

AM89 PCM/VF 2-112-112

Receive a calibration and/or repair quote-RMA from R.A.E. Service
Click here>> www.raeservices.com/services/quote.htm

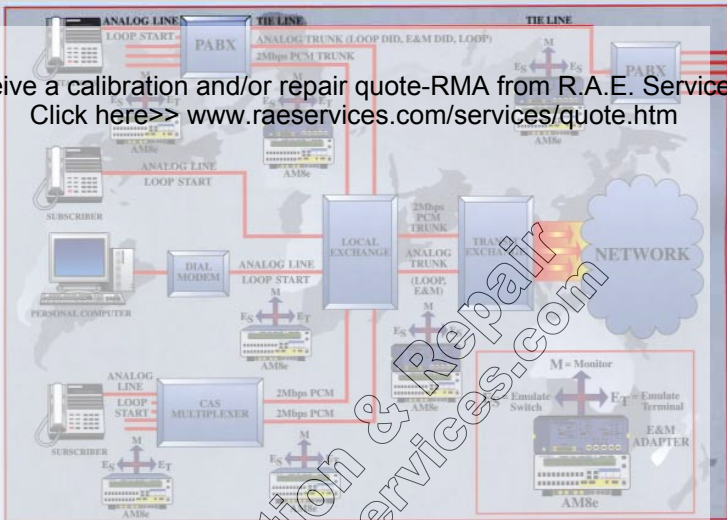
Complete Emulation and Analysis of International 2 Mbps CAS PCM and Analog Signaling



- Signaling Monitor/Emulator/Analyzer
- Dialed Digital Monitor/Emulator/Analyzer
- Complex Sequence Dialer
- Analog Loop and E&M Trunk Capabilities
- User Programmable Signaling Protocols
- VF Level, Frequency, Noise Measure
- Dual Multimeter
- 2 Mbps PCM Drop & Insert
- Non-Intrusive PCM Measure
- CO Battery, Ring Generator, and Dial Tone Generator Sources
- Portable and Battery Powered

ST, ISO, IEC, ANSI, NCSL, MIL-STD by www.raeservices.com

receive a calibration and/or repair quote-RMA from R.A.E. Services Inc
Click here>> www.raeservices.com/services/quote.htm



Introduction

Whether you are a telecommunications service provider or a telecommunications equipment manufacturer, the global marketplace has requirements for a multitude of signaling protocols within countries and between countries.

In-service circuits need troubleshooting. New products need testing and, eventually, manufacturing test and field support. Until now, the only solution may have been numerous test instruments or expensive in-house test equipment development for each country or application.

The Ameritec Model AM8e is a Call Analyzer capable of emulating, observing and troubleshooting signaling protocols on a wide variety of analog circuits or 2 Mbps channel associated signaling protocols. The AM8e is fully programmable. You can modify existing signaling protocols or develop new signaling protocols based on your requirements.

2 Mbps PCM Testing

The AM8e is compatible with worldwide CCITT recommendations for 2 Mbps, 30-channel, channel associated signaling PCM lines. The unit is compatible with all country specific A, B, C, D bit signaling and MF-R1, MF-R2, CCITT #5, DTMF, and dial pulse protocols.

The AM8e provides for emulation and non-intrusive monitoring of 2 Mbps PCM circuits. Specific channels can also be monitored. Also provided is a drop and insert capability which allows testing of individual PCM channels.

Complete decoding and analysis of MF-R1, MF-R2, CCITT #5, DTMF, and dial pulse signaling is provided. Precise, one-millisecond time stamping of digits and events will tell you exactly what happened and when.

Exception reports can be printed by connecting the AM8e to a PC. The AM8e is fully programmable signaling thresholds to automatically screen for out of tolerance digits and events.

