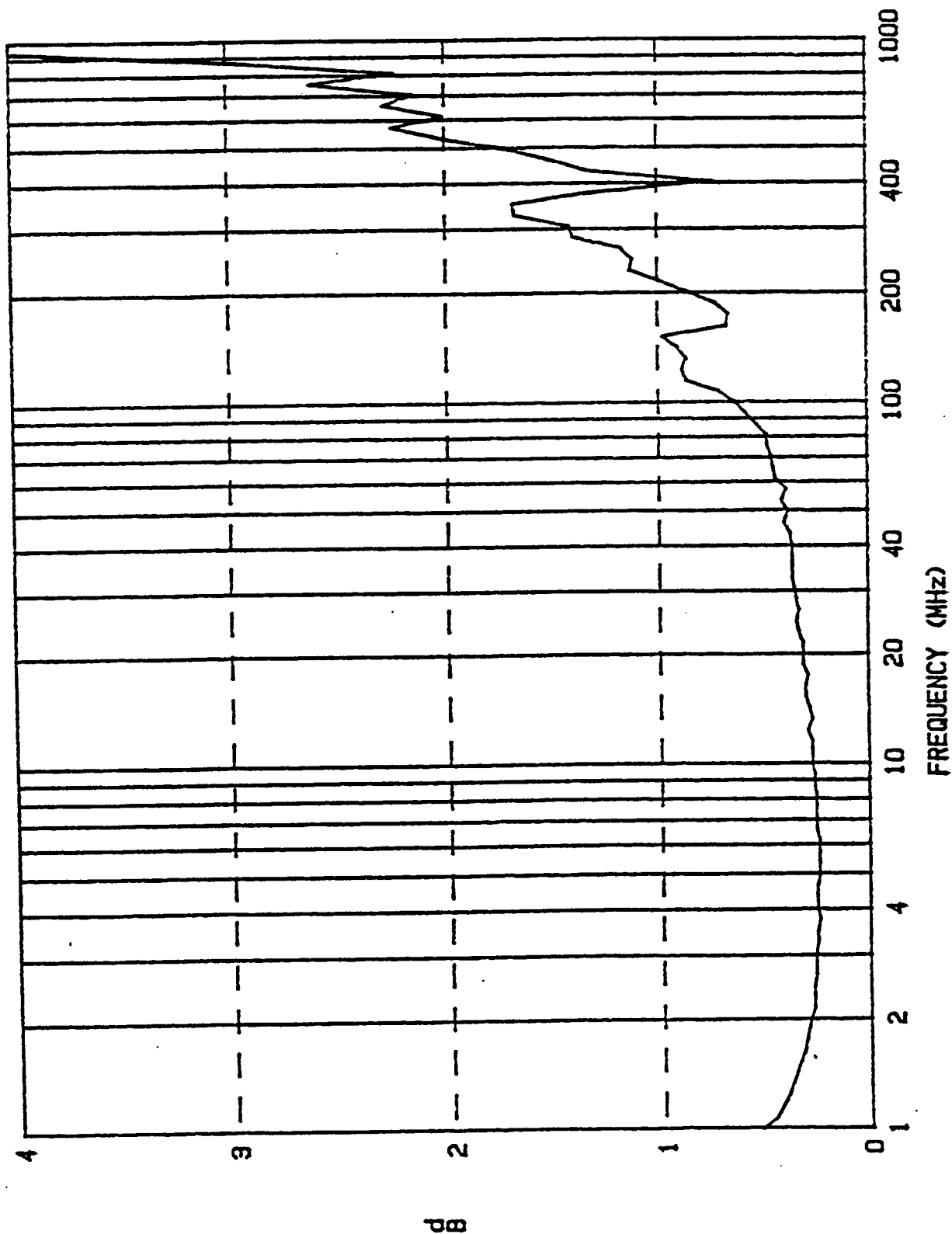


CHARACTERISTIC INSERTION LOSS OF LISN MODEL 3925/2 TYPICAL LINE #.1 LF ADPT

