AM5 Classic and AM5e Classic

Voice/Data Transmission Test Set

The Classic Response to your Wideband Analog Transmission Testing Needs
Introduction
Ameritec’s AM5 Classic and AM5e Classic Wideband Transmission Test Sets are your best balance of features versus cost. They are engineered for peak performance in the field and in the lab. The AM5 Classic and AM5e Classic are easy to use, yet offer a full range of transmission impairment measurements and a highly versatile signal generator in a single compact, portable unit.

Ease of Operation
The Classic instruments were designed in response to requests from technicians in the field. Real life applications were evaluated in order to produce instruments which are powerful yet easy to use. The front panel is divided into easy to locate and easy to read areas for each of the major instrument functions. Simple selection keys are provided for all measure, filter, send, and termination functions. The operator can view the configuration of the instrument at a glance.

This compact, lightweight instrument fits anywhere. Use the basic unit as a bench-top laboratory instrument, or, with the addition of an internal battery pack and soft case, as a field instrument with the capacity for six hours of uninterrupted use.

A Wide Variety of Measurements
The instrument operating bandwidth is 20 Hz to 120 kHz, and optionally to 200 kHz, for qualifying voice band telephone circuits, high quality audio (program) and data circuits, video and even analog circuits used to carry 56 kbps and 64 kbps digital, basic rate ISDN, and HDSL transmission. Employing self-test and self-calibration circuitry, the Classic instruments are manufactured to the highest standards.

The Classic performs all basic voice/data analog transmission tests for 2-wire and 4-wire applications. All measurements are fully auto ranging and may be viewed on the bright LED display. A built-in speaker allows the operator to audibly monitor either the send or receive line to subjectively evaluate the line under test.

IEEE 743-1984 Standards • CCITT Recommendations • dBm Level • dB Loss • Frequency • Frequency Response (Attenuation Distortion) • Noise (Wideband or with Filters) • S/N Ratio (Wideband or with Filters) • Noise to Ground (Wideband or with Filters) • Impulse Noise (Wideband or with Filters) • 200kHz Extra Wideband Option

If you are not now qualifying subscriber circuits for BRI ISDN, HDSL, or 56/64 kbps data, you may soon be faced with just such a prospect. The Classic instruments are available with an optional operating bandwidth of 20 Hz to 200 kHz. The Sweep function can be programmed to automatically perform an extra wideband sweep across the 20 Hz to 200 kHz bandwidth while simultaneously measuring level and frequency across the same bandwidth. A 160 kHz flat filter is added for wideband noise measurements.

User Friendly
The Classic provides the following user friendly features:
• Compact size and light weight.
• 100% digital control of all measure, filter, send, and termination functions.
• Maintenance free, sealed, lead acid batteries (option) without the “memory” problem of NiCad batteries.
• Built-in selectable 2.16 µf termination in series with selected impedance.
• Dialing capability provided by front panel binding posts for lineman’s test set.

Fully Programmable Signal Generator
Any frequency in the 20 Hz to 120 kHz band (optionally to 200 kHz) can easily be selected at any level from -50 dBm to +13 dBm. The following preset modes are available:
• 1004 Hz
• Variable Hz (User Programmable)
• Four user programmable frequencies (Preset to 404 Hz, 1004 Hz, 2804 Hz, and 2713 Hz in AM5 Classic; preset to 304 Hz, 1004 Hz, 2004 Hz, and 3004 Hz in AM5e Classic)
• Frequency Sweep (with or without SF Skip)

The Classic operates in a full duplex mode with the ability to simultaneously send signals and measure received signals. Separate send and receive terminations and separate On Hook/Off Hook DC Hold circuits are provided. All test tones meet industry standards for purity and accuracy.
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IEEE 743-1984 Standards X
CCITT Recommendations X
dBm Level X X
dB Loss X X
Frequency X X
Frequency Response (Amplitude Distortion) X X
Noise (Wideband or with Filters) X X
Noise with tone (Wideband or with Filters) X X
S/N Ratio (Wideband or with Filters) X X
S/N Ratio to Ground (Wideband or with Filters) X X
Impulse Noise (Wideband or with Filters) X X

200kHz Extra Wideband Option

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Accessory Covers

Several “units in a lid” are available for use with the AM5 Classic.

The 30-0033XT provides Loop Start, Ground Start, DID and Types I, II and III E&M signaling. The adapter incorporates a ring generator with manual cadence selection and automatic ring trip. The unit also supplies both 24 and 48 VDC loop supply voltage with a switch to allow for simulation of a 1240 ohm loop resistance.

