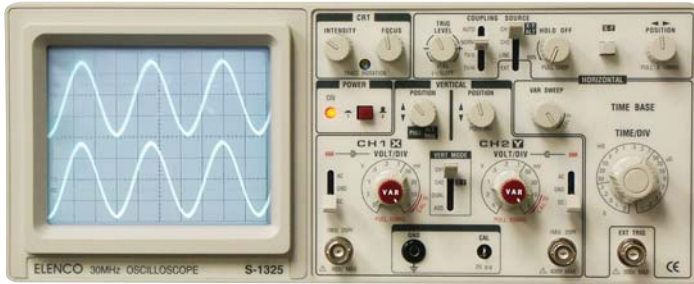


ANALOG OSCILLOSCOPES



30MHz Model S-1330

2-Channel - Delayed Sweep
Component Tester, Beam Find, Dual Time Base



30MHz Model S-1325

2-Channel - Oscilloscope

- | Features | |
|--|---------------------------------|
| • Dual or single trace operation | • 1mV/DIV sensitivity |
| • Calibrated 20-step time base with x10 magnifier | • Z-modulation (S-1330 only) |
| • AUTO/NORM triggered sweep operation with AC, TV-H, TV-V and line coupling. | • Y (CH 2) output (S-1330 only) |
| | • Dust cover included |
| | • 2 free x1, x10 probes |