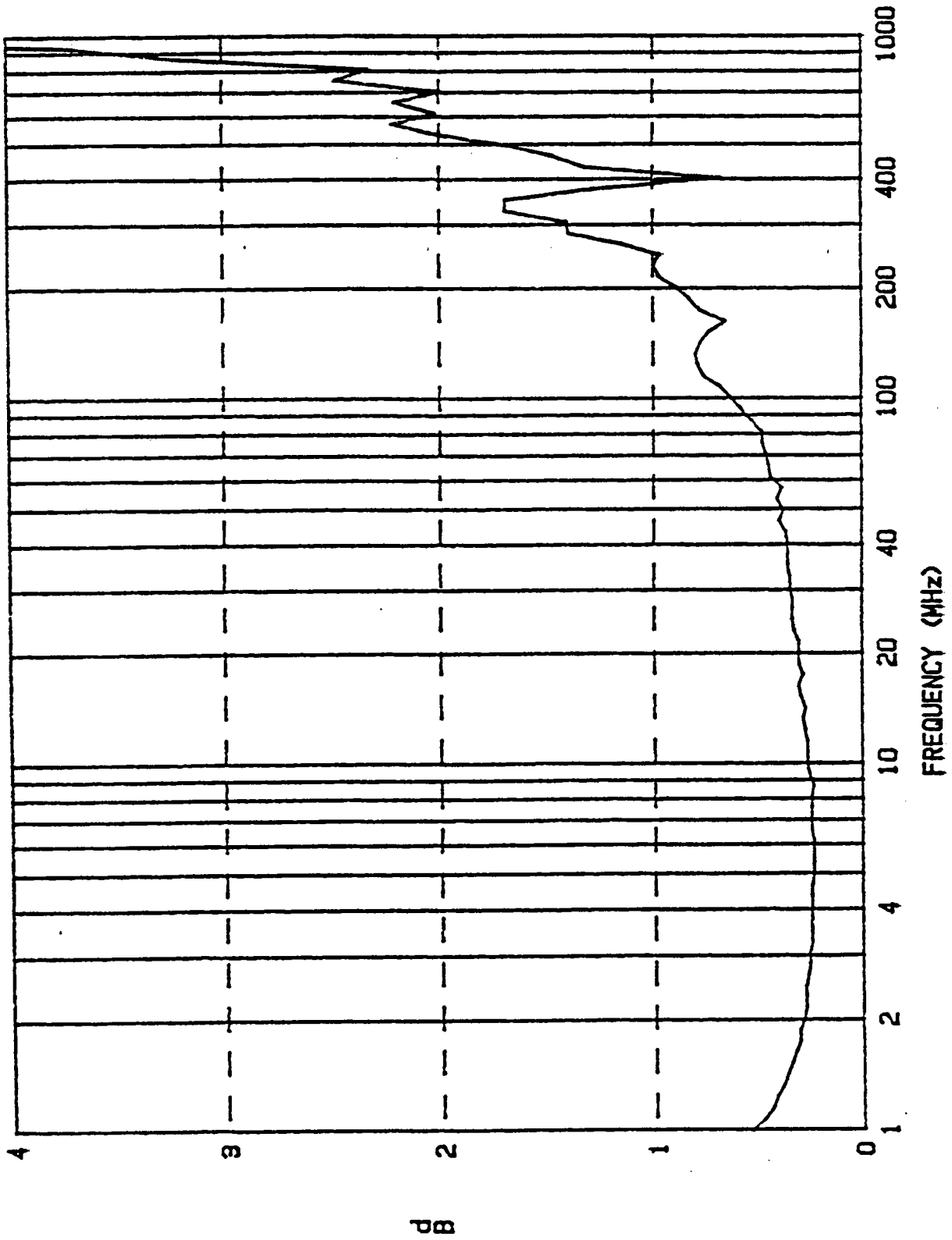
Adaptor Box



CHARACTERISTIC INSERTION LOSS OF LISN MODEL 3925/2 TYPICAL LINE #L2 LF ADPT
 Adaptor Box

