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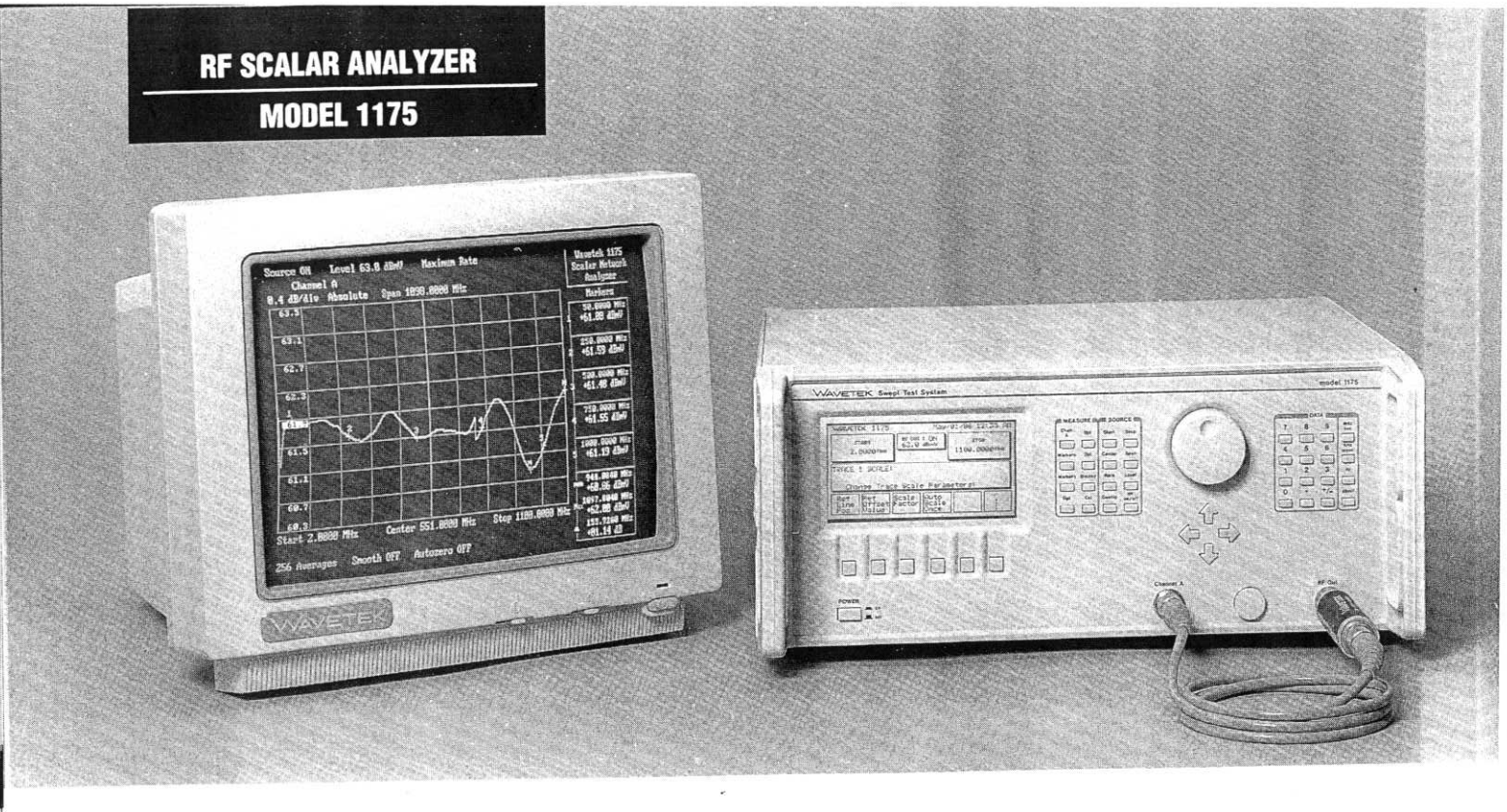
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Find the *VIAVI Solutions / JDSU / Wavetek Benchmark 1175* at our website: ***Click HERE***