NIST, ISO, IEC, ANSI, NCSL, MIL-STD by www.raeservices.com

User Programmable Signaling Protocols

The AM8e is designed to be flexible and to accommodate the wide variety of signaling variations that are encountered in protocol driven protocols. Protocols may be purchased from Ameritec's extensive library, custom developed by Ameritec or developed by the user. The AM8e can store up to 10 complex protocols which can be simply recalled and executed. The protocols allow for various WAIT conditions, such as Wait for 3 Seconds, Wait For Call Progress Tone, Wait For Wink and so on. The protocols can select any of the available 10 autodial strings and each string can point to another string for virtually unlimited dialed digit lengths. Calling and called party numbers may be stored in different autodial strings and executed at the appropriate stimulus from within the protocol. Dialing may be dependent upon a Wait condition. These capabilities allow the user to test complex Intelligent Network functions as well as CTI applications such as Voice Mail.

Protocols can also cause tones to be transmitted with a specific level and frequency. For dual tone dialing, the level and frequency of each tone of the two tones can be specified, allowing for testing of an application over the full range of specified dialed digit capability. Simple loops can be set up in a protocol for incremental worst case testing.

Analog Loop Trunk/Line Emulation

The AM8e is also compatible with two-wire analog type trunks and lines. User programmable emulation, monitoring and analysis are provided for the following parameters:

- Battery Voltage, Loop Length, Termination
- Start Dial Signals including DTMF Tone
- MF-R1, DTMF & Dial Pulse Signaling
- Dial Pulse Speed, Make/Break & Interdigit Time
- MF/DTMF Digit Timing, Twist & Skew
- Dial Tone Delay, Cadence, Frequencies & Level
- Hookflash & Line Unbalance
- Ringing Voltage, Frequency & Cadence
- Delay & Wink Start Signals
- Single Test Tone Frequency & Level

The AM8e is also capable of capturing and analyzing results in order to capture important digits and events. This, along with the precise, one-millisecond time stamping of digits and events, allows detection of even the most subtle problems.

AM8e E&M Adapter

The AM8e E&M Adapter replaces the protective front panel cover of the AM8e, providing convenient access to analog E&M signaling emulation, monitoring and analysis capabilities. The AM8e E&M Adapter is also compatible with the North American standards too! Simply attach the E&M Adapter to the LINE/TIMS Connector of your AM8e with the ribbon cable and you are ready to apply the same troubleshooting and testing power available for PCM and two-wire loop circuits. In combination with the AM8e, the E&M Adapter provides the following analog E&M capabilities:

- E&M Signaling Emulator/Monitor/Analyzer
 - E&M Types I through V, 2-Wire and 4-Wire
 - 4-Wire E&M (and 4-Wire PCM) and E&M
 - Programmable Signaling Protocols to Control E&M Leads
 - Digit Emulator/Monitor/Analyzer (MF-R1, MF-R2, VCFP #5, DTMF, Dial Pulse)
 - Complex Sequence Dialer
 - High/Low Thresholds for Capturing Erroneous Digits and Events
 - Precise One-Millisecond Time Stamping of Digits and Events
 - V Level, Frequency and Noise Measure
 - Battery and Dial Tone Generator
- Ameritec E&M signaling protocols are available and users may develop their own protocols.

T1/E1 Adapter

The AM8e T1/E1 Adapter replaces the protective front panel cover of the AM8e. The Adapter converts the AM8e E1 input/output to T1 input/output and accommodates both PCM1 and PCM2. With this Adapter the power of the AM8e protocols can be used in a T1 environment to allow test of very complex interface protocols. Additionally, an AM8e with this Adapter can also be used for standard T1 testing, significantly improving the utility and versatility of the AM8e.



AM8e with E&M Adapter.

NIST, ISO, EC, ANSI, NCSL, MIL-STD by www.raeservices.com

Detailed Digit, Event Analysis

When connected to a circuit, the unit will receive a calibration and/or repair quote RMA from R.A.E. Services Ltd. Click here >> www.raeservices.com/quote.htm

Up to 60 dialed digits and/or events (on hook, off hook, wink, etc.) are collected and displayed for each call.