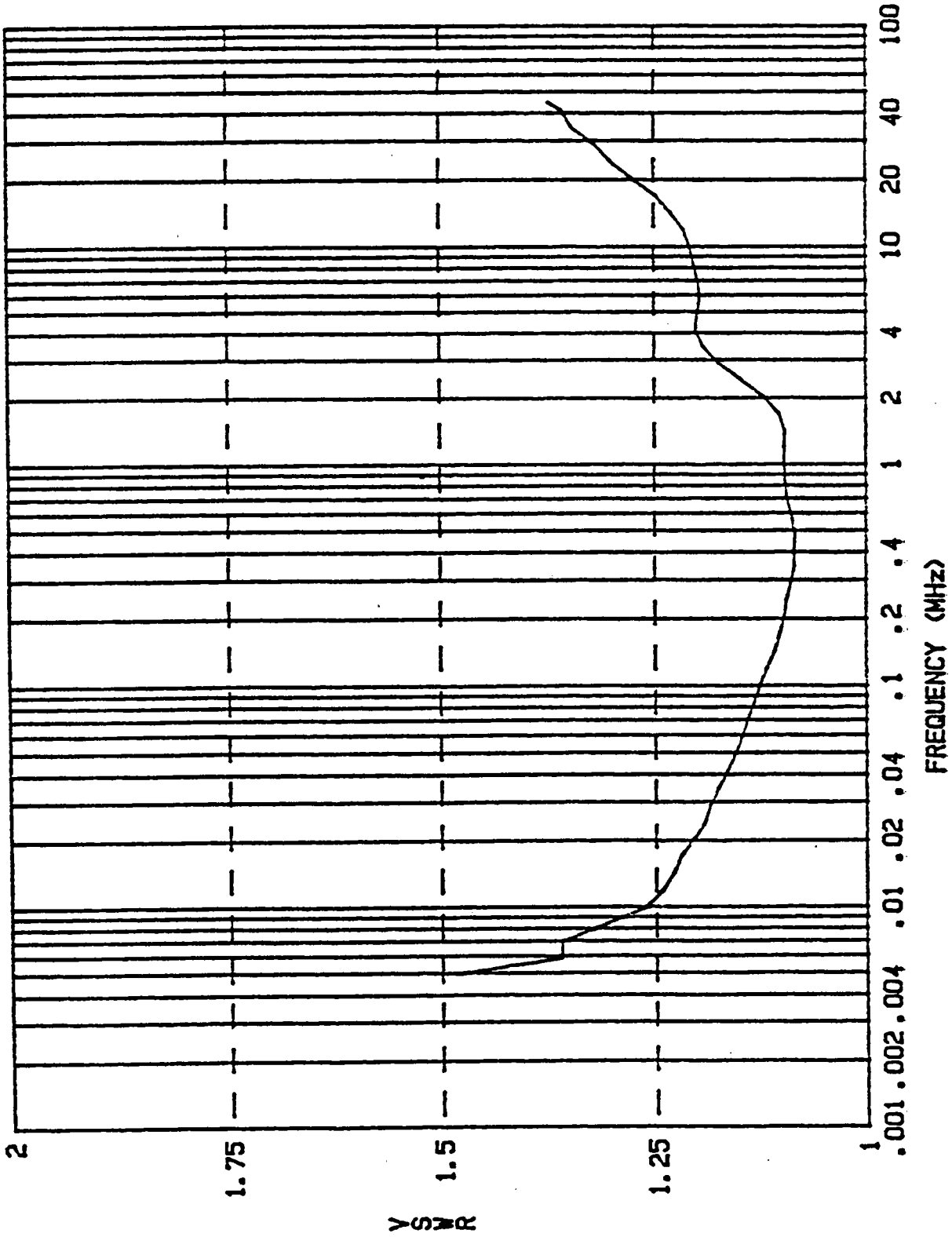


CHARACTERISTIC INSERTION LOSS OF LISN MODEL 3925/2 TYPICAL LINE #L1 HF ADPT
 Adaptor Box

