Waverunner-2 Oscilloscopes
Specifications

Vertical System	LT374 / M / L	LT372	LT264/M	LT262
Input Channels	4	2	4	2
Analog Bandwidth @ 50 Ω (-3 dB)	500 MHz	500 MHz	350 MHZ	350 MHz
Hardware Bandwidth Limits	20 MHz or 200 MHz			
Input Impedance	50 Ω ± 1%; 10 MΩ /12 pF typical (using PP006 probe)			
Input Coupling	1 MΩ: AC, DC, GND; 50 Ω: DC, GND			
Maximum Input	50 Ω: 5 Vrms; 1 MΩ: 400 Vmax (peak AC ≤ 5 kHz + DC)			
Vertical Resolution	8 bits; up to 11 bits with enhanced resolution (ERES)			
Sensitivity (50 Ω or 1 MΩ)	2 mV – 10 V/div fully variable			
DC Gain Accuracy	± (1.5% + 0.5% of full scale)			
Offset Accuracy (50 Ω or 1 MΩ)	± (1.5% + 0.5% of full scale + 1 mV)			
Offset Range				
	2 mV – 99 mV/div: ±1 V 100 mV – 99 V/div: ±10 V 1 V – 10 V/div: ±100 V			
Isolation — Channel to Channel	>250:1 at same V/div settings			

Timebase System				
Timebases	Main and up to four independent zoom traces simultaneously			
Ranges	500 ps/div – 1000 s/div		1 ns/div – 1000 s/div	
Clock Accuracy	≤10 ppm			
Interpolator Resolution	5 ps			
External Clock Frequency	500 MHz maximum, 50 Ω, or 1 MΩ impedance			
Roll Mode – Operating Range	time/div 500 ms – 1000 s/div or sample rate <100 kS/s max			
External Timebase Clock	500 MHz maximum external sample clock input on front panel EXT BNC			

Acquisition System				
Single Shot Sample Rate				
1 Channel Max.	4 GS/s	4 GS/s	1 GS/s	1 GS/s
2 Channels Max.	4 GS/s	2 GS/s	1 GS/s	1 GS/s
3 – 4 Channels Max.	2 GS/s	NA	1 GS/s	NA
Maximum Acquisition Points/Ch				
1 Channel Max.	500k / 2M / 8M	500k	100k / 1 M	100k
2 Channels Max.	500k / 2M / 8M	250k	100k / 1 M	100k
3 – 4 Channels Max.	250k / 1M / 4M	NA	100k / 1 M	NA

Acquisition Modes	
Random Interleaved Sampling (RIS)	50 GS/s for repetitive signals: 500 ps/div – 1 µs/div
Single Shot	For transient and repetitive signals: 1 ns/div – 1000 s/div
Sequence	
LT262/264	2 – 400 segments
LT372/374	2 – 1 000 segments
Memory Option M or L	2 - 4 000 segments
Intersegment Time	50 µsec max.

Acquisition Processing	
Averaging	Summed averaging to 10^3 sweeps; continuous averaging with weighting range from 1:1 to 1:1023 (standard). Summed averaging up to 10^6 sweeps (optional with WAVA)
Enhanced Resolution (ERES)	From 8.5 to 11 bits vertical resolution
Envelope (Extrema)	Envelope, floor, roof for up to 10^6 sweep

Triggering System	
Modes	Normal, Auto, Single, and Stop
Sources	Any input channel, external, Ext/10 or line; slope, level, and coupling unique to each source (except line trigger) Inactive channels usable as trigger inputs.
Slope	Positive, Negative, Window
Coupling modes	DC, AC, HFREJ, LFREJ
AC Cutoff Frequency	7.5 Hz Typical
HFREJ, LFREJ	50 kHz typical
Pre-trigger delay	0 – 100% of horizontal time scale
Post-trigger delay	0 – 10 000 divisions
Hold-off by time or events	Up to 20s or from 1 to 99 999 999 events
Internal trigger range	±5 div
Max trigger frequency	500 MHz (350MHz on LT264, LT262)
External trigger input range	±0.5 (±5 V with Ext/10 selected)
Maximum ext. input @ 50 Ω	±5 V DC or 5Vrms
Maximum ext. input @ 1 MΩ	400 Vmax (DC + peak AC < 5 kHz)

Automatic Setup	
Auto Setup	Automatically sets timebase, trigger, and sensitivity to display a wide range of repetitive signals
Vertical Find	Automatically sets the vertical sensitivity and offset for the selected channels to display a waveform with maximum dynamic range