By merely placing a cursor under the digit or event of interest, the operator can observe, on the second line of the display, all details associated with that event. For example, when observing a DTMF digit, the unit will display the time of the digit and its duration, as well as the measured high and low band frequency and level.

If the operator had previously entered good/bad thresholds, then any out-of-spec detail would be highlighted to the operator.

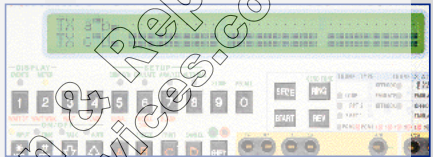
With each event in a complex sequence captured in detail, troubleshooting becomes a matter of *solving* the problem instead of *searching* for the problem.

Built-in Analog and PCM Testing

The ability to measure VF level, frequency and level, and to perform a variety of tests, are built into the AMSr. For an extensive listing, a PDF access port is provided.

The unit also provides a variety of non-intrusive PCM digital tests including bit and frame slips, CRC errors, and framing errors. A display of all 30 PCM channel A/B signaling bits can also be viewed for the transmit and receive directions.

All front panel test ports appear on the rear panel LINE/TIMS connector which simplifies integration into a test system.



Display of A/B signaling bits for all 30 EI time slots (transmit and receive).

Detailed Call Analysis

Time from off-hook to MF-R2 forward digit 8, level/freq. low tone, level/freq. high tone, and interdigit time/digit duration.

Dialed MF-R2 Digits (if followed by a background knowledge digit)

Out of Dialing Digits (Near End)

Near End On Hook

Far End Answer

Far End On Hook

ON/OFF Power Button

Volume control for speaker

Visual LED indicators to show configuration of unit.

Microphone to communicate over circuit under test

Connection of telephone handset for private conversations

Connection of external Transmission Impairment Measuring Set (such as Ameritec's AM5EXT)

RS232 Port for exception reporting & remote control.

Decoding of MF-R1, MF-R2, CCITT #5, DTMF and dial pulse digits without pre-determination of type.

Unit setup including emulation parameters.

Analyzer Thresholds and Auto Dial sequences

Scrolling across choices for setup menu

Scrolling up & down pages within each setup menu

Grouping of Direct Function Switches

Analog Loop Connection

Display Selection for Events or Voltmeter

Direct Entry Keypad

ON/OFF Toggles for connection to Trunk inputs & TIMS. Enable hands-free talk and auto send of start signal

Unit setup including emulation parameters.

Analyzer Thresholds and Auto Dial sequences

Scrolling across choices for setup menu

Scrolling up & down pages within each setup menu

Grouping of Direct Function Switches

Analog Loop Connection

Connection of external Transmission Impairment Measuring Set (such as Ameritec's AM5EXT)

RS232 Port for exception reporting & remote control.

Decoding of MF-R1, MF-R2, CCITT #5, DTMF and dial pulse digits without pre-determination of type.

• Built-in Speaker.

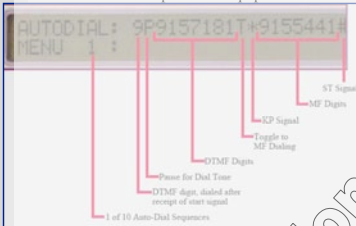
• Optional Battery Pack for 8 Hours Use

NIST, ISO, IEC, ANSI, NCSL, MIL-STD by www.raeservices.com

Complex Sequence Auto-Dialer

Through the front panel keypad or via a computer interface, the AM8e can store digits and events either manually or automatically. The stored sequence can be recalled, stored and later recalled for execution under the "autodial" function. One autodial sequence can "point" to another so that a complex dialing routine can effectively be hundreds of events long.

For example, the following sequence might be used to initiate test calls from a PABX station and use multiple signaling modes to reach and communicate with specialized equipment.