RF SCALAR ANALYZER

MODEL 1175



Benchmark 1175

The Wavetek Benchmark 1175 Bench Sweep System (scalar analyzer) provides highly accurate swept response measurements of transmission loss, return loss, and absolute power for cable TV systems, and cable equipment repair and production test facilities. The instrument combines in one unit both a synthesized source (2 to 1100 MHz) and scalar analyzer. An LCD status display makes system control easy. Swept response information, along with alpha-numeric marker information, is displayed on a large, easy to read color VGA (Video Graphics Adapter) display. The Benchmark's new fast switching synthesizer sweeps 500 points in as little as 100 milliseconds, providing digital precision along with the "real time" feel of an analog display. Since the 1175 is fully synthesized, frequency accuracy is superior to non-synthesized sweep systems.

Color VGA Monitor

The Benchmark's high resolution color display produces easy to read measurement results. The operator may choose between five different display color settings, and may designate colors for specific traces. Limit blocks may be defined with up to 7 segments, to make alignment and go/no-go testing simple. The response trace changes color when it comes in contact with the limit block, clearly indicating an out of tolerance condition.

Two traces may be displayed at once, one being a "golden" (stored reference) trace, for quick comparison with the stored reference. In split screen mode, two separate traces may be displayed, along with two separate "golden" traces.

Measurement Simplicity

Up to 5 markers may be positioned at user defined frequencies, with amplitude and frequency information provided in blocks on the right side of the display. If more than one trace is displayed the marker information will be presented in the same color as the trace on which it resides. The fully synthesized markers provide a better frequency accuracy than other marker systems.

Normalization

To make response measurements extremely accurate, the Benchmark can perform normalized measurements that eliminate the response of the test equipment, cables and adaptors. A "path calibration" is performed without the device under test in the circuit, storing the response in non-volatile memory. Successive measurements may be made in the "relative" level mode, with marker readouts indicating the change in level between the stored reference and the current test trace.

Up to three different "golden" reference traces may be stored in non-volatile memory to be used when it is desirable to make a direct comparison for test or alignment. The golden trace may be displayed along with the test trace, or the test trace may be a normalized comparison response that indicates the difference between the test trace and the golden trace. Normalization makes tests easier in that no mental calculations must be made to get the measurement result. Markers may be set up to readout in absolute or relative level - gain and loss measurements may be read directly from the response display.

Power Meter Accuracy

The power sensors for the Benchmark 1175 feature dual balanced, zero bias low barrier schottky diodes. These sensors will perform power measurements to +69 dBmV. In addition to accuracy, a flat frequency response, broad frequency range and fast sweep time are benefits of this technology.

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RF SCALAR ANALYZER
MODEL 1175

Control Simplicity
A backlit dot matrix (256 by 128) LCD, in addition to showing current system status, provides soft key menu instructions. Different parameters may be keyed in directly, or controlled with a spin knob or directional arrow keys. System diagnostics displayed in this area provide information regarding the instrument's working status.

Self Diagnostics and Autocal
The Benchmark gives itself a check-up every time you turn it "on". It performs diagnostic checks of its microprocessors and other digital control circuitry, as well as, basic operational checks on phase-lock circuitry and other parameters.

Modular Construction
The Benchmark 1175 features modular construction. Digital, display and RF assemblies are contained in rear panel slide out modules. This feature provides for easy check-out, service and repair. Spare modules may be installed to keep the instrument in service while repairs are made on the defective module.

Programmability
The Benchmark 1175 has a full functioning GPIB conforming to IEEE-488.1, IEEE-488.2, and SCPI interface standards. This makes the system adaptable to existing ATE systems, and simplifies ATE system design.

