



Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

*InstraView*SM REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at www.instraview.com ↗

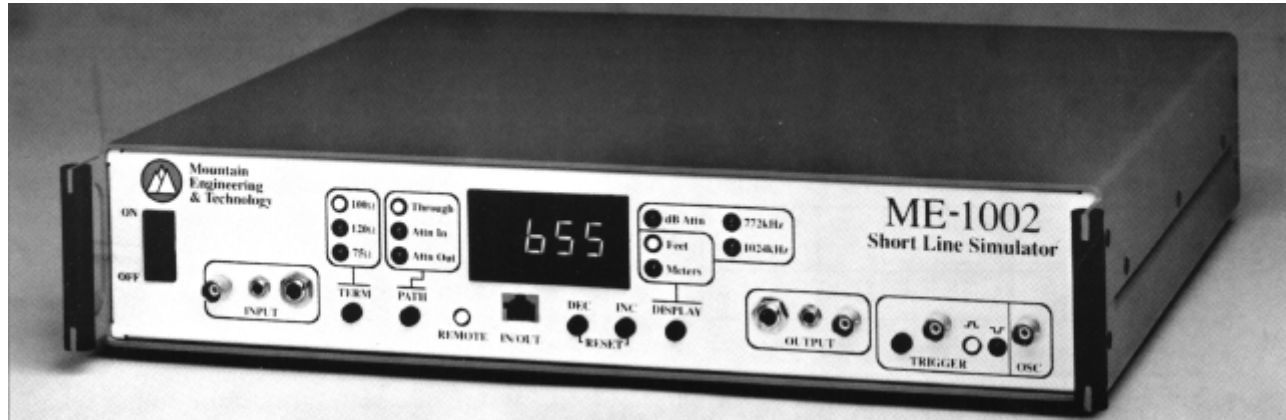
WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. www.artisanng.com/WeBuyEquipment ↗

LOOKING FOR MORE INFORMATION?

Visit us on the web at www.artisanng.com ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

Contact us: (888) 88-SOURCE | sales@artisanng.com | www.artisanng.com



Features

- Simulates #22AWG (0.7mm) PIC/ABAM unshielded twisted-pair (UTP) and 75W coaxial transmission line
- Selectable line length for DSX-1/E1 pulse mask testing: 131, 262, 393, 524, and 655 feet
- Selectable attenuations from 0dB to -18dB for input sensitivity testing
- Simulates over 1200m of 75W coax in 40m increments
- Dedicated 50W oscilloscope signal output
- Smart Trigger™ output for stable viewing of both positive and negative data pulses
- Remote control of all functions via standard RS-232 port
- Accepts Bantam, 310, RJ-48 and coaxial connectors

Compatibility

- US and European AMI-PCM codes

Applications

- Facilitates fast, easy, and accurate ANSI/CCITT pulse mask testing
- Enhances design, test, and troubleshooting productivity by eliminating spools of wire and patch panels
- Allows automated testing of office repeaters, DSX channel banks, and other telecom equipment

- DSX-1/T1 - 1.544Mb/s
- DS1C/T1C - 3.152Mb/s
- DS2/T2 - 6.312Mb/s
- CEPT/E1 - 2.048Mb/s
- CEPT - 8.448Mb/s

- ISDN primary rate standards, 1.544Mb/s and 2.048Mb/s
- Manchester coded data from 100kb/s to 10Mb/s

2.048Mb/s data rates.

In addition to simulating transmission lines, the ME-1002 provides a dedicated 50W signal output and a corresponding Smart Trigger™ output for easy and accurate oscilloscope viewing and mask verification of individual data pulses. To facilitate use in automated test environments, all ME-1002 functions can be operated either by front panel controls or through computer control via a standard RS-232 serial port. Options include a rack-mount chassis, battery back-up and an internal noise mixer.

Operating Specifications

(Valid at all attenuation settings, test signal (f₀)=772kHz and 5°C < T_{ambient} < 40°C unless otherwise stated)

Input

Terminating Impedance 100w/120w/75w, ±5%

Recommended Frequency Range..... 10kHz to 10MHz

Maximum Balanced Input Voltage,

100w/120w Inputs, Zero to Peak ±6V

75w Input, Zero to Peak ±5.4V

Maximum Balanced DC Input Current,

Input Center-Tap to Output Center-Tap .. 70mA

Output

Sourcing Impedance 100w/120w/75w/50w, ±5%

Maximum Rise/Fall Time At 0dB,

V_{IN} = 3V_{PEAK}, 10% to 90% < 40nsec

Maximum Overshoot At 0dB,

V_{IN} = 3V_{PEAK} < 5%

Maximum OSC Output Voltage,

RTERM = 50w ±5V

Short Circuit Tolerance Continuous

Length/Attenuation Settings

Output Pulse Mask Testing

(100w/120w Line, f₀=772kHz)

| Min Length (ft) | Max Length (ft) | Step Size (ft) | Accuracy (ft) |
|--------------------|--------------------|-------------------|------------------|
| 0 | 655 | 131 | ± 30 |

Input Sensitivity Testing

(100w/120w Line, f₀=772kHz)

| Min Atten. | Max Atten. | Step Size | Accuracy |
|------------|------------|-----------|----------|
| | | | |

Length/Attenuation Accuracy

Length/Attenuation tolerance at f₀ with display settings:

100w/120w Line

(Except 0 to 655ft. See Length/Attn Setting Table)

dB (f₀ = 772kHz/1024kHz)..... ± 0.25dB

Feet (f₀ = 772kHz)..... ± 50ft

Meters (f₀ = 1024kHz) ± 15m

75w Line

dB (f₀ = 772kHz/1024kHz) ± 0.25dB

Feet (f₀ = 772kHz) ±

70ft

Meters (f₀ = 1024kHz) ± 20m

| | | | |
|------|------|------|--------|
| (dB) | (dB) | (dB) | (dB) |
| 0 | 18.0 | 0.58 | ± 0.25 |