Simulated Voice Response System Test Call

PCM Drop & Insert

The AM8e provides two PCM ports with dual receivers and transmitters.

These ports can be used for passive



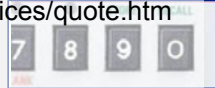
Dual PCM ports.

monitoring of a PCM span or the AM8e may be inserted in series with the PCM span for full duplex drop and insert testing of individual channels.

The AM8e can also be used for clock synchronization testing of PCM spans where one port is connected to a reference span while the second port is connected to the span under test.

Easy Setup

Commonly used AM8e test setups can be stored in the AM8e's non-volatile memories for later use. 20 non-volatile memories are available for instant recall of personalized AM8e configuration setups.



Easy setup store and recall.

An additional 20 memories are available for recall of transmit/analyze parameters. This is in addition to the previously mentioned memories for 10 auto-dial sequences plus last number redial.

High Tech, Small Size

The AM8e incorporates multiple digital signal processors and microprocessors in a highly compact portable package. The unit may be powered from commercial mains, where it automatically adjusts for compatibility with local line voltage and frequency, or it may be powered from an optional internal rechargeable battery pack. An optional RS232 port and aux port allows for automatic hard copy reporting and remote control. A 24-pin LINE/TIMS connector on the rear of the AM8e provides secondary access to all front panel connections and is useful for permanent AM8e installations in systems and other test equipment.



Rear of AM8e with RS232 ports for hard copy output and remote control.

NIST, ISO, IEC, ANSI, NCSL, MIL-STD by www.raeservices.com

Built-in Voltmeter

A dual multimeter with analog and digital display is provided. AC volts, DC volts, and frequency are fully featured. Separate functions for AC and DC current are provided for connections. PCM signal amplitude can be measured when using the AM8e in PCM mode.



Dual multimeter display showing battery and loop current measurements.

Portable or Rack Mount

No other signaling test set of this type is as full featured, small and convenient. About the size and weight of a telephone directory, it is easily transported from shop to field. For permanent installation, a rack mounting kit is available which will allow 19" relay rack mounting in only two rack increments (3 1/2" of space).



AM8e with manual, cables, cover, and optional soft carrying case.

European Community Standards

The AM8e is fully designed to meet the safety and emission standards of the European Community. The ce marked version of the AM8e is designated the AM8e (ce).

Accessories and Options

Provided

Optional Battery

An optional internal, rechargeable battery pack is available for fully portable "cordless" operation. The batteries are of sealed lead-acid type and require no maintenance. A front panel low battery indicator indicates when recharging is needed.

The built-in charger allows the batteries to be charged even while the unit is in operation.

Options

- 30-0056 AM8e E&M Adapter
- 19-0004 Protocol Development Kit (softtools® Assembler/linker & PC required)
- 24-0018 Internal Power Pack (Sealed Rechargeable Lead Acid Batteries) and Internal Charger. (included in the AM8e (ce)).
- 85-0233 19" Rack Mount Shelf.
- 48-0062 6 Ft. Bantam to Clip Input Cable.
- 48-0047 6 Ft. Bantam to Bantam Input Cable.
- 48-0048 6 Ft. Bantam to 310 Input Cable.
- 87-0070 Padded Carrying Case

NIST ISO IEC ANSI NCSL MIL-STD by www.raeservices.com

AM8e Technical

Specifications

LINE INTERFACES

Analogue Loop:

Trunk monitor or emulation of either the Switch or Subscriber interface.

Digital Circuits (PCM1 or PCM2)

2.048 Megabits/second Pulse Code Modulation (PCM). Conforms to CCITT Rec. G.703. Channel Associated Signaling. Two spans (ports) provided to support drop-and-insert channel. Line Coding: HDB3. CRC-4 is selectable.