MEASUREMENT
Modes: Measures and displays in dB for swept transmission and return loss characteristics. Power is displayed in dBmV.
Inputs: One input: insertion loss/gain or return loss.
Dynamic Range: 55 dB (+8 to +63 dBmV). Noise floor typically less than -13 dBmV.
Normalization: Swept frequency levels and open/short reflections are stored during normalization process, 1500 points for the trace response are stored with 0.01 dB resolution over the user defined frequency range. Normalization data is automatically interpolated for ranges less than the original normalized range.
Markers: Five markers are generated by the microprocessor. Frequency and level information is displayed.
Marker Resolution: (f_{stop}-f_{start})/500 (one pixel)
Marker Accuracy: The greater of: ±(f_{stop}-f_{start})/1000 or ±0.0005% (5 ppm)
Save/Recall: 10 sets of front-panel settings can be stored for later recall.
Status Display: An LCD dot matrix display provides status of all instrument settings.
Averaging: Successive measurements may be averaged to reduce effects of noise on measurements. Averages of 2, 4, 8, 16, 32, 64, 128, and 256 samples per point may be entered. Adaptive averaging may also be selected.
Limit Blocks: 7 segment limit blocks may be entered for the displays. User defined Pass/Fail areas speed testing.
Sweep Time: Min: 100 msec Max: 250 sec
System Memory: 10 stored settings (complete front panel, sources, display). Golden trance: 3 stored golden trace memories.

FREQUENCY
Range: 2 - 1100 MHz
Resolution: 100 Hz
Accuracy, 0-50°C: 0.0005% (5 ppm)
Stability, aging: Less than 2 ppm/year

SPECTRAL PURITY
Harmonics: -30.0 dBc (level: +57 dBmV)
Sub-harmonics: -50.0 dBc (level: +57 dBmV)
Spurious: -50.0 dBc (level: +57 dBmV)
FM: 1.0 kHz rms (0.3-3.0 kHz PDBW, CW mode)

MEASUREMENT
Frequency range: 2 - 1100 MHz
Accuracy vs. frequency: ±0.5 dB
Sensor linearity: ±(0.1+0.01 dB/dB) +63 to +8 dBmV measured at 50.0 MHz
Impedance: 75 Ω
SWR: 1.15:1.00
Detection Type: DC
Maximum Sensor Input: +70 dBmV
Sensor Type: Balanced dual diode
Calibrator Type: Thermistor
Calibration Frequency: 50 MHz

RF OUTPUT
Level range: +63.0 dBmV to -24.0 dBmV
Level resolution: 0.1 dBmV
Level accuracy: ±1.5 dB (flatness)
Source impedance: 75 Ω
Output connector: 75 Ω type "N", female
SWR: 1.5:1.0 at RF outputs below 46 dBmV.

EXTERNAL REFERENCE INPUT (REAR PANEL)
Frequency: 10.0 MHz
Impedance: 50 Ω
Minimum Input Level: 0.350 Vp-p
Maximum Input Level: 6.000 Vp-p
Waveform: Sine or Square wave

INTERNAL REFERENCE OUTPUT (REAR PANEL)
Frequency: 10.0 MHz
Minimum Voltage Out: 0.5 Vp-p
Impedance: 50

GENERAL
Dimensions (main unit): 19 cm (7.5 in.) High; 42.86 cm (16.875 in.) Wide; 41.28 cm (16.25 in.) Deep
Weight (main unit): 12.72 Kg (28 lbs.) net; 14.55 Kg (32 lbs.) shipping
Weight (VGA monitor): 11.82 Kg 26 lbs.) net; 14.09 Kg (31 lbs.) shipping

POWER REQUIREMENT
Main Unit: 85-264 VAC; single phase; 47-62 Hz
Display: 120 V; 60 Hz; 0.9A
Calibration Interval: After calibration, the Model 1175 will meet each performance requirement within the tolerance specified for a period of at least 12 months.

REMOTE OPERATION
Interface: GPIB IEEE-488.1, IEEE-488.2, Conforms to SCPI interface standard
Control: All functions except AC power on/off
Functions: SH1, AH1, T6, TE0, L4, LEo, SR1, RL1, RR0, DC1, DT1, C0, E2

For more information on Wavetek RF Scalar Analyzer call 1-800-245-6356 or use the information request card in this catalog.

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