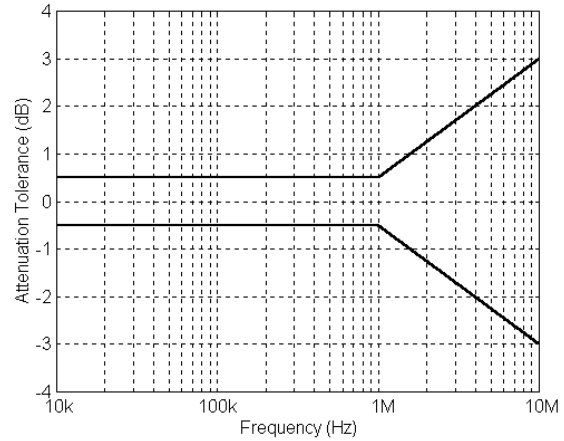
Attenuation tolerance at all other frequencies (100w/120w and 75w lines) relative f_0 is given by the following graph:

75W Simulation ($f_0 = 1.024\text{MHz}$)

| Min Length (m) | Max Length (m) | Step Size (m) | Accuracy (m) |
|-------------------|-------------------|------------------|-----------------|
| 0 | 1240 | 40 | ± 20 |

All line settings may be displayed as dB of Attenuation (at 772kHz or 1024kHz), Feet, or Meters.

Displayed length settings are rounded to the nearest foot or meter. Displayed attenuation settings are rounded to the nearest 0.1 dB.



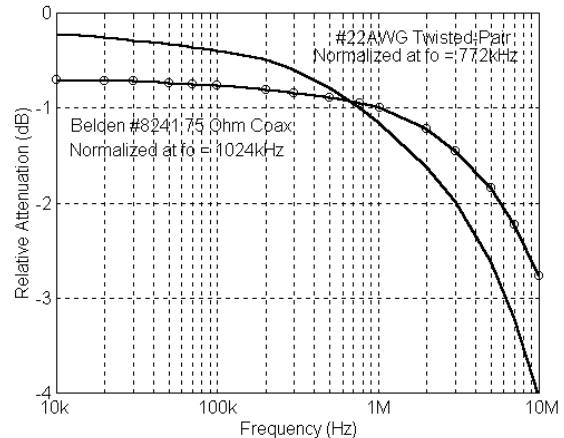
Attenuation Characteristics

Frequency dependent attenuation of the 100w/120w line simulates #22AWG (0.7mm) PIC (ABAM) unshielded twisted-pair wire at 20°C. The following table shows relative attenuation A_{Rel} versus frequency normalized at $f_0 = 772\text{kHz}$.

| | | | | | | | | |
|----------------|------|------|-------|------|------|------|------|------|
| Freq. (kHz) | 10 | 20 | 30 | 50 | 70 | 100 | 200 | 300 |
| A_{Rel} (dB) | .700 | .712 | .720 | .736 | .748 | .762 | .810 | .846 |
| Freq. (MHz) | .500 | .772 | 1.024 | 2.0 | 3.0 | 5.0 | 7.0 | 10.0 |
| A_{Rel} (dB) | .890 | .946 | 1.0 | 1.22 | 1.45 | 1.85 | 2.23 | 2.77 |

| | | | | | | | | |
|----------------|------|------|-------|------|------|------|------|------|
| Freq.(kHz) | 10 | 20 | 30 | 50 | 70 | 100 | 200 | 300 |
| A_{Rel} (dB) | .225 | .260 | .291 | .332 | .359 | .393 | .495 | .602 |
| Freq. (MHz) | .500 | .772 | 1.024 | 2.0 | 3.0 | 5.0 | 7.0 | 10.0 |
| A_{Rel} (dB) | .785 | 1.0 | 1.16 | 1.62 | 1.98 | 2.62 | 3.21 | 4.04 |

Frequency dependent attenuation of the 75W line simulates Belden # 8241 coaxial cable at 20°C. The following table shows the relative attenuation A_{Rel} versus frequency normalized at $f_0 = 1024\text{kHz}$.



Typical Applications

Available Options

Power Supply: Available for 100V, 120V or 240V power supplies.

Chassis: Available in Bench-Top or 19" Rack-Mount chassis.

Battery Back-Up: Allows the ME-1002 to return to its last operating front panel settings on power-up.

Noise Mixer: Allows a noise signal to be mixed with the input signal at -18dB relative to the input signal.

The noise mixer satisfies CCITT G.703 Section 6 requirements.

General Specifications

Power input voltage:

Option A 105V to 130V

Option B 210V to 250V

Option J 90V to 110V

Power input frequency 45Hz to 66Hz

Power consumption 10W

Dimensions (w x h x d in inches) 17 x 3.5 x 14

Weight 13 lbs

Storage temperature -40°C to 85°C

Ordering Information

Transmission Line Simulator: ME-1002-A-1CD

Options: A - 120V supply _____

B - 240V supply _____

J - 100V supply _____

1 - Bench-top chassis _____

2 - Rack-mount chassis _____

C - Battery back-up _____

D - Noise mixer _____



Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

*InstraView*SM REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at www.instraview.com ↗

WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. www.artisanng.com/WeBuyEquipment ↗

LOOKING FOR MORE INFORMATION?

Visit us on the web at www.artisanng.com ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

Contact us: (888) 88-SOURCE | sales@artisanng.com | www.artisanng.com