FREE DUST COVER & PROBES

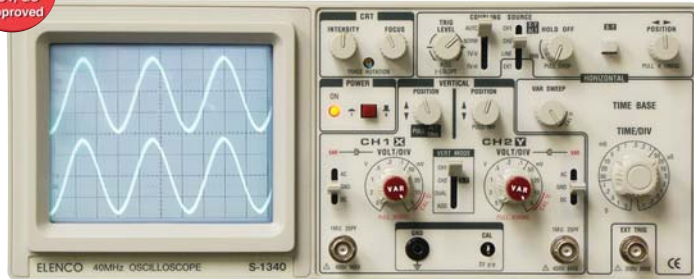
S-1325 Shown

Specifications																							
Vertical Amplifiers (CH 1 and CH 2) Sensitivity: 5mV/div - 5V/div (x1 mode), 1mV/div - 1V/div (6MHz, -3dB) (x5 mode). Attenuator: 1-2-5 sequence, 10-step attenuator, plus vernier control. Rise time: About 14ns. Over shoot: Less than 5%. Input impedance: 1MΩ ±2%, 25pF ±10pF. Max. input voltage: 400V (DC + AC peak). Operating modes: CH 1, CH 2, DUAL (ALT or CHOP) and ADD. Chop frequency: Approximately 500kHz. Algebraic addition: CH 1 + CH 2, CH 1 - CH 2. Inverter: CH 2 only.	Horizontal Amplifier (continued) Bandwidth: DC - 1MHz (-3dB). X-Y phase difference: Approximately 3° at 50kHz.	Delayed Sweep (S-1330 only) (continued) Accuracy: ±3% Sweep magnification: 10X, ±10%, extend sweep speed up to 10ns/div. Delay time position: Variable control to locate desirable waveform for extending.	Component Tester (S-1330 only) Test voltage: Max. 6Vrms (open circuit) Test current: Max. 11mA (shorted) Test frequency: Line frequency Components: Capacitor, inductor, diode, transistor, zener, etc.																				
Horizontal Amplifier X-Y mode: Switch selectable using X-Y switch CH 1: X-axis CH 2: Y-axis. Accuracy: Y-axis ±3%. X-axis ±6%.	Sweep System Sweep display mode: Main, Mix, Delay (S-1330 only). Hold off time: 5:1 continuously variable.	Trigger Trigger coupling: AUTO, NORM, TV-V, TV-H Trigger source: CH 1, CH 2, LINE, EXT Slope: ±	CH 2 Output (S-1330 only) Output level: 100mV/div (no load) 50mV/div (50Ω load) Bandwidth: 20Hz - 30MHz (-3dB)																				
	Main Sweep Sweep speed: 0.1μs/div - 0.2s/div in 1-2-5 sequence, 20 steps. Accuracy: ±3%. Variable time control: 5:1, uncalibrated, continuously variable between steps.	Trigger Sensitivity <table border="1"> <thead> <tr> <th>Coupling</th> <th>Bandwidth</th> <th>Internal</th> <th>External</th> </tr> </thead> <tbody> <tr> <td>TV-V</td> <td>20Hz - 1kHz</td> <td>0.5 div</td> <td>0.05Vpp</td> </tr> <tr> <td>TV-H</td> <td>1kHz - 100kHz</td> <td>0.5 div</td> <td>0.05Vpp</td> </tr> <tr> <td>AUTO</td> <td>100Hz - 30MHz</td> <td>1.5 div</td> <td>0.1Vpp</td> </tr> <tr> <td>NORM</td> <td>DC - 30MHz</td> <td>1.5 div</td> <td>0.1Vpp</td> </tr> </tbody> </table>	Coupling	Bandwidth	Internal	External	TV-V	20Hz - 1kHz	0.5 div	0.05Vpp	TV-H	1kHz - 100kHz	0.5 div	0.05Vpp	AUTO	100Hz - 30MHz	1.5 div	0.1Vpp	NORM	DC - 30MHz	1.5 div	0.1Vpp	Other Specifications CRT: Type: Rectangular with internal graticule. Adjustable graticule illumination (S-1330 only). Display area: 8 x 10 div (1 div = 1 cm) Accelerating voltage: 2.1kV Phosphor: P31 Z modulation (S-1330 only): Positive TTL signal, low level blank intensity at any intensity, high level unblank any intensity. Trace rotation: Adjustable front panel Calibrator: Square wave 1kHz, 2Vpp ±3% Power requirements: 115, 230VAC ±10%, 50/60Hz Power consumption: Approximately 40 watts Dimensions: 5 1/4" (H) x 12 3/4" (W) x 15 5/8" (D) Net weight: 16 lbs. 12 oz. (7.6kgs.) Accessories supplied: Two x1, x10 probes, schematic diagram & parts list, AC power cord, spare fuse, and dust cover.
Coupling	Bandwidth	Internal	External																				
TV-V	20Hz - 1kHz	0.5 div	0.05Vpp																				
TV-H	1kHz - 100kHz	0.5 div	0.05Vpp																				
AUTO	100Hz - 30MHz	1.5 div	0.1Vpp																				
NORM	DC - 30MHz	1.5 div	0.1Vpp																				

40MHz

Model S-1340

2-Channel - Oscilloscope



S-1340 Shown

40MHz

Model S-1341C

2-Channel - Dual Trace,
Dual Trigger with
Frequency Counter

40MHz

Model S-1342FG

2-Channel - Dual Trace,
Dual Trigger with
Function Generator

40MHz

Model S-1343CFG

2-Channel - Dual Trace,
Dual Trigger w/
Frequency Counter & Function Generator

40MHz

Model S-1345

2-Channel - Delayed Sweep
Component Tester, Beam
Find, Dual Time Base

General Features	Frequency Counter Features	Function Generator Features
• 1mV/DIV sensitivity • Variable hold off • X-Y operation • TV sync • Beam finder (S-1345 only) • Sweep mix (S-1345 only) • Z modulation (S-1345 only) • Component tester (S-1345 only) • Dust cover included. • 2 free x1, x10 probes	• 5 digits 0.36" red LED display • 0.1Hz - 50MHz autorange • 0.001Hz resolution. • Auto gate time • Auto detect, auto reset • 1mV sensitivity	• 0.5MHz - 5MHz frequency • Sine, square, triangle, 3 waveforms • Max. output: 20Vpp (no load), 10Vpp (50Ω load) • TTL synchronous output