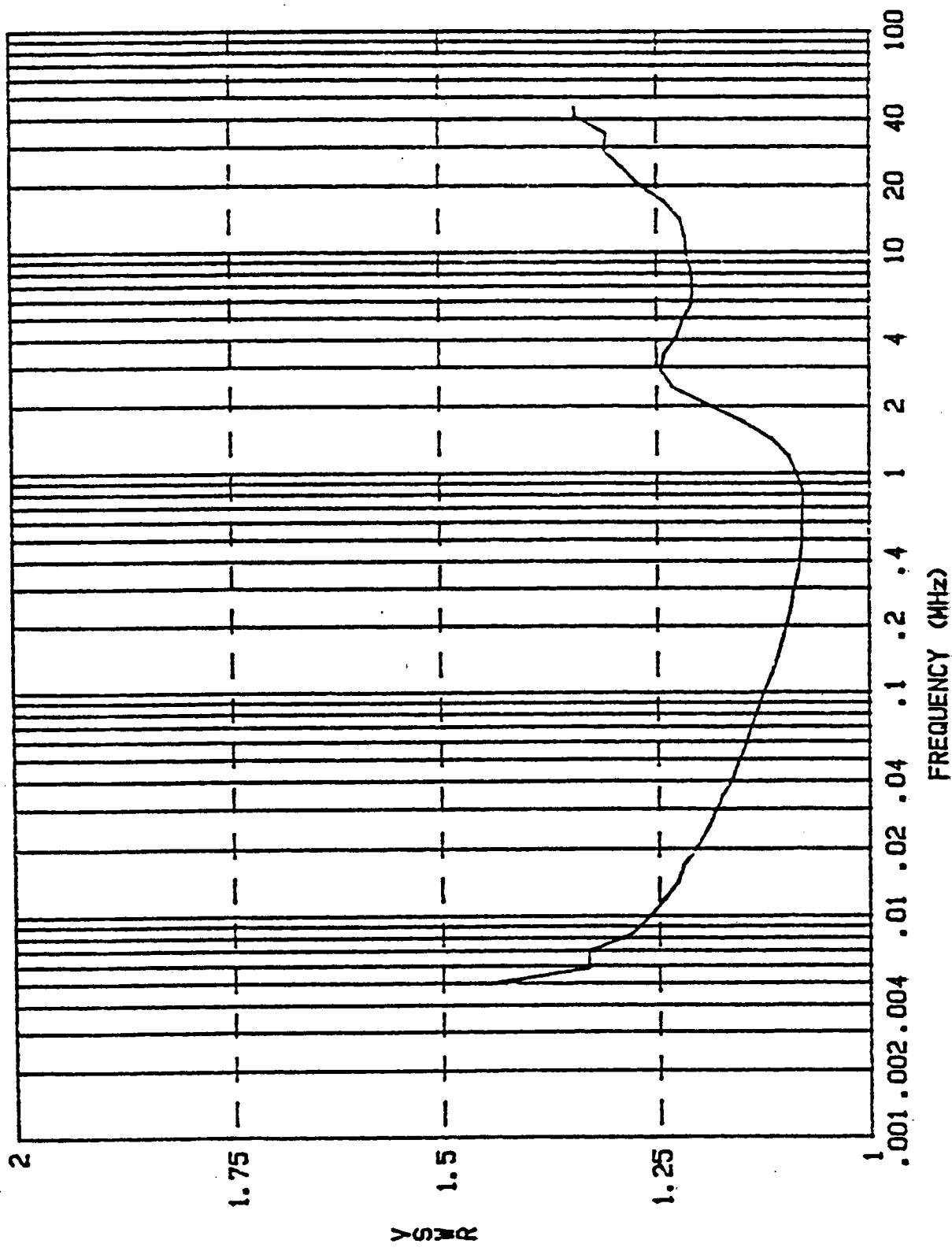


CHARACTERISTIC INSERTION LOSS OF LISN MODEL 3925/2 TYPICAL LINE #L2 HF ADPT

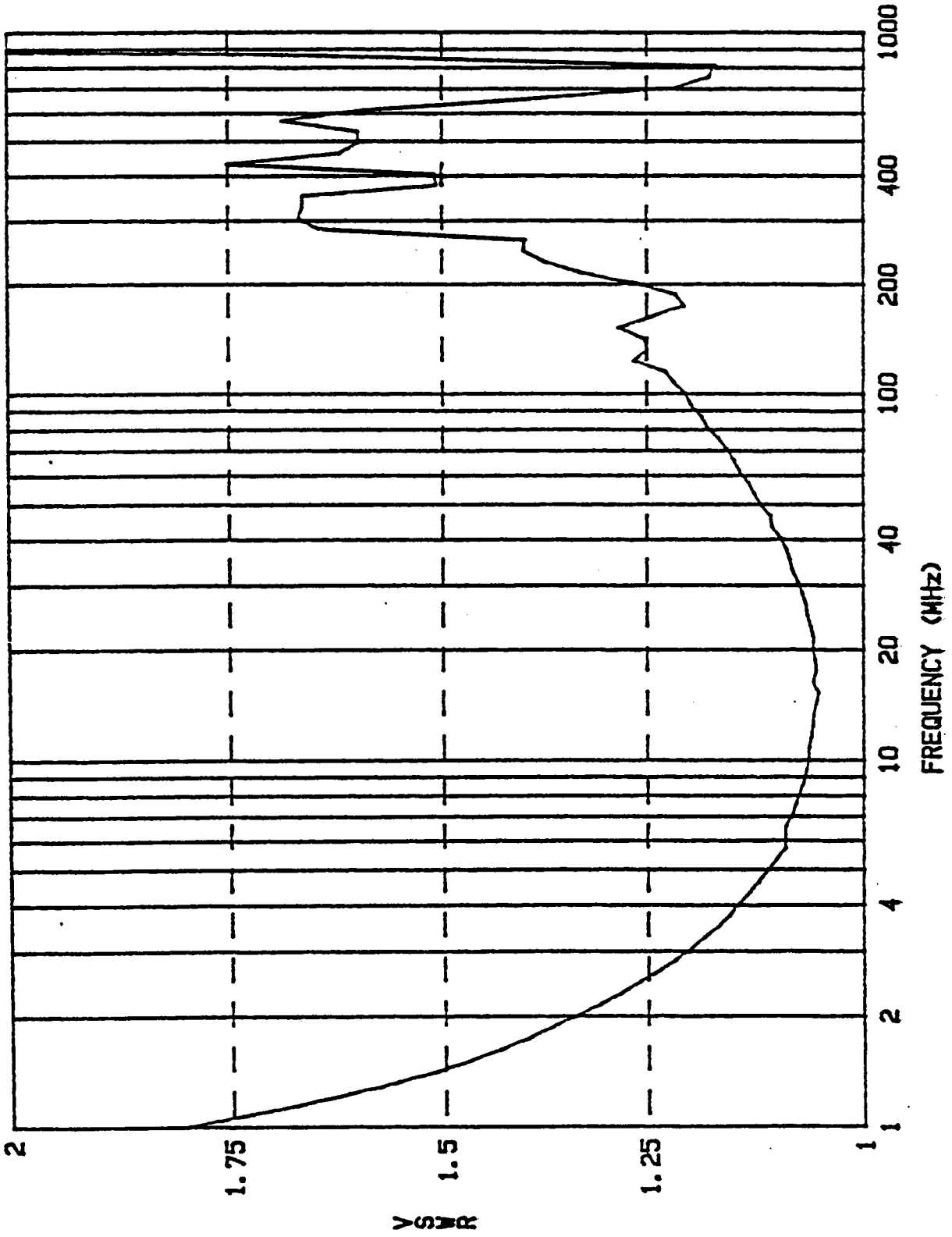
