

IWATSU AMERICA, Inc.

400 MHz Analog Oscilloscope

Model SS-7840



- DC ~ 400 MHz, 4-CH, 10 Trace
- Input Offset Function
- Counter Measurement Function
- Save/recall of up to 256 panel settings
- Power supply for FET Probe
- TV/HDTV Synchronization
- High intensity, 20kV meshless CRT

Model SS-7840

400 MHz Analog Oscilloscope



DC ~ 400 MHz, 4-CH, 10 trace. High 2m V/div sensitivity, 500 ps/div fastest sweep time

Input offset function Observe small amplitudes signals superimposed over larger signals. Offset equivalent to ± 500 div/max applicable to CH1, CH2.

Counter Measurement Built-in 5 digit counter. Frequencies to 400 MHz.

Save/recall up to 256 panel settings Turn function knob to recall setup. Stores up to 256 settings in memory.

FET Probe Power Supply Dedicated power

supply for 2 channels. Controls DC offset voltage of each probe as well.

TV/HDTV Synchronization TV triggering for NTSC, PAL (SECAM) and HDTV. Field (EVEN, ODD, BOTH) and line select included.

TV Clamp Function Easy observation of TV video signals with fluctuating average voltage. Back porch level of composite signals is fixed to ground level for display.

Display	
CRT	6-inch rectangular, internal graticule (8 x 10 div) meshless CRT
Accelerating voltage	Approximately 20 kV
Vertical Deflection System	
Mode	CH1, CH2, CH3, CH 4, ADD (CH1 + CH2), ALT, CHOP
Channel 1, 2 Sensitivity	2 mV/div - 5 V/div $\pm 2\%$, 11 step (1-2-5)
Fine Adjuster	2 mV/div ~ 12.5 V/div continuously variable
Frequency bandwidth	FULL: DC ~ 400 MHz (5 mV/div ~ 50 V/div) BANDWIDTH: DC ~ 20 MHz or DC~100 MHz, selectable
VSWR	Less than 1.35 through DC ~ 400 MHz (with 50 Ω input)
Rise time	Approx. 875 ps (freq. bandwidth x rise time = 0.35)
Input coupling	AC, DC, GND
Input RC	1 M Ω input: 1 M $\Omega \pm 1.5\%$ /16 pF \pm 2pF, 50 Ω input: 50 $\Omega \pm 1\%$
Maximum input voltage	1 M Ω input: ± 400 V max., 50 Ω input: 5 V RMS
Polarity switching	CH2 only
Probe sensitivity	1:1, 1:10, 1:100 detection possible
Offset voltage variable range	Offset voltage Vertical axis range ± 1 V 2 mV/div ~ 50 mV/div ± 10 V 0.1 V/div ~ 0.5 V/div ± 100 V 1 V/div ~ 5 V/div
Channel 3, 4 Sensitivity	0.1 V, 0.5 V/div
Accuracy	$\pm 3\%$ (+10°C ~ +35°C)
Frequency Bandwidth	DC ~ 400 MHz
Rise time	Approx. 875 ps (freq. bandwidth x rise time = 0.35)
Input coupling	AC, DC
Input RC	Direct: 1 M $\Omega \pm 1.5\%$ /16 pF \pm 3pF, when using the probe (SS-082R): 10 M $\Omega \pm 2\%$ /13pF \pm 2 pF
Maximum input voltage	± 400 V max.
Probe sensitivity	1:1, 1:10, 1:100 detection possible
Triggering	
A triggering	
Sources	CH1, CH2, CH3, CH4, LINE
Coupling	AC, DC, HF-REJ, LF-REJ
Polarity	+/-
TV sync	
Line selection	NTSC:1 ~ 525H, PAL (SECAM):1 ~ 625H, HDTV:1 ~ 1125H
B triggering	
Sources	CH1, CH2, CH3, CH4
Coupling	AC, DC, HF-REJ, LF-REJ
Polarity	+/-
Event Delay	
Count	Setting range: 1 ~ 65535, maximum count freq.: 50 MHz
Burst	Time setting range: 0.15 μ s ~ 9.99s
Auto setup	Input channels: CH1, CH2, Freq. range: 50 Hz ~ 100 MHz

Horizontal deflection system

HORIZONTAL DISPLAY A, ALT, B, X-Y

A sweep	
Mode	AUTO, NORM, SINGLE
Sweep time	5 ns/div ~ 500 ms/div $\pm 2\%$, 25-step (1-2-5), Fastest sweep time: 500 ps/div, Fine adjuster: 5 ns/div ~ 1.5 s/div
B sweep	
Delay	Triggered delay: CH1, CH2, CH3, CH4 Continuous delay: RUNS AFTER
Sweep time	5 ns/div ~ 20 ms/div $\pm 2\%$, 21 step (1-2-5)
Delay time range	0.2 div ~ 10.2 div; Accuracy: \pm [(setting value x 0.005) +(sweep time x 0.1)] -55ns
Magnifier (MAG)	10 times; Accuracy: $\pm 5\%$ (+10°C ~ +35°C)
X-Y operation	X axis: CH1, Accuracy: $\pm 2\%$ (+10°C ~ +35°C) Y axis: CH1, CH2, CH3, CH4, ADD
CH2 OUT	
Output voltage	20 mV/div $\pm 30\%$
Frequency output	DC ~ 200 MHz (50 Ω load)
Output resistance	50 $\Omega \pm 20\%$
External intensity	
Modulation (Z axis)	Minimum modulation voltage: 0.5 Vp-p, Polarity: Positive (dark)/negative (bright) Frequency range: DC ~ 5 MHz Input withstand voltage: 40 V
Calibrator	
Waveform	Square
Repetitive frequency	1 kHz
Accuracy	$\pm 0.1\%$
Output voltage	0.6 V
Accuracy	$\pm 1\%$
Power supply for probe	
Voltage	± 12 V, 2 FET probes connectable, offset control possible
Counter	
Display digits	5 digits shown at all times
Accuracy	$\pm 0.01\%$
Frequency measurement range	2 Hz ~ 400 MHz
Cursor measurement	
Voltage axis	2
Time axis	2
Time difference	Δt
Voltage difference	ΔV
Save/recall function	
Number of setups	256 max.
Comments	12 characters max.
Power Supply	
Voltage range	AC 90 V ~ 250 V
Frequency range	48 Hz ~ 440 Hz
Power consumption	120 VA max.
Dimensions and weight	
Approx.	320W x 160H x 420L mm/approx. 8.5 kg
Accessories	
Power cable (1), probe (2), instruction manual (1), panel cover (1), accessory bag (1)	

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