Specifications																							
Vertical Amplifiers (CH 1 and CH 2) Sensitivity: 5mV/div - 5V/div (x1 mode), 1mV/div - 1V/div (6MHz, -3dB) (x5 mode). Attenuator: 1-2-5 sequence, 10-step attenuator, plus vernier control. Rise time: About 8.8ns Over shoot: Less than 5% Input impedance: 1MΩ ±2%, 25pF ±10pF Max. input voltage: 400V (DC + AC peak) Operating modes: CH 1, CH 2, DUAL (ALT or CHOP) and ADD. Chop frequency: Approximately 500kHz Algebraic addition: CH 1 + CH 2, CH 1 - CH 2 Inverter: CH 2 only	Horizontal Amplifier (continued) Bandwidth: DC - 1MHz (-3dB) X-Y phase difference: Approximately 3° at 50kHz	Delayed Sweep (S-1345 only) (continued) Accuracy: ±3% Sweep magnification: 10X, ±10%, extend sweep speed up to 10ns/div. Delay time position: Variable control to locate desirable waveform for extending.	Component Tester (S-1345 only) Test voltage: Max. 6Vrms (open circuit) Test current: Max. 11mA (shorted) Test frequency: Line frequency Components: Capacitor, inductor, diode, transistor, zener, etc.																				
Horizontal Amplifier X-Y mode: Switch selectable using X-Y switch CH 1: X-axis CH 2: Y-axis Accuracy: Y-axis ±3% X-axis ±6%	Sweep System Sweep display mode: Main, mix, delay (S-1345 only). Hold off time: 5:1 continuously variable (0.1μs/div).	Trigger Trigger coupling: AUTO, NORM, TV-V, TV-H Trigger source: CH 1, CH 2, ALT, LINE, EXT Slope: ±	CH 2 Output (S-1345 only) Output level: 100mV/div (no load) 50mV/div (50Ω load) Bandwidth: 20Hz - 20MHz (-3dB)																				
	Main Sweep Sweep speed: 0.1μs/div - 2s/div in 1-2-5 sequence, 23 steps. Accuracy: ±3% Variable time control: 5:1, uncalibrated, continuously variable between steps.	Trigger Sensitivity <table border="1"> <thead> <tr> <th>Coupling</th> <th>Bandwidth</th> <th>Internal</th> <th>External</th> </tr> </thead> <tbody> <tr> <td>TV-V</td> <td>DC - 1kHz</td> <td>1.0 div</td> <td>0.1Vpp</td> </tr> <tr> <td>TV-H</td> <td>1kHz - 100kHz</td> <td>1.0 div</td> <td>0.1Vpp</td> </tr> <tr> <td>AUTO</td> <td>100Hz - 40MHz</td> <td>1.5 div</td> <td>0.1Vpp</td> </tr> <tr> <td>NORM</td> <td>100Hz - 40MHz</td> <td>1.5 div</td> <td>0.1Vpp</td> </tr> </tbody> </table>	Coupling	Bandwidth	Internal	External	TV-V	DC - 1kHz	1.0 div	0.1Vpp	TV-H	1kHz - 100kHz	1.0 div	0.1Vpp	AUTO	100Hz - 40MHz	1.5 div	0.1Vpp	NORM	100Hz - 40MHz	1.5 div	0.1Vpp	Other Specifications CRT: Type: Rectangular with internal graticule. Adjustable graticule illumination (S-1345 only). Display area: 8 x 10 div (1 div = 1 cm) Accelerating voltage: 2.1kV (S-1340), 12kV (S-1345) Phosphor: P31 Z modulation (S-1345 only): Positive TTL signal, low level blank intensity at any intensity, high level unblank any intensity. Trace rotation: Electrical, adjustable front panel. Calibrator: Square wave 1kHz ±10%, 2Vpp ±3% Power requirements: 115V, 230VAC ±10%, 50/60Hz Power consumption: Approximately 40 watts Dimensions: 5 1/4" (H) x 12 3/4" (W) x 15 5/8" (D) Net weight: 17 lbs. 3.2 oz. (7.8kgs.) Accessories supplied: Two x1, x10 probes, schematic diagram & parts list, AC power cord, spare fuse, and dust cover.
Coupling	Bandwidth	Internal	External																				
TV-V	DC - 1kHz	1.0 div	0.1Vpp																				
TV-H	1kHz - 100kHz	1.0 div	0.1Vpp																				
AUTO	100Hz - 40MHz	1.5 div	0.1Vpp																				
NORM	100Hz - 40MHz	1.5 div	0.1Vpp																				