Adaptor Box



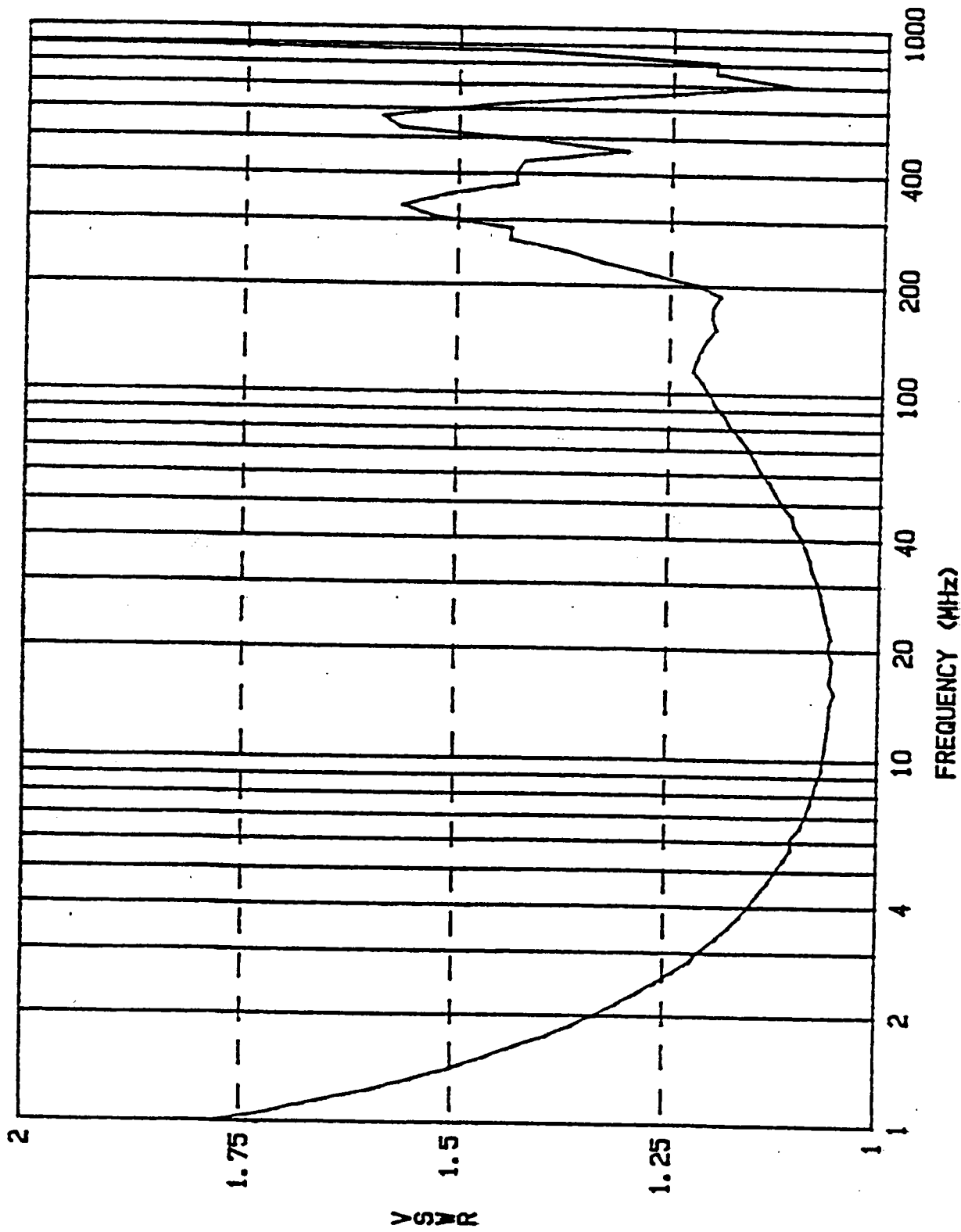
CHARACTERISTIC VSWR OF LISN MODEL 3925/2 TYPICAL
 Adaptor Box
 LINE #L1 LF ADPT



