interface (RS-232) for the connection of a printer or barcode reader is available in addition; a user-definable parallel interface allows direct connection of component feeders.

Extras

- **Option 10:** output attenuator up to 70 dB
- **Option 20M:** frequency range extension up to 20 MHz
- **Option 70:** time domain analysis

3-port test sets (R396x series) facilitate measurements on 3-port devices, eg duplexers, without having to change the cabling. Software for various applications is available for automatic test routines, eg for duplexers, filters, TDR measurements on coaxial cables for finding faults and for the use of customer-specific calibration sets.

Application Software TDANT
Software for measurement of VSWR, gain, horizontal and vertical patterns of antennas with the aid of a rotary mast or turntable.

Specifications in brief

Measurement functions	
Number of measurement channels	models A/B: 2 channels/4 traces model C: 4 channels/8 traces
Measurement settings	
AH models	A/R, B/R, A/B, A, B
BH models	transmission, reflection
CH models	S11, S12, S21, S22, S11&S21, S22&S12
Display formats	log/lin amplitude, phase, group delay, real and imaginary part, |Z|, R,X, |Y|, G, B
Smith chart	marker display for log/lin amplitude, phase, real and imaginary part, R + jX, G + jB,
Polar coordinates	marker display for log/lin amplitude, phase, real and imaginary part
Signal characteristics	
Frequency range, resolution	40 MHz to 3.8 (8) GHz, 1 Hz
with option 20	up to 20 MHz
Accuracy (25 ±5°C)	±20 ppm
Output level	see overview of models
Resolution	0.01 dB
Accuracy (50 MHz, 25 ±5° C)	0.5 dB
Frequency response (25 ±5°C)	2 dB (V_{pp})
Impedance	50 Ω
Signal purity	
Harmonic distortion	<–20 dBc (40 MHz to 3.8 GHz, max. output power)
Nonharmonic distortion	<–25 dBc (40 MHz to 3.8 GHz, max. output power)
Phase noise (10 kHz offset, 1 kHz RBW)	(–85 dBc +20 log (f/40 MHz)) dBc
Sweep characteristics	
Parameters	frequency, level
Range	full frequency range or full level range depending on model
Sweep mode	linear frequency or level sweep; user-defined
Sweep time	0.15 ms/testpoint with normalization 0.25 ms/testpoint with 2-port calibration
Testpoints	3, 6, 11, 21, 51, 101, 201, 301, 601, 801, 1201
Trigger	continuous, single, external
Receiver characteristics	
Input	N connector, 50 Ω
Maximum input level	0 dBm (models A/B) +15 dBm (model C)
Noise level	with maximum input signal –90 dBc at RBW=3 kHz –100 dBc at RBW=10 kHz
Resolution bandwidth	10 Hz to 10 kHz in 1 to 3 steps
Input crosstalk	
R3765 (<3.8 GHz)	–90 dB
Model C (2.6 to 3.8 GHz)	–85 dB
R3767 (<5 GHz)	–80 dB (model C: –70 dBm)
R3767 (<8 GHz)	–70 dB (model C: –60 dBm)
Directivity	
<2.6 GHz	–30 dB
<3.8 GHz	–26 dB
<8 GHz	–22 dB
Amplitude measurement	
Resolution	0.001 dB
Accuracy	
–10 dBm, 50 MHz, 25 ±5°C	±0.5 dB
Amplitude response	max. input level –20 dB
–10 to –60 dBm	±0.05 dB
Phase measurement	±180°
Resolution	0.01°
Frequency response	±5°
–10 to –50 dB	±0.3°
Group-delay measurement	1 ps to 250 s
Resolution	1 ps
Display	see overview of models
Markers	up to 10 independent markers + delta marker with the option of showing all markers in a list
Automatic search function	min, max, bandwidth, etc. SWR, filter parameters
Data transfer	
Built-in BASIC controller	provided as standard, high-speed evaluation functions for essential trace points through direct data access; control of external devices via IEC/IEEE bus
Disk drive	3.5", 720 Kbyte (DD), 1.44 Mbyte (HD)
External interfaces	15-pin VGA IEC bus (IEEE 488.2, SCPI) RS-232 (for BASIC controller only)
Parallel interface	24 bit, 2 x TTL 8-bit output, 2 x 4-bit input/output for BASIC applications; PS2 connector for US keyboard
External reference frequency	1, 2, 5, 10 MHz, >0 dBm
General data	
Power supply, AC	100 to 240 V, 48 to 66 Hz, max. 300 VA
Dimensions (W x H x D)	424 mm x 220 mm x 400 mm
Weight	16 kg

Ordering information

Vector Network Analyzers	R3765, R3767