Probes	
Model PP006	10:1, 10 MΩ with auto-detect (one per channel)
Probe System: ProBus	Automatically detects and supports a wide variety of differential amplifiers; active, high-voltage, current, and differential probes
Scale Factors	Up to 12 automatically or manually selected

Color Waveform Display	
Type	VGA color 8.4" flat-panel TFT-LCD
Resolution	VGA 640 x 480 pixels
Screen Saver	Display blanks after 10 minutes (when screen saver is "on")
Real Time Clock	Date, hours, minutes, and seconds displayed with waveform
Number of Traces	Display a maximum of eight traces. Simultaneously display channel, zoom, memory, and math traces.
Grid Styles	Single, Dual, Quad, Octal, XY, Single + XY, Dual + XY; Full Screen gives enlarged view of each style.
Intensity Controls	Separate intensity control for grids and waveforms
Waveform Styles	Sample dots joined or dots only — regular or bold sample point highlighting
Trace Overlap Display	Select opaque or transparent mode with automatic waveform overlap management.

Analog Persistence Display	
Analog & Color-Graded Persistence	Variable saturation levels; stores each trace's persistence data in memory
Trace Selection	Activate Analog Persistence on a selected trace, top 2 traces, or all traces
Persistence Aging Time	Select from 500 ms to infinite
Trace Display	Opaque or transparent overlap
Sweeps Displayed	All accumulated or all accumulated with last trace highlighted

Zoom Expansion Traces	
Display up to Four Zoom Traces	
Vertical Zoom	Up to 5X expansion, 50X with averaging
Horizontal Zoom	Expand to 2 pts/div, magnify to 50 000X
Auto Scroll	Automatically scan and display any zoom or math trace.

Rapid Signal Processing	
Processor	Power PC
Processing Memory	Up to 128 Mbytes
Realtime Clock	Dates, hours, minutes, seconds, and time stamp trigger time to 1 ns resolution

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Specifications, Continued

Internal Waveform Memory

Waveform	M1, M2, M3, M4 (Store full-length waveforms with 16 bits/data point)
Zoom and Math	Four traces A, B, C, D with chained trace capability

Setup Storage

Front Panel and Instrument Status	Four non-volatile memories and floppy drive are standard. Hard drive and memory card are optional.

Interface

Remote Control	Full control of all front panel controls and internal functions via RS232C, GPIB, or Ethernet (optional)
RS-232-C	Asynchronous transfer rate of up to 115.2 kbaud
GPIB Port	Full control via IEEE – 4888.2; configurable as talker/listener for computer control and data transfer
Ethernet (optional)	10 Base-T Ethernet interface
Floppy Drive	Internal, DOS-format, 3.5" high-density
PC Card Slot (optional)	Supports memory and hard drive cards
External Monitor Port Standard	15-pin D-Type VGA-compatible
Centronics Port	Parallel printer interface
Internal Graphics Printer (optional)	Provides hard copy output in <10 seconds

Outputs

Calibrator Signal	500 Hz – 1 MHz square wave or DC level; Select from -1.0 to +1.0 into 1 M ohm, output on front panel test point and ground lug.
Control Signals	Rear Panel, TTL level, BNC output; Choice of trigger ready, trigger out, pass/fail status. (output resistance 300Ω ± 10%)

Environmental and Safety

Operating Conditions	
Temperature	5 – 40 °C rated accuracy
	0 – 45 °C operating
	-20 – 60 °C non-operating
Humidity	80% max RH, non-condensing up to 35 °C; Derates to 50% max RH, non-condensing at 45 °C
Altitude	4 500 m (15 000 ft) max. up to 25 °C; Derates to 2 000 m (6 600 ft) at 45 °C
CE Approved	
EMC	EMC Directive 89/336/EEC; EN 61326-1 Emissions and Immunity
Safety	Low Voltage Directive 73/23/EEC; EN 61010-1 Product Safety (Installation Category II, Pollution Degree 2)
UL and cUL approved	UL Standard UL 3111-1 cUL Standard CSA C22.2 No. 1010-1

General

Auto Calibration	Ensures specified DC and timing accuracy is maintained for 1 year minimum
Auto Calibration time	< 500 ms
Power Requirements	90 – 132 VAC at 45 - 440 Hz 180 - 250 VAC at 45 - 66 Hz Automatic AC voltage selection Power Consumption: 150 – 230 VA depending on model
Battery Backup	Front panel settings retained for two years minimum
Warranty and Calibration	Three years; calibration recommended yearly

Physical Dimensions

Dimensions (HWD)	210 mm x 350 mm x 300 mm; 8.3" x 13.8" x 11.8" (height excludes feet)
Weight	18 lbs (8 kg)
Shipping Weight	27 lbs (12 kg)