



MOS-620/640

## ▼ Specification

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- **VERTICAL AXIS**

- Sensitivity: 5Mv~5V/DIV, 10 steps in 1-2-5 sequence
- Sensitivity accuracy:  $\leq 3\%$  ( $\times 5\text{MAG}$ :  $\leq 5\%$ )
- Vernier vertical sensitivity:
- To 1/2.50 or less of panel-indicated value
- Frequency bandwidth:
- DS-20MHz ( $\times 5\text{MAG}$ :DC-7MHz)
- AC coupling: Low limit frequency 10Hz.
- (With reference to 100KHz,8DIV.Frequency response with-3Db)
- Rise time: Approx.17.5Ns ( $\times 5\text{MAG}$ :Approx.50Ns)
- Approx.8.75Ns ( $\times 5\text{MAG}$ :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: Adjustable on panel
- Linearity:  $\square \pm 0.1\text{DIV}$  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 .
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- **Maximum input voltage :**
- 300V peak (AC: frequency 1KHz or lower)
- 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
- 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)
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- **TRIGGERING**
  - Triggering source: CH1,CH2,LINE,EXT.
  - Coupling: AC:20Hz to full bandwidth
  - Slope: +/-
  - Sensitivity:
    - 20Hz-2MHz: 1.0DIV,
    - TRIG-ALT: 2DIV,EXT:200Mv
    - 2MHz-20MHz: 1.5DIV
    - 20MHz-40MHz: 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.
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- **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.
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- **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
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- **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
  - Duty ratio: within 48:52
  - Output voltage: 2Vp-p  $\pm 2\%$
  - Output impedance: Approx,1K ohm

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



#### **NOTE □**

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

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