

Features

2056

- 56-Type (A or B) 105 Test Line Responder
- Fully CARROT Compatible
- Meets AT&T Compatibility Bulletin 106 Specifications
- Access Line/SW/PBX Loss Compensation
- AT&T System 75/85 Digital PBX Version Available
- MF- and DTMF-Compelled
- Test Call Origination
- Echo Cancellation Loopbacks Available
- Tests Supported:
 - Two-way Loss
 - 3-Tone Gain/Slope
 - Two-way Noise
 - C-Notched Noise
 - C-Message Noise
 - Provides Quiet Termination
 - Peak-to-Average Ratio (P/AR) Source
 - Echo Cancellation

Description

The Model 2056 Universal Test Line Responder combines the test and measurement capabilities required by most network testing systems in one compact unit. The programmed flexibility of the Model 2056 allows one responder to provide the testing termination for the multiple applications existing on modern telecommunication networks in the Telco, InterExchange Carrier and Private Network environments. A fully configured Model 2056 Responder would consist of:

56-Type 105 Test Line Responder
DTMF- and MF-Compelled Responder
Signal Source for P/AR Measurement
Four-Wire Loopbacks for Echo Cancellation Testing
Call Origination for Special Applications

The Model 2056 can be located at any dial-up 2-Wire or 4-Wire point in the network. In a 2-Wire installation, supervision may be either loop or ground start with the connection made through a barrier terminal or RJ-11C jack. In a 4-Wire installation, supervision is E & M Type I or II with the connections made through a barrier terminal strip.

During installation the send and receive functions can be calibrated to compensate for loss in the access lines between the responder and the trunk under test on the network side of a

PBX/SW. This allows testing to indicate results of only the loss associated with the trunk under test. A factory pre-calibration can be performed to compensate for known fixed losses, such as, those found in AT&T's System 75/85 Digital PBXs, where gain is inserted in one direction and loss in the other during the digital-to-analog conversion process. With this compensation capability, network-wide testing parameters can be customized for standardization of testing results on similar type trunks.

The Model 2056 also has the unique ability to originate a test call. This is accomplished by accessing the unit through a dial-up connection, entering a specific trunk through a maintenance port/station, and terminating the call. The Model 2056 will then go off-hook and dial the entered dialing sequence to process a call back to either the originating test controller, such as, the Wilcom T328 Master Test Line and Controller, or to a craftperson. When the call is answered, the unit is then ready to begin transmission in an automated or manual compelled mode.

Private network managers have recognized that 105 type responder testing has become the industry standard for trans-

Description cont...

mission testing. Larger users of AT&T's SDN networks have elected to purchase Wilcom responders for compatibility with AT&T's CARROT System. Inter-Exchange Carriers have also standardized on 105 type testing for inter-machine trunks and customer access lines where private network customers have provided these compatible responders. In special cases, some Inter-Exchange Carriers have allowed access to 105 responders with one-way access lines in the carrier switch.

The Model 2056 UTLR is the most economical testing termination available for testing customer DID and DOD trunks to most PBXs. Utilizing the CARROT or Wilcom T328 testing systems, this unit provides the full 105 type test line termination for testing. Since the Model 2056 has the capability to originate a test call, the unit can be remotely commanded to dial a direct trunk selection sequence from a

PBX/Switch station, trunk or maintenance position, access a specific DOD trunk, and process a call to a Wilcom T328 Master Test Line & Controller. The T328 MTL&C can be programmed to answer an incoming call from the Model 2056 Responder and will begin to perform complete bi-directional transmission testing. This application is currently being used by telcos to test customer DID and DOD trunks.

The 4-Wire version of the Model 2056 can originate Echo Return Loss (ERL), Singing Return Loss (SRH) and Singing Return Loss Low (SRL) signal sources and also perform measurements. The results are reported to the test controller or craftperson in a FSK or analog format.

The Model 2056 4-Wire version provides various loopbacks and an echo canceller disable tone for the purpose of testing the proper operation of echo cancellers within a network.

Specifications

Receive:

Detector Type	True RMS
Level Range	0 dBm to -51 dBm, ± 0.2 dB
Frequency Range	300 Hz to 3000 Hz
Noise Range	10 dBmC to 55 dBmC
	± 1 dB CMSG
C-Notch	50 dB below 1004 Hz

Transmit:

Frequency Range	300 Hz to 3000 Hz, 1 Hz steps
Level Range	0 dBm to -50 dBm, 0.1 dB steps
Level Accuracy	± 0.03 dB at 1004 Hz ± 0.01 dB over band
Harmonic Distortion fundamental	at least 50 dB below

I/O Characteristics:

Line Impedance	600 Ω and 900 Ω , selectable
Electronic Hold	23 mA min through 1700 Ω 46 mA max through 400 Ω
Ringer Equivalence	0.4B
DTMF Signaling	Meets EIA Specification RS-464
ERL/SRL/SRL	Per IIIIE Std 743-1984 (4-Wire only)

Environmental:

Temperature	
Operating	15°C to 35°C
Non-Operating	-40°C to 75°C
Humidity	
Operating	10% to 95 % non-condensing
Non-Operating	10% to 95% non-condensing
Altitude	40,000 ft (12,000 m)

Electrical:	115 VAC, 50/60 Hz or 48 VDC
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Physical:

Width	17.1 in (435 mm)
Height	3.5 in (89 mm)
Depth	7.9 in (201 mm)
Weight	6.9 lb (3.1 kg)

Options:

115 VAC or -48 VDC (4-Wire)
2- or 4-Wire Termination
Loop or Ground Start (2-Wire)
600 Ω or 900 Ω Termination (2-Wire)
E & M Type I or II (4-Wire)
ERL Signal Source and Measurement (4-Wire)
Switch Selectable Options for:
Variable Post Seizure Delay
Test Progress Tone Duration
Test Progress Tone delay
Manual Operation Timeout
Send Level (-10, 15, -16 dBm)

Ordering Information*

2056A	2-Wire CARROT Responder
2056B	4-Wire CARROT Responder w/ Return Loss
2056C	2-Wire CARROT Responder for AT&T System 75/85

*Please specify 115 VAC or -48 VDC.

ISO-9001:2000 Registered

Specifications and prices are subject to change without notice.

2/99
812-643-003

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