

## Specification

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### VERTICAL AXIS

Sensitivity: 5mV~5V/DIV, 10 steps in 1-2-5 sequence (X5 MAG: 1mV/DIV)

Sensitivity accuracy:  $\leq 3\%$  ( $\times 5$ MAG:  $\leq 5\%$ )

Vernier vertical sensitivity: continuously variable to 1/2.5 or less of panel-indicated value

Frequency bandwidth:

DC-20MHz ( $\times 5$ MAG:DC-7MHz)

DC-40MHz ( $\times 5$ MAG:DC-15MHz)

AC coupling: Low limit frequency 10Hz. (With reference to 100KHz,8DIV.Frequency response with-3dB)

Rise time: Approx.17.5Ns ( $\times 5$ MAG:Approx.50Ns) / 9.5nS (X5MAG: Approx.25nS)

Input impedance: Approx. 1M ohm//Approx. 25pF

Square wave characteristics:

Overshoot:  $\leq 5\%$  (At 10Mv/DIV range) other distortions and other ranges: 5% added to the above value

DC balance shift: 5mV~5V/DIV;  $\pm 0.5$  DIV, 1mV~2mV/DIV $\pm 2.0$ DIV

Linearity:  $\pm 0.1$ DIV of amplitude change when waveform of 2 DIV at graticule center is moved vertically.

Vertical modes:

CH1 single channel.

CH2 single channel

DUAL: CH1 and CH2 are displayed ALT or CHOP selectable at any sweep rate.

ADD: CH1+CH2 algebraic addition.

Chopping repetition frequency: Approx.250KHz

Input coupling: AC, GND , DC .

Maximum input voltage: 300V peak (AC: frequency 1KHz or lower) When set probe switch at 1:1, the maximum effective readout is 40Vp p(14Vrms at sine wave); or set probe switch at 10:1, the maximum effective readout is 400Vpp(140Vrms at sine wave).

Common mode rejection ratio: 50:1 or better at 50KHz sinusoidal wave.(when sensitivities of CH1 and CH2 are set equally)

Isolation between channels (at 5Mv/DIV range):  $> 1000:1$  at 50 MHz;  $> 30:1$  at 20MHz;  $> 30:1$  at 40MHz

CH1 signal output:

At least 20Mv/DIV into a 50 ohm termination.

Bandwidth is 50Hz to at least 5MHz.

CH2 INV BAL: Balanced point variation:  $\leq 1$ DIV(Reference at center graticule)

## TRIGGERING

Triggering source: CH1,CH2,LINE,EXT.

Coupling: AC:20Hz to full bandwidth

Slope: +/-

Sensitivity:

20Hz-2MHz: 1.0 DIV, TRIG-ALT: 2DIV,EXT:200Mv; 2MHz-20MHz: 1.5DIV; 20MHz or higher: 2.0DIV

TRIG-ALT: 3DIV,EXT:800mv

TV: Sync pulse more than 1 DIV (EXT:1V)

Triggering modes:

AUTO; NORM; TV-V; TV-H.

(Both TV-V and TV-H synchronize only when the synchronizing signal is negative)

EXT triggering signal input:

Input impedance: Approx:1M ohm//approx.25pF

Max input voltage: 300V(DC+AC peak), AC: frequency not higher than 1KHz.

## HORIZONTAL AXIS

Sweep time: 0.2 $\mu$ Sec-0.5Sec/DIV,20Steps in 1-2-5sequence.

Sweep time accuracy:  $\pm 3\%$

Vernier sweep time control:  $\leq 1/2.5$  of panel-indicated value.

Sweep magnification: 10 times

$\times 10$ MAG sweep time accuracy:  $\pm 5\%$  (20nsec-50nsec are uncalibrated)

Linearity:  $\pm 3\%$ ,  $\times 10$ MAG:  $\pm 5\%$  (20ns and 50ns are uncalibrated)

Position shift caused by  $\times 10$ MAG: Within 2 DIV, at CRT screen center.

## X-Y MODE

Sensitivity: Same as vertical axis.(X-axis:CH1 input signal,Y-axis:CH2 input signal)

Frequency bandwidth: DC to at least 500KHz

X-Y phase difference:  $\leq 3^\circ$  at DC-50KHz

## Z AXIS

Sensitivity: 5Vp-p (positive-going signal decreases intensity)

Frequency bandwidth: DC-2MHz

Input resistance: Approx,47k ohm

Maximum input voltage: 30V (DC+AC peak, AC frequency  $\leq 1$ KHz)

## CALIBRATION VOLTAGE

Waveform: positive-going square wave

Frequency: Approx,1KHz

Output voltage:2Vp-p  $\pm 2\%$

Output impedance: Approx,1K ohm

## CRT

Type: 6-inch rectangular type, internal graticule  
Phosphor: P31  
Acceleration voltage: approx 2KV  
Effective screen size: 8x10 DIV(1 DIV=10mm(0.39in))  
Graticule: internal  
Trace rotation: provided

 **NOTE :**

20MHz/40MHz Dual Channel  
High Sensitivity 1Mv/DIV  
Z Axis Input  
CH1 Output  
10 times sweep magnification  
TV Synchronization, X-Y mode  
High luminance, internal graticule  
Japanese electronic encoder, light, handy and reliable  
Fully sealed durable vertical mode switch  
ALT Triggering Function, simultaneous observation of two independant singals  
Triggering level lock function. Automatic synchronize function