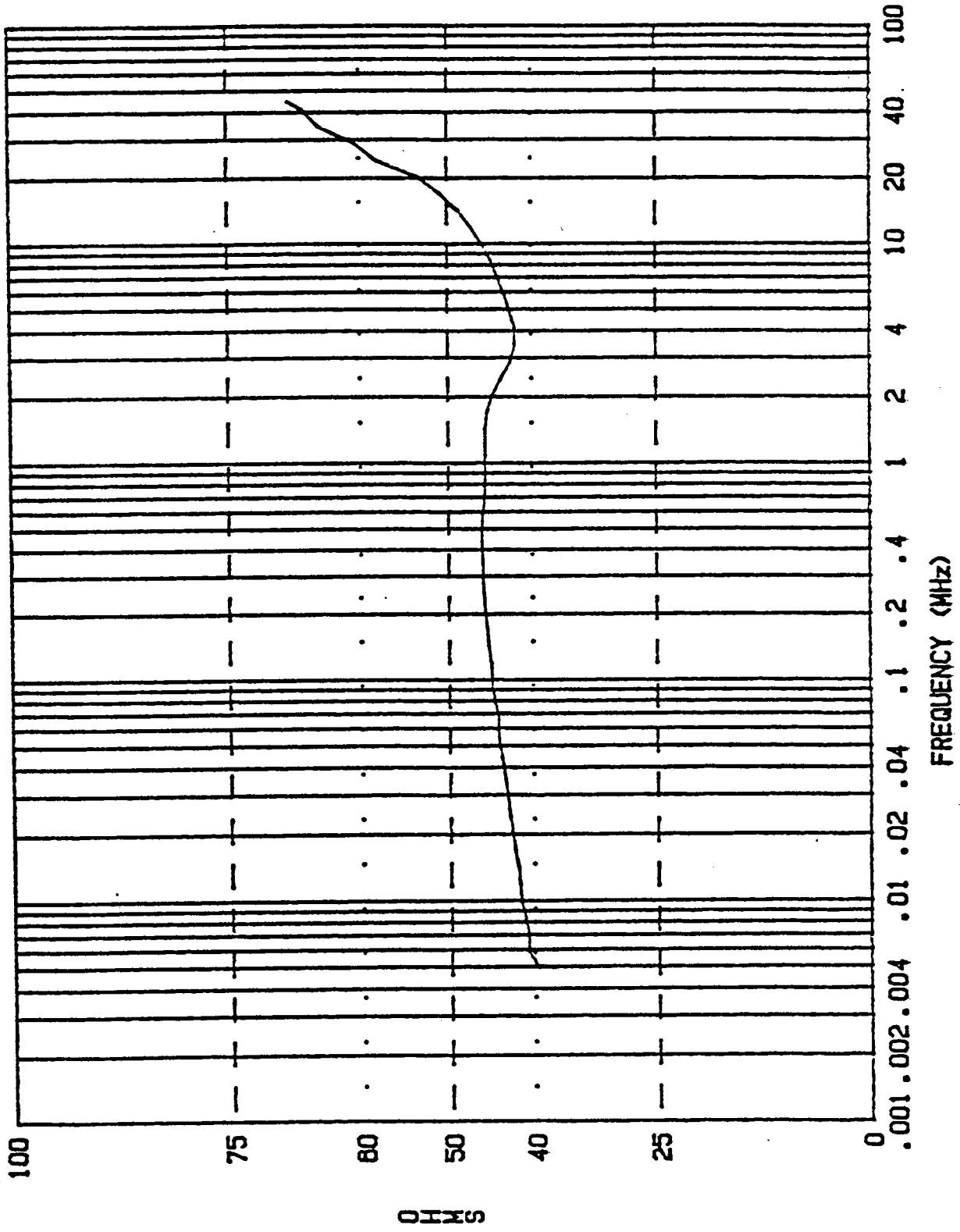
CHARACTERISTIC VSWR OF LISN MODEL 9825/2 TYPICAL LINE #L2 LF ADPT Adaptor Box



