DC – 100 MHz, 4 CH
100 MS/s

- ***Digital storage with real-time oscilloscope***
- ***Maximum sampling rate of 100 M samples (4 channels, simultaneous), 8-bit resolution and 32 kwords/ch.***
- ***DC — 100 MHz, 4 channels, 5 waveforms, 10 traces, fastest sweep time of 1 ns/div***

The need for digital storage oscilloscopes is increasing rapidly as more automated systems are constructed that have various waveform analyses, processing functions and controllers. The DS-8617 is a digital storage oscilloscope with a 4-channel full-range attenuator, a maximum sampling rate of 100 MS/s (4-channel simultaneous operation) and an 8-bit resolution combined with a DC — 100 MHz, 4-channel real-time oscilloscope capability.
The DS-8617 has a memory capacity of 32 kwords/ch. Other abundant functions include a TV trigger, an event trigger, automatic measurement and printer output. Everything is specially designed to meet the user's needs in various types of fields.

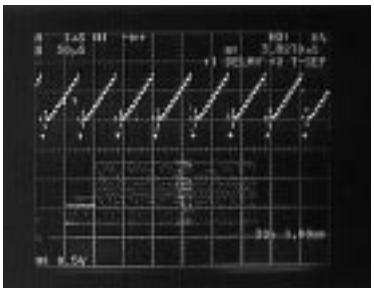
■ Combination of high-performance digital storage and real-time oscilloscope

Full-scale measurement is possible with high speed and high performance in every area.
Storage capability: 100 MS/s, 8 bits, 32 kwords/ch, high-speed waveform refresh rate of 140 times/s max.
Real-time capability: DC — 100 MHz, 4 channels, 5 waveforms, 10 traces

■ 4-channel scope equipped with 4-channel full-range attenuator

■ Independent 32-kword memory for each channel

32-kword/ch memory is provided as standard. This long memory allows the acquirement of waveforms for long periods of time.

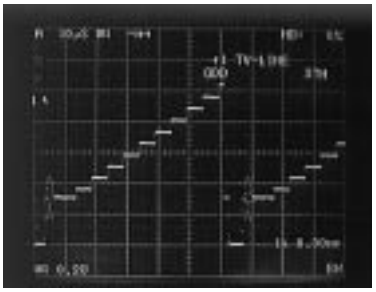


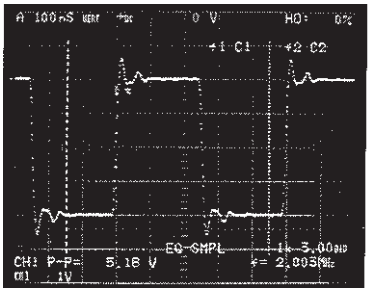
■ Auto setup function

The required trace can be shown in the optimum position by simply pressing the auto setup key.

■ Various functions for flexible measurements

Provided with a TV trigger (NTSC, PAL/SECAM, HDTV, field or line selectable), an event trigger, automatic measurement, automatic calibration, save/recall, comment, original waveform acquisition/processing, nonstop motion waveform indication, and quick auto setup function, the DS-8617 covers a wide range of user requirements.





■ GP-IB interface provided as standard

Full remote control can be performed from an external controller for waveform data transfer or panel setting conditions.

Specifications

■ **CRT**

Shape 6-inch, rectangular, electrostatic deflection
Effective area 8 x 10 div (1 div = 10 mm)
Vertical deflection system (Y axis)
Display modes Real-time mode: CH1, CH2, CH3, CH4, ADD
CH1, CH2, CH3, CH4
Sensitivity 2 mV/div – 10 V/div (with variable)
Accuracy Real-time mode: ±2%
Storage mode: ±2% ±1/32 div, 2% increased with envelope
Frequency characteristics
In real-time mode or with the equivalent sampling in storage mode

Sensitivity	Frequency bandwidth
2 mV/div, 5 V/div, 10 V/div	DC – 100 MHz, –3.5 dB
5 mV/div – 2 V/div	DC – 100 MHz, –3 dB

Rise time 3.5 ns (5 mV/div), calculated from rise time (ns) x bandwidth (MHz) = 350
Input coupling AC, DC, GND
Input RC Direct; 1 MΩ ±1.5%, 23 pF ±2 pF
When using SS-0130R probe; 10 MΩ ±3%, 12.5 pF ±2 pF
Maximum input voltage Direct; ±400 V max.
When using SS-0130R probe; ±600 V max.
Polarity switching Possible only for CH2, CH4

■ **Triggering**

Triggering modes NORMAL, TV, COUNT (Real time), EVENT (Storage)

