

# Model 440 *Remote Test Partner*

Single Technician End-to-End Testing



Technology Independent:

- POTS
- ISDN
- HDSL
- xDSL

**Ameri**tec

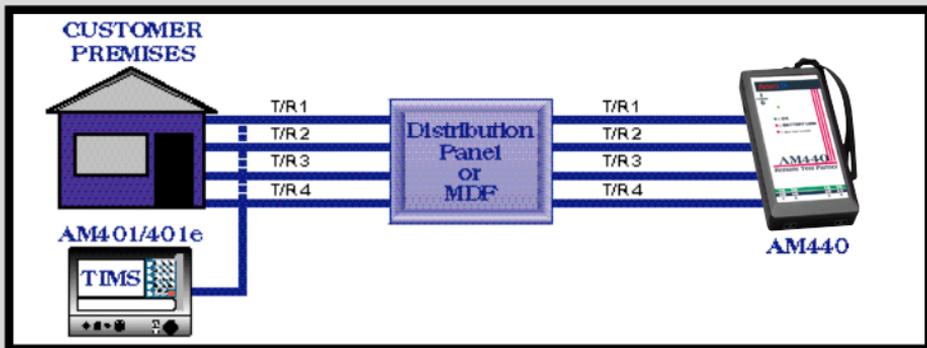
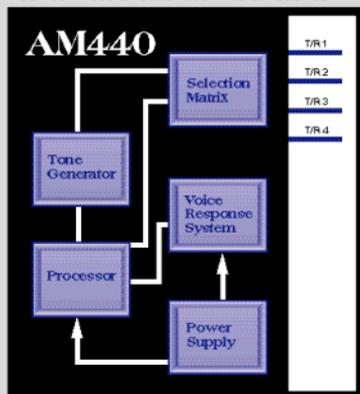
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# AM440 Remote Test Partner

Circuit testing often requires two technicians: one at each end of the circuit and each equipped with a Transmission Test Set. The AM440 Remote Test Partner is your "second technician" who can open or short the line, send tone or apply a quiet termination. No more waiting for an hour to meet another technician stalled in traffic! With the AM440 Remote Test Partner, your "second technician" is always with you, improving efficiency and lowering costs.

The AM440 Remote Test Partner is a 4-line, wideband, remotely commandable testing aid which enables single person testing of both metallic and transmission properties of 2-wire circuits. The AM440 can be installed on one end of a 2-wire circuit-under-test and then be commanded via DTMF tones by the tester to manipulate the circuit for metallic tests, or to send tones at predetermined frequencies and levels for transmission tests.

The unit provides substantial cost and labor savings in testing POTS, ISDN, HDSL and xDSL copper facilities by allowing one person to do all needed tests. The inefficiencies and costs of "meet me" testing are eliminated. The AM440 is technology independent allowing use on circuits using 2B1Q, CAP, DMT and other technologies. The AM440 works with any TIMS unit or DMM that can send DTMF tones over a dry pair.



## CAPABILITIES

The AM440 provides both metallic and tone-based testing capabilities:

- METALLIC TESTING** Open Tip and Ring for foreign voltage tests  
Short Tip to Ring to measure loop resistance  
Ground Tip and Ring for resistance to ground measurements
- QUIET TERMINATION** Quiet for noise or impulse noise testing  
100, 135 or 600 ohms with or without series capacitance
- TRANSMIT TONES** Preset tones from 304Hz to 384kHz  
Slope tones (North American and ITU-T)  
Sweep tones from 300 to 3500Hz with or without SF skip  
(North American and ITU-T)



## load coil detection

With the Ameritec TIMS method of load coil detection, the technician need take only two level measurements and divide the results. Using the AM440 a single technician can now do all of the testing required to determine if a loop is loaded without the complexity of a TDR.

## power and connectors

The AM440 is powered by 4 alkaline AA cells for the utmost in simplicity and reliability. A power on battery self test indicates when battery life is less than 90 minutes. Battery life exceeds 2 weeks based on a typical usage model. The AM440 comes equipped with industry-standard mini-bantam connectors so that readily available low cost cables can be used. All sleeve leads are attached to AM440 ground so that the circuit under test can be easily tied to frame ground.

## summary

The AM440 greatly enhances the productivity of technicians doing installation testing or troubleshooting of copper pairs. The ability of a single technician to do what historically required two test personnel translates directly into higher productivity and lower costs.

### SPECIFICATIONS

Number Of Attached Tip/Ring Pairs: 1 to 4  
Selectable Frequencies:

1004 and 4000Hz, 13.3k, 28k, 40k, 80k, 96k, 196k, 292k and 384kHz on for 7 seconds or 12 seconds

Holding Tone:  
Slope Tones:

1020Hz on for 7 seconds or 15 minutes  
404, 1004, 1804 and 2804Hz, 5 seconds dwell, 600 ohms  
304, 1020, 2004 and 3004Hz, 5 seconds dwell, 600 ohms

Sweep Tones:

200 to 3500Hz, 100Hz steps, 3 seconds dwell, 600 ohms, with or without SF Skip (North American & ITU-T)

Frequency Accuracy:  
Transmit Level:

0.02%  
For 100 and 135 ohm impedances either 0dBm or +14dBm  
For 600 ohm impedance, 0dBm

Transmit Level Accuracy:  
Quiet Mode:

From 200Hz through 40kHz,  $\pm 0.25$ dB. Above 40kHz,  $\pm 1.0$ dB  
600, 135 or 100 ohms quiet with resistive impedance or  
600, 135 or 100 ohms quiet with resistive impedance plus 2.16 $\mu$ f capacitance in series.

Metallic Test Modes:

Tip1 and Ring1 shorted to Tip2 and Ring2 respectively. Less than 1 ohm resistance in path.

DTMF Commands:

May be sent on any attached line, to be executed on any specified line. Command structure is "LXX#" where L is attached line number and XX is command number. 72 commands available. All test modes remotely commanded.

DTMF Receivers:

Number: 5  
Receive Levels: -3 to -27dBm  
Maximum Twist: 9dB  
Receive digits: 0 through 9 plus \* and #

Line Annunciator Mode:

Announces line number (1, 2, 3, 4) once per line each 5 seconds until a valid command is received.

Voice Response Mode:

Automatically enabled at power on. User may command on/off. Confirms command for all commands without a tone response. Voice response transmitted on line on which command was received. 10 fixed response phrases.

Line Identification Mode:

Announces line number upon command for a specific line.

Miscellaneous:

DC Blocking: >200 VDC  
Balance: >90dB @ 120Hz decreasing 6dB/octave above 120Hz  
Return Loss: >30dB

Connectors:

Mini-bantam connectors compatible with ADC® PJ777 or Switchcraft® TT253.

Size:

8.5 in. (216mm) L x 3.98 in. (101mm) W x 1.73 in. (44mm) D

Weight:

1 pound (0.45kg)

Storage Temperature:

-40° F to +149° F (-40° C to +60° C)

Operating Temperature:

32° F to +122° F (0° C to +50° C)

Relative Humidity:

10% to 90% Non-condensing.

Battery Requirements:

4-AA Alkaline batteries

Battery Life:

Approximately 12 hours, depending on usage.

Battery Low Warning:

On power on, 90 minutes ( $\pm 20$  minutes) life left dependent on temperature and usage.

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