Dialing

Supports any of these dialing modes with full digit set—1, 2, 3, 4, 5, 6, 7, 8, 9, 0, *, #, A, B, C, and (for DTMF only) D:

Dual Tone Multi-Frequency (DTMF)

Dial Pulse

Multi-Frequency-R1 — MF(R1)

Multi-Frequency-R2 — MF(R2) (PCM only)

CCITT System No. 5

Start Signaling

Immediate, Wink, Delay Dial, Dial Tone

Line Signaling

Detects And Generates: On Hook, Off hook, Wink, Flash, Unbalance (generate only), Ring, Reverse Battery

EMULATION

User-controlled parameters for circuit emulation. When shown as a range, parameters are selectable in unit steps unless noted.

Digital Ports

Impedance: 75 Ω at 2.048 Megabits/second
1575 provided in monitor cable for monitor mode

Office Battery

Voltage: 20 V to 72 V $\pm 2\%$

Current: 120 mA maximum (not selectable)

Analogue Loop

DC Loop Length: 0 to 2100 Ω , adjustable in 300 steps (At 2100 Ω Loop Length, AM8e cannot detect Ring Trip)

DC Hold Resistance: 10 Ω , 330 Ω , 430 Ω

AC Impedance: 150 Ω , 600 Ω , 900 Ω , 1200 Ω at 300 to 3300 Hz, 2.16 μF in or out (24 μF)

Ring Load: 0.68 μF in series with 2K Ω , 2W

Ring Generation

Voltage: 30 Vrms to 105 Vrms $\pm 4\%$ in 5 Vrms steps (At 2100 Ω Loop Length, AM8e cannot detect Ring Trip)

Frequency: 15.0 Hz to 70.0 Hz in 0.1 Hz steps

Ring Time: 5 to 100 milliseconds minimum

Cadence:

Rings: 1 to 3, individual on/off timers

Cadence: (Continued)

On Time: 0 to 5000 ms

Off Time: 0 to 5000 ms

Ring Time: Before thermal shutdown

Typical: 20 minutes

Call Progress Tones

Dial Tone Generation:

Low Frequency: 0, or 300 Hz to 3300 Hz

Low Freq. Level: -40 dBm to -3 dBm

High Frequency: 0, or 300 Hz to 3300 Hz

High Freq. Level: -40 dBm to -3 dBm

Cadence: 1 to 3, individual on/off timers

Cadence On Time: 0 to 9999 ms

Cadence Off Time: 0 to 9999 ms

Start Signals

Wink Begin: 15 to 999 ms

Wink Duration: 50 to 999 ms

Delay Begin: 15 to 999 ms

Delay End: 100 to 9999 ms

Dial Tone Delay From Seizure: 15 to 9999 ms

Dialing

Pulse Dialing:

Speed: 5 to 25 pps

Percent Break: 40% to 85%

Interdigit Time: 100 to 999 ms $\pm 2\text{ms}$

Accuracy at 10 pps: $\pm 0.7\text{pps}$ (40% to 76% break)

DTMF:

Low Band Frequencies: 600, 800, 852, 941 Hz

Low Band Offset: -5% to +5%, in 0.1% steps

Low Band Level: -40 dBm to -3 dBm

On Band Frequencies: 1209, 1336, 1477, 1633 Hz

High Band Offset: -5% to +5%, in 0.1% steps

High Band Level: -40 dBm to -3 dBm

On Time: 25 to 99 ms

Off Time: 25 to 99 ms

MF(R):

Frequencies: 700, 900, 1100, 1300, 1500, 1700 Hz

Low Freq. Offset: -5% to +5%, in 0.1% steps

Low Freq. Level: -40 dBm to -3 dBm

High Freq. Offset: -5% to +5%, in 0.1% steps

High Freq. Level: -40 dBm to -3 dBm

On Time: 25 to 99 ms

Off Time: 25 to 99 ms

MF(R2) Forward Signals:

Frequencies: 1380, 1500, 1620, 1740, 1860, 1980 Hz

Low Freq. Offset: -5% to +5%, in 0.1% steps

Low Freq. Level: -40 dBm to -3 dBm

High Freq. Offset: -5% to +5%, in 0.1% steps

High Freq. Level: -40 dBm to -3 dBm

Acknowledgement Timeout: 40 to 999 ms

Forward Signals:

Low Freq. Level: -40 dBm to -3 dBm

High Freq. Level: -40 dBm to -3 dBm

1140 Hz

Low Freq. Offset: -5% to +5%, in 0.1% steps

MF(R2) Backward Signals: (Continued)

Low Freq. Level: -40 dBm to -3 dBm

High Freq. Level: -40 dBm to -3 dBm

High Freq. Level: -40 dBm to -3 dBm

CCITT System No. 5

Frequencies: 2400Hz, 2600Hz

Frequency Offset: -2.0% to 2.0%, in 0.1% steps

Level: -30 dBm to -3 dBm

On Time: 10 ms min.

Tone Generation

Frequencies: 300 Hz to 3300 Hz

Level: -40 dBm to -3 dBm

Generation Accuracy (Unless otherwise specified)

Frequency: ± 1 Hz

Level: ± 1 dB

Time: ± 1 ms

ANALYSIS

User-controlled threshold parameters for event detection. Ranges shown are selectable in unit steps unless otherwise noted.

Flash

Minimum On Hook Time: 50 to 1250 ms

Disconnect

Minimum On Hook Time: 50 to 1250 ms

Call Progress Tones

First Frequency: 350, 440, 480, or 620 Hz

Second Frequency: 350, 440, 480, or 620 Hz

Frequency Tolerance: $\pm 0.2\%$

Minimum Level per Tone: -35 dBm to -3 dBm

Start Signals

Wink Begin: 15 to 999 ms

Wink Duration: 50 to 999 ms

Delay Begin: 0 to 999 ms

Delay End: 0 to 9999 ms

Dial Tone Receive: 0 to 999 ms

Special Dialing Commands

Wait for Dialtone

Wait for 3 Seconds

Wait for Wink

Wait for Unidentified Tone

Wait for Call Progress Tone

Wait for Single Frequency Tone

Wait for Answer

Wait for Busy

Change Dialing Type (d to DTMF, p to Pulse, m to MF R1, r to MFC R2)

receive a calibration and/or repair quote-RMA from R.A.E. Services Inc.
Click here>> www.raeservices.com/services/quote.htm

NIST, ISO, IEC, ANSI, NCSL, MIL-STD by www.raeservices.com

Tone Dialing (DTMF)

Frequency Tolerance: 0% to 3.5%, in 0.1%

steps

Accuracy: $\pm 0.2\%$

Allowable Twist: -12 dB to $+12$ dB

Min. On Time: 40 ms ± 5 ms

Min. Off Time: 25 ms ± 5 ms

Tone Dialing MF (R1)

Frequency Tolerance: 0 to 3.5%, in 0.1% steps

Accuracy: $\pm 0.2\%$

Level Range per Frequency: -30 dBm to -3

dBm

Allowable Twist: -12 dB to $+12$ dB

Min. On Time: 40 ms ± 5 ms

Min. Off Time: 25 ms ± 5 ms

Tone Dialing MF (R2)

Frequency Tolerance: 0 to 3.5%, in 0.1% steps

Accuracy: $\pm 0.2\%$

Level Range per Frequency: -30 dBm to -3 dBm

Allowable Twist: -12 dB to $+12$ dB

Min. On Time: 40 ms ± 5 ms

Min. Off Time: 25 ms ± 5 ms

CCITT System No. 5

Frequency Tolerance: 0 to ± 15 Hz

Accuracy: ± 1 Hz

Level Range: -30 dBm to -3 dBm

Allowable Twist: -10 dB to $+10$ dB

Min. On Time: 60 ms ± 5 ms

Pulse Dialing

Speed Range: 5 to 25 pulses/second

Percent Break: 40% to 85%

Accuracy at 10 pps: ± 0.2 pps (40% to 75%

break $\pm 2\%$)