■ **A triggering**

Sources CH1, CH2, CH3, CH4, LINE, VERT
Coupling DC, HF REJ, LF REJ, AC, TV-V, TV-H
Polarity +, –

■ **B triggering**

TV triggering
Compatible systems NTSC, PAL/SECAM and HDTV
LINE SEL 1 – 2000H
Event trigger Real-time mode: COUNT (1 – 65535 times, maximum count frequency of 20 MHz)
Storage mode: COUNT, MISSING, BURST, EXTRA

■ **Delay**

Data position (A sweep delay in storage mode)

Memory length	Maximum (div)	Minimum (div)
1k	–10.24	+10.04
2k	–20.48	+20.28
32k	–327.68	+327.48

B sweep delay (only in real-time mode)
Delay time (A sweep sec/div) x from 0.2 to 10.2
Delay jitter 1/20,000 or less (at A: 1 ms/div, B: 0.5 µs/div)

■ **Horizontal deflection system (X axis)**

HORIZ DISPLAY A, ALT, B, X-Y
A sweep
Sweep mode AUTO LEVEL, AUTO, NORM, SINGLE
Sweep time Real-time mode: 10 ns/div – 500 ms/div (with variable), 1-2-5 steps
Accuracy: ±2% at 8 div at the center of the screen
Storage mode: 10 ns/div – 5 s/div
B sweep
Delay method Triggered after delayed, run after delayed
Sweep time 10 ns/div – 20 ms/div, 1-2-5 steps
Sweep magnification X10 (fastest sweep time of 1 ns/div)

■ **Storage functions**

A/D conversion
Resolution 8 bits (32 level/div, for full-scale CRT 8 div)
Maximum sampling rate 100 MS/s, 4 channels simultaneously
Memory length 1 kwords/ch, 2 kwords/ch, 32 kwords/ch, switchable
External clock Clock signal input to CH4 using B trigger, up to 50 MHz

Modes
Equivalent sampling Sweep time: 10 ns/div – 0.5 µs/div
Envelope Detection pulse width: 40 ns minimum (indicated by at least 50% of original amplitude)
Sweep time: 20 µs/div – 5 s/div
Roll 4 channels can be operated simultaneously
Processing
Averaging Times: 2 – 256 times
Speed: Approx. 72 times/s
MAX HOLD Times: 2 – 255 times and infinity
Speed: Approx. 80 times/s
Smoothing Moving average of (2n – 1) point before and after data at each sampling point, n = 1 –20
Arithmetic operation between waveforms CH1 ± CH2, CH3 ± CH4, CH1 x CH2, CH3 x CH4

Display
Waveform display memory 1 kword x 8 waveforms
Display renewal speed Approx. 140 times/s (1 channel input, 1 ms/div, memory length of 1 kword)
Interpolation function Pulse interpolation, linear interpolation, sine interpolation
Waveform magnification/reduction Vertical axis: 250 times – 1/250 times around GND
Horizontal axis: 1000 times – 1/1000 times around triggering point (A waveform) or screen leftmost end (B waveform)

■ **X-Y operation**

X axis
Input Real-time mode: CH1
Storage mode: CH1, REF1
Frequency bandwidth Real-time mode: DC – 3 MHz, –3 dB
Storage mode: Same as CH1
Y axis
Input Real-time mode: CH1, CH2, CH3, CH4, ADD
Storage mode: CH1, CH2, CH3, CH4, CALC1, CALC2, REF1, REF2, REF3, REF4
Phase difference Within 3° (DC – 100 kHz in real-time mode)

■ **Measurements**

Counter Measures A trigger frequency 10 Hz – 100 MHz,
4-digit indication, measurement error of ±10 counts

■ **Copy output (in storage mode only)**

Interface Printer output via Centronics and plotter output via the specified interface (option)
Output data Waveforms, cursors, scale, readout

■ **Interface** GP-IB, Centronics

■ **Data storage** Backed up by built-in batteries
Type of stored data Setup, waveform data, comment
Number of stored data Possible to store 149 setups, 149 comments, 49 waveforms (1 kword), 29 (2 kwords), 2 (32 kwords)

■ **Power supply**

Voltage range AC 90 V – 250 V
Frequency range 48 Hz – 440 Hz
Power consumption Approx. 200 W, max. (with AC 100 V)

■ **Dimensions and weight**

Dimensions Approx. 320(W) x 160(H) x 423(L) mm
Weight Approx. 11 kg

■ **Accessories** Power cord (1), probe SS-0130R (2), fuse (2), panel cover (1), accessory bag (1), instruction manual (1)