The 30-0070S provides CSU loopback, DSU Non-Latching loopback, DSU Latching loopback and a manual (or forced) loopback. Secondary Channel is supported for all modes of loopback. SW56 testing can also be performed using an external butt set to provide on/off hook and pulse dial functions. Far end signaling (wink, delay, answer) is indicated via a front panel LED.

The 30-0070 is the same as the 30-0070S, but, without SW56 capabilities.

Optional Battery

An optional internal, rechargeable battery pack is available for full portable “cordless” operation. The batteries are of the sealed lead acid type and require no maintenance. A front panel low battery indicator indicates when recharging is needed. The built-in charger will charge the batteries while the unit is in operation.

Options

24-0017 Internal Power Pack (Sealed Rechargeable Lead Acid Batteries) and Internal Charger
25-0041 “Siemens” Type Line Test Connections

Accessories

30-0033XT Signalling Adapter with Ring Generator Cover
30-0070 DDS Loopback Test Set Cover
30-0070S DDS/SW56 Loopback Test Set Cover
87-0070 Padded Soft Carrying Case
85-0076 19” Rack Mount Kit
85-0233 19” Rack Mount Shelf for Classic with 25-0041 Adapter
48-0062 6 Ft. Bantam to Clip Cable, 2 Req’d
48-0047 6 Ft. Bantam to Bantam Cable, 2 Req’d
48-0048 6 Ft. Bantam to 310 Cable, 2 Req’d
85-0078 Protective Front Panel Cover

Portable or Rack Mount

About the size and weight of a telephone directory, the Classic is easily transported from lab to field. A rack mounting kit is available which will allow 19” relay rack mounting in only two (2) rack increments of space.

Available Models

AM5-C-120 AM5 Classic, 120 kHz, IEEE
AM5-C-200 AM5 Classic, 200 kHz, IEEE
AM5-EC-120 AM5e Classic, 120 kHz, CCITT
AM5-EC-200 AM5e Classic, 200 kHz, CCITT

Provided

Model AM5 Classic or Model AM5e Classic, power cord & instruction manual.
Filters:

- Average
- Detector: 
- Resolution: ± .1 dB @ 1004-1020 Hz @ 0 to 100 Hz
- Sensitivity: ±5 to ±10 dBm with S/N Ratio > 20 dB

Detector: Average

Filters (AM5 Classic) 120 kHz Lo Pass, 15 kHz Lo Pass, 60 Hz Hi Pass

- Frequency Range: 20 Hz to 120 kHz
- Resolution: ± .1 dB @ 1004-1020 Hz @ 0 to 100 Hz
- Sensitivity: ±5 to ±10 dBm with S/N Ratio > 20 dB

Detector: Average

Filters (AM5 Classic) 120 kHz Lo Pass, Sound UnWTD [J.16], 60 Hz Hi Pass

- Frequency Range: 20 Hz to 200 kHz
- Resolution: ± .1 dB @ 1004-1020 Hz @ 0 to 100 Hz
- Sensitivity: ±5 to ±10 dBm with S/N Ratio > 20 dB

Detector: Average

About Ameritec

Ameritec Corporation is a micro-electronics design and manufacturing company located in the Greater Los Angeles area.

Dedicated to the special testing needs of the telecommunications industry, we proudly offer products which employ the latest microcomputer techniques. Everything we produce is highly sophisticated in circuitry and software, yet is easy to use because of the degree of "human engineering" incorporated into the design. All specifications subject to change without notice.
Technical Specifications

20 Hz to 120 kHz Bandwidth

LEVEL FREQUENCY

Transmitter:
Var Mode: 20 Hz to 120 kHz Lo Pass, 10 Hz to 100 Hz Steps
1004 Hz Fixed
F1, F2, F3 & F4: (AM5 Classic) 404, 1004, 2004, 2713 Hz
(AM5 Classic) 304, 1004, 2004, 3004 Hz
Sweep Mode: Start Freq: 20 Hz-120 kHz
Step Freq: 20 kHz-120 kHz
Step Size: *1 Hz-1 99.9 Hz
Step Dwell: 1/4 Sec-99.9 Sec
Inter Sweep Delay: 1/4 Sec-99.9 Sec
SF Skip: (AM5 Classic) 2400-2750 Hz
(AM5e Classic) 2130-2430 Hz
Frequency Accuracy: ± 0.1%
Level Range: 50 dBm to +3 dBm
Resolution: 1 dB
Accuracy:

<table>
<thead>
<tr>
<th>Freq Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 3.0 MHz</td>
<td>±0.1 % of reading ±1</td>
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Note:
*Accuracy not specified below 400 Hz with 135 ohm or 150 ohm impedance.*

Resolution/Accuracy:

<table>
<thead>
<tr>
<th>Frequency Range</th>
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