
SPECIFICATIONS

VERTICAL AMPLIFIERS (CH 1 and CH 2)

Sensitivity:

5 mV/div to 5 V/div.
1 mV/div to 1 V/div (at X5 MAG).

Attenuator:

10 calibrated steps in 1-2-5 sequence.
Vernier control provides fully adjustable sensitivity between steps, adjustment range 1/1 to 1/2.5.

Accuracy:

$\pm 3\%$, $\pm 5\%$ at X5 MAG.

Input Resistance:

1 M Ω $\pm 3\%$.

Input Capacitance:

22 pF ± 3 pF.

Frequency Response:

DC: DC to 100 MHz (-3 dB).
X5 MAG: DC to 20 MHz (-3 dB).
AC: 10 Hz to 100 MHz (-3 dB).

Rise Time:

3.5 ns or less.
17.5 ns or less at X5 MAG.

Signal Delay Time:

At least 10 ns visible delay.

Polarity Reversal:

CH 2 invert.

Square Wave Characteristic:

Overshoot less than 5%, for 10 mV/div range. Other ranges less than 5% additional.

Maximum Input Voltage:

250 V (dc + ac peak), 500 V ac p-p.

VERTICAL AMPLIFIERS (Characteristics Common to CH 1, CH2 and CH 3)

Operating Modes:

CH 1, CH 2, DUAL, TRIPLE, ADD.
Alternate or Chop selectable at any sweep rate.

Chop Frequency:

250 kHz $\pm 30\%$.

Delay Time Between Channels:

Within 1 ns between CH 1 and CH 2.
Within 4 ns between CH 3 and other channels.

Crosstalk (Channel Isolation):

30:1 at 100 kHz.

VERTICAL AMPLIFIER (CH 3) (Common for EXT TRIG INPUT)

Sensitivity:

0.2 V/div

Accuracy:

$\pm 5\%$.

Frequency Response:

DC: DC to 50 MHz (-3 dB).
AC: 10 Hz to 50 MHz (-3 dB).

Rise Time:

7.0 ns or less.

Input Coupling:

AC, HF Reject, LF Reject, DC.

Input Resistance:

1 M Ω $\pm 10\%$.

Input Capacitance:

33 pF ± 5 pF.

Signal Delay Time:

At least 10 ns visible delay.

Maximum Input Voltage:

250 V (dc + ac peak).

Square Wave Characteristic:

Overshoot less than 5%.

SPECIFICATIONS

SWEEP SYSTEM

Operating Modes:

A	A sweep.
ALT	A sweep (intensified for duration of B sweep) and B sweep alternating.
B	Delayed B sweep.
B TRIG'D	B sweep triggered after delay.

A Time Base:

Sweep Mode:

Auto, Normal.

Sweep Time:

50 ns/div to 0.5 s/div, 5 ns/div to 50 ms/div at X10 MAG, 22 steps in 1-2-5 sequence. Vernier control provides fully adjustable sweep time between steps, adjustment range 1/1 to 1/2.5.

Accuracy:

±3%.

Hold Off Time:

Continuously variable. Adjustment range from normal to 1.5 times the sweep time.

B Time Base:

Delay Method:

Continuous delay.
Triggered delay.

Sweep Time:

50 ns/div to 50 ms/div, 5 ns/div to 5 ms/div at X10 MAG, 19 steps in 1-2-5 sequence.

Accuracy:

±3%.

Delay Time

Start point: 0.5 div ±0.3 div.
End point: 10 div ±1 div.

Delay Jitter:

Within 1/10,000 of full scale sweep time.

Sweep Magnification:

X10 ±5%.

TRIGGERING

A Trigger:

Source:

CH1, CH2, LINE, CH3, EXT.

Sensitivity:

30 Hz to 10 MHz: 0.5 div internal, 50 mV external.

10 Hz to 100 MHz: 1.5 div internal, 600 mV external.

Video Signal: 3 div internal, 0.3 V external.

Coupling:

AC, HF REJ, LF REJ, DC.

AC attenuates input below 10 Hz.

HF REJ attenuates input above 4kHz.

LF REJ attenuates input below 4kHz.

Slope:

+ or -.

B Trigger:

The A trigger is also the B trigger.

External Trigger:

Input:

CH 3 input terminal.

Input Impedance:

Same as CH 3 vertical.

Maximum External Trigger Voltage:

250 V (dc + ac peak).

HORIZONTAL AMPLIFIER

(Input through CH 1 input)

X-Y Mode:

X Axis = CH 1.

Y Axis = CH 2.

Sensitivity:

5 mV/div to 5 V/div, CH 1 and CH 2.

Accuracy:

±6%, ±7% at X5 MAG.

Frequency Response:

DC to 2 MHz (3 dB).

OTHER SPECIFICATIONS

CRT

Type:

Rectangular with integral graticule.

Display Area:

8 x 10 div (1 div = 1 cm).

Accelerating Voltage:

15 kV.

Phosphor:

P31.

Scale Illumination:

Continuously variable.

Trace Rotation:

Electrical, front panel adjustable.

Cal/Probe Compensation Voltage:

Waveform:

Positive-going square wave.

Output Voltage:

0.5 V p-p $\pm 3\%$.

Frequency:

Approx. 1 kHz.

Duty Cycle:

50% $\pm 5\%$.

Output Impedance:

270 Ω $\pm 10\%$.

Z Axis Modulation

Sensitivity:

3 V p-p or greater, TTL level. Negative polarity increases brightness.

Input Impedance:

15 k Ω .

Usable Frequency Range:

DC to 3.5 MHz.

Maximum Input Voltage:

20 V (dc + ac peak).

CH 1 (Y) Output:

Output Voltage:

Approx. 100 mV/div open circuit.

Approx. 50 mV/div into 50-ohms.

Freq. Response:

50 Hz to 30 MHz

Output Impedance:

Approx. 50 ohms.

Power Requirements:

100/120/220/240 VAC $\pm 10\%$, 50/60 Hz,
Approximately 60 W.

Dimensions (H x W x D):

5-1/2 x 12-5/8 x 16-15/16"

(140 x 320 x 430 mm).

Weight:

20 lb. (9 kg).

Environment:

Within Specified Accuracy:

+10° to +35° C, 85% maximum relative humidity.

Full Operation:

0° to +40° C, 85% maximum relative humidity.

Storage:

-20° to +70° C.