CHARACTERISTIC VSWR OF LISN MODEL 3925/2 TYPICAL LINE #L1 HF ADPT
 Adaptor Box

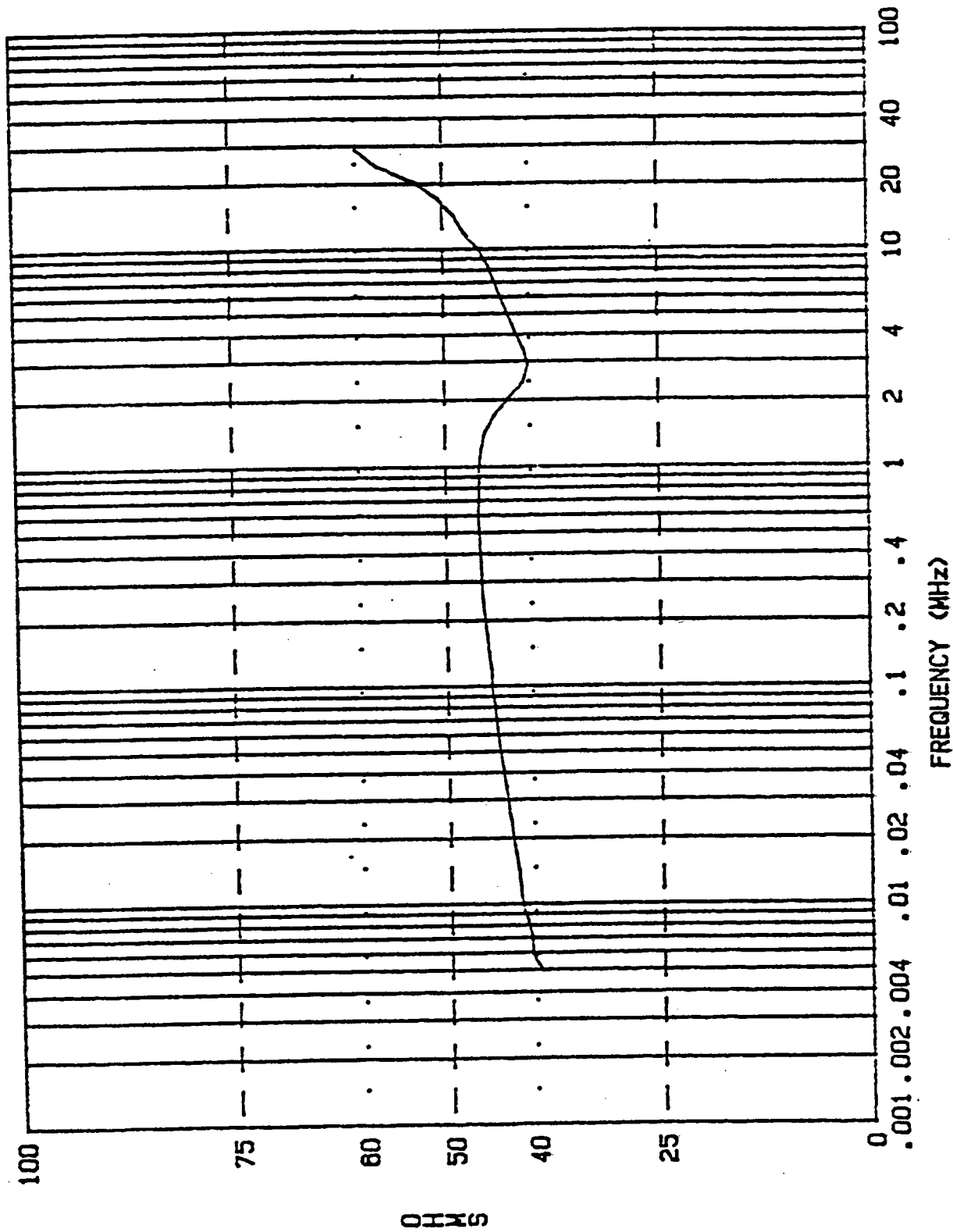


CHARACTERISTIC VSWR OF L1SN MODEL 3925/2 TYPICAL LINE #L2 HF ADPT
Adaptor Box

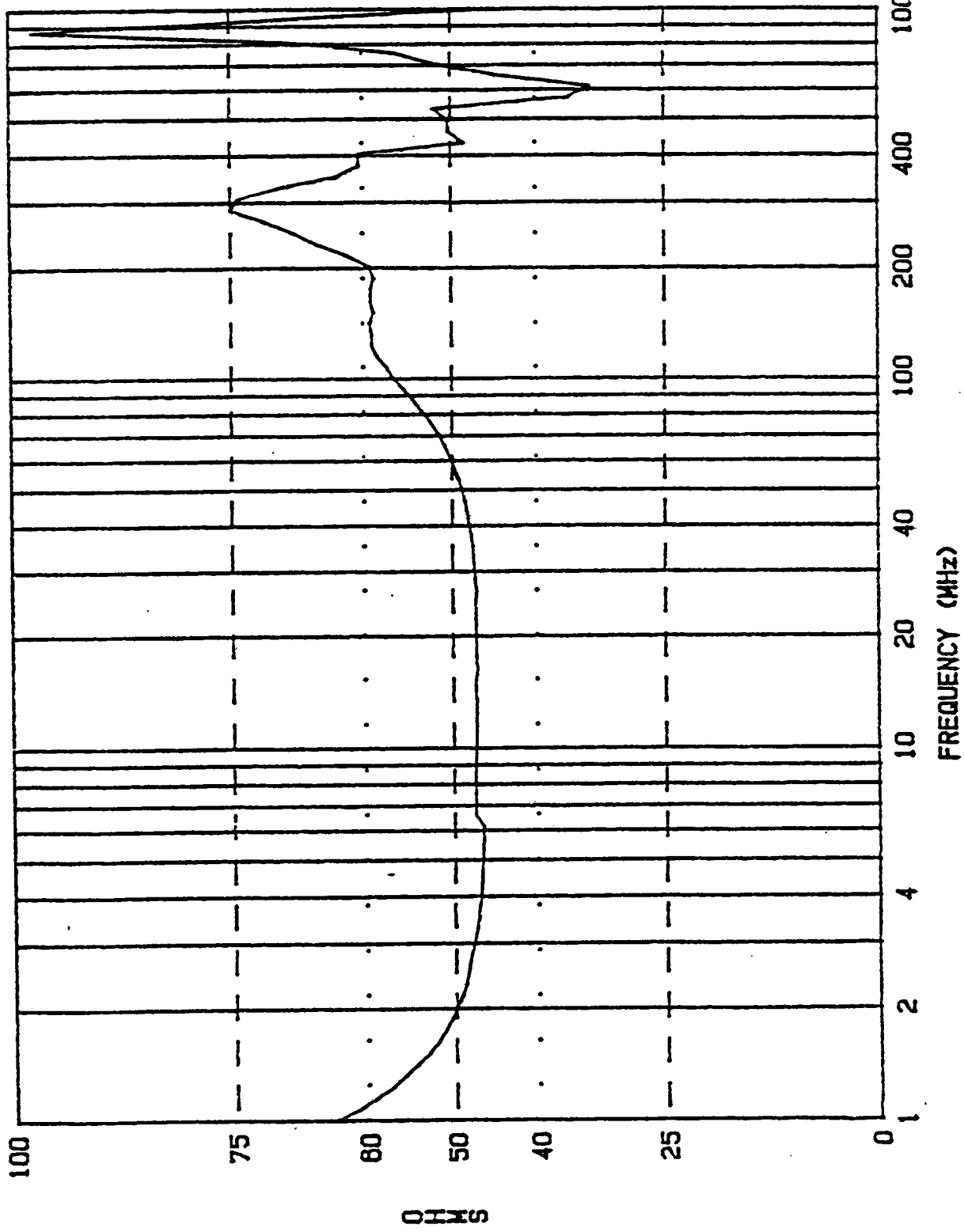


CHARACTERISTIC IMPEDANCE OF LISN MODEL 3925/2 TYPICAL LINE #L1 LF ADPT