Interdigit Time: 120 to 999 ms ± 5 ms

Tone Threshold

Level Threshold: -40 dBm to 0 dBm

On/Off Hook Threshold

Level Threshold: 2 to 60 V

Accuracy: $\pm 3\%$ ± 0.7 V

Measurement Accuracy

(unless otherwise specified)

Frequency: ± 1 Hz

Level: ± 1 dB

Timing: ± 2 ms

Guard Time: 0 to 99 ms (for all tones)

METER MEASUREMENTS

Analog AC Volts

Range: 0 to 130Vrms $\pm 2\%$, ± 1 Vrms 2 (0°C - 50°C)

(DC offset < 75V, crest factor < 1.6) (15 to 75 Hz)

Loop Start: Tip-Ring¹, Tip-Ground², Ring-

Ground², Common mode Tip-Ring²

Analog DC Volts

Range: -150 V to $+150$ V $\pm 2\%$, ± 1 V over 0°C -

50°C range

Loop Start: Tip-Ring¹, Tip-Ground², Ring-

Ground², Common mode Tip-Ring²

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

5 to 180mA $\pm 2\%$, ± 1 mA (72 Vdc MAX)

GENERAL

Size: 8.3"W X 3.5"H X 12.1"D

Weight: 7.5 lb, 12 lb with battery option

Shipping Weight: 20 lb, 25 lb with battery option

Temperature: 0 to 50°C (32 to 122°F)

Humidity: 10 to 90% non-condensing

AC, 50 to 60 Hz, 45 Watts. If <100VAC AMide will work

with 3REN or less.

COMMUNICATIONS PORT

RS232C: Up to 9600 Baud, (2400 for AM8e (ce)),

selectable parity

Printing: Sel-ups, Events, Meters

OPTIONS

Battery: Sealed lead acid battery and charger.

Runs up to 8 hours of portable use before

recharging. Recharges in 8 hours or less at 25° C.

ACCESSORIES

For Case

Back Mount

AM8e E&M ADAPTER

Termination Impedance: 600 ohm

High Impedance Monitor: > 200k ohm

DC Battery Voltage: 20 V to 72 V $\pm 2\%$

DC Battery Current: 120 mA maximum (not

selectable)

Power Requirements: Powered by AM8e

When calibrated with a host AM8e, the E&M

Adapter has the signaling and transmission

characteristics of an AM8e

Not usable with the AM8e (ce)

T1/E1 Adapter

Inputs: PCM1 and PCM2

Modes: Monitor or Emulate

T1

Rate: 1.544 MB/S

Framing: D3/D4 or ESF

Zero Suppression: AMI, B8Zs or CZS

Voice Encoding: μ -law or A-law

Impedance: 100 ohms at 1.544 Mb/s Bipolar

PCM

Cables: Padded cables required for monitor,

padded and terminated cables required for termi-

nate: cables included with unit

E1

Compatible with AM8e

Power Requirements: Powered by AM8e

All specifications subject to change

without notice

* Protection Circuits assume a source

impedance >300 Ω to limit current.

1. Common mode AC plus DC voltage < 100V peak

2. Common mode AC plus DC voltage < 10V peak

3. Measurements are displayed as peak voltage at

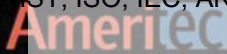
the RX point.

4. Event details display of ringing is 0 to 130Vrms

$\pm 3\%$, ± 1 Vrms over 0°C - 50°C range.

Give a calibration and/or repair quote-RMA from R.A.E. Service
Click here >> www.raeservices.com/services/quote.htm

ST, ISO, IEC, ANSI, NCSL, MIL-STD by www.raeservices.com



760 Arrow Grand Circle • Covina CA 91722 • +626 915 5441 • www.ameritec.com