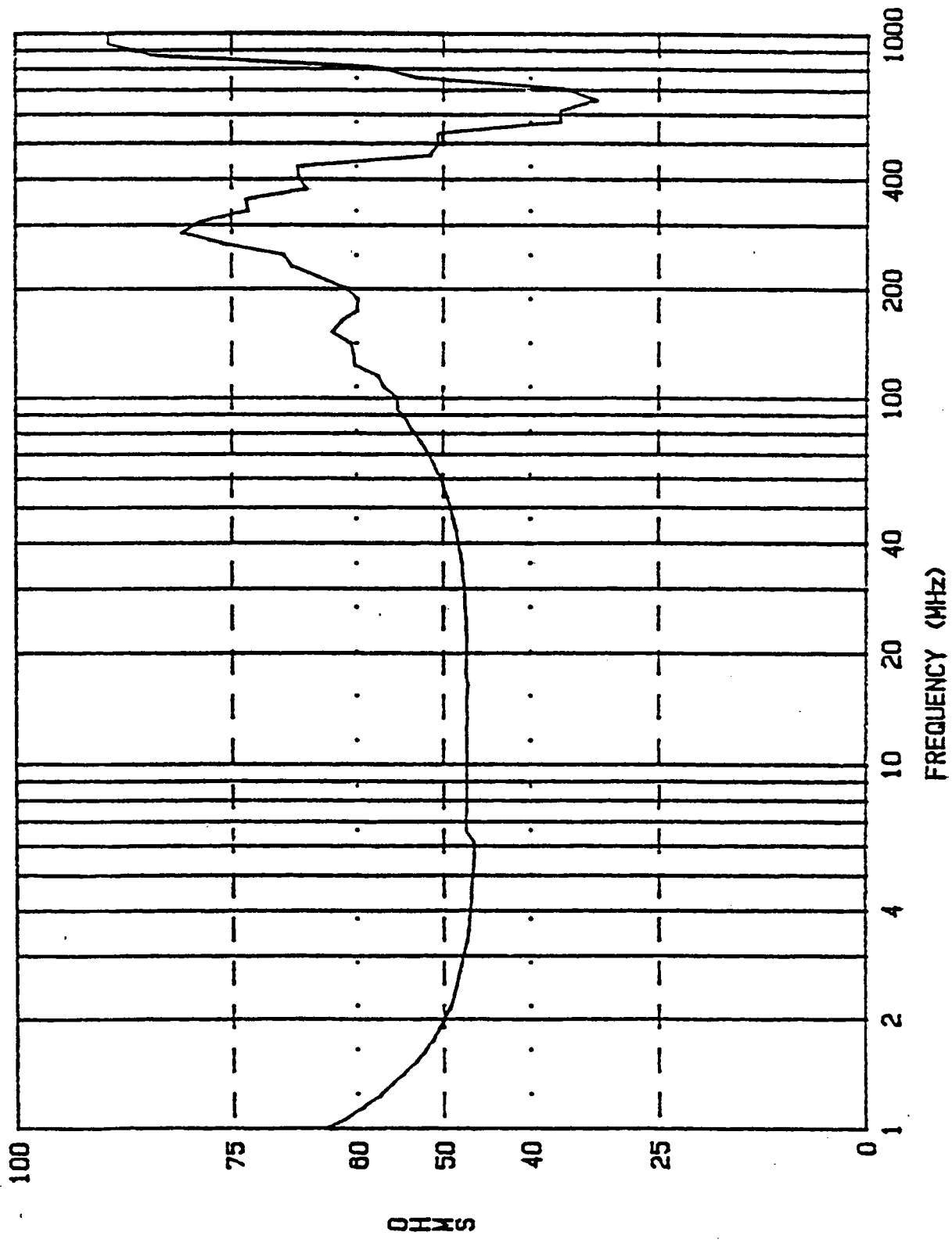
Adaptor. \times



CHARACTERISTIC IMPEDANCE OF LISN MODEL 3925/2 TYPICAL LINE #L2 LF ADPT
 Adaptor Box



CHARACTERISTIC IMPEDANCE OF LISN MODEL 3025/2 TYPICAL LINE #L2 HF ADPT
 Adaptor *g*x



CHARACTERISTIC IMPEDANCE OF LISN MODEL 3925/2 TYPICAL LINE #L1 HF ADPT
 Adaptor ^{Box}