

SECTION 1 INTRODUCTION

1.1 GENERAL

The Model MO-1251 is a dual trace 20 MHz oscilloscope using a high brightness CRT.

The vertical amplifiers have high sensitivity of 5 mV/DIV and frequency response with smooth rolloff above 20 MHz. The highest triggering sweep speed is 0.2 μ s/DIV.

1.2 FEATURES

1. Wide bandwidth and high sensitivity.
2. Component Tester function*.
3. High sensitivity X-Y mode.
4. Z-axis modulation applicable.
5. TV VIDEO SYNC filter included.
6. High frequency rejection filter in trigger circuit.
7. Front panel trace rotator.
8. Regulated power supplies for high stability.
9. Very low power consumption.

* The Component Tester is a special circuit with which a component or components on or out of actual circuit board can be dynamically tested or checked and requires no external driving power. The display shows the good-bad condition and relative value of the component under test.

SECTION 2 SPECIFICATIONS

VERTICAL DEFLECTION

Deflection Factor	5 mV to 20 V/DIV \pm 3%, 12 steps in 1-2-5 sequence and with fine control.
Bandwidth, -3 dB	DC: DC to 20 MHz. AC: 10 Hz to 20 MHz.
Rise Time	Less than 17.5 ns.
Overshoot	Less than 3%.
Input Impedance	1 M Ω shunted by 20 \pm 3 pF.
Maximum Input	600 Vp-p, or 300V (DC + AC peak).
Operating Modes	CH1, CH2 DUAL and ADD.
Chop Frequency	Approx. 200 kHz.
Channel Separation	Better than 60 dB at 1 kHz.
Channel 2 Polarity	Inversion possible.

TIME BASE

Mode	Automatic or triggered; at automatic, the sweep is obtained without input signal.
Sweep Time	0.2 ns to 0.5 s/DIV, 20 steps in 1-2-5 sequence and with fine control and X-Y.
Magnification	X5 at all ranges.
Linearity	Less than 3% deviation.

TRIGGER

Sensitivity	INT: 1 DIV or better. EXT: 1 Vp-p or better.
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Source	INT, CH2, Line or EXT.
Trigger Level	Positive and negative, continuously variable at Pull of AUTO control.
Range	20 Hz to above 20 MHz.
Coupling	AC, HF REJECT and TV (at + or – for each); TV, TV-H (line) and TV-V (frame) sync signals are switched with SEC/DIV switch: TV-V: 0.5 s/DIV to 0.1 ms/DIV. TV-H: 50 μ s/DIV to 0.2 μ s/DIV.

HORIZONTAL DEFLECTION

X-Y Operation	Mode selected with SEC/DIV switch: CH1: Y-axis. CH2: X-axis.
Deflection Factor	5 mV to 20 V/DIV, 12 steps in 1-2-5 sequence and with fine control.
Frequency Response	-3 dB: DC to 1 MHz.
Input Impedance	1 M Ω shunted by 20 \pm 3 pF.
Maximum Input	600 Vp-p, or 300V (DC + AC peak).

INTENSITY MODULATION (Z-axis)

Input voltage	3 Vp-p or greater (Bright at positive-going input.)
Maximum input	50V (DC + AC peak).
Usable frequency range	DC ~ 1 MHz.

GENERAL

CRT Accelerating Voltage	2 kV
Calibration Voltage	0.5 Vp-p \pm 5%; 1 kHz square wave.
Power Requirements	100V, 117V, 220V or 240V (voltage selector provided), 50/60 Hz; approx. 19W.
Dimensions	294 (W) \times 162 (H) \times 352 (D) mm.
Weight	Approx. 7 kg.

STANDARD ACCESSORIES

Power Cord	\times 1
Fuse	1A \times 2, 0.5A \times 1
Instruction Manual	\times 1

OPTION

Probe (MP-3050)	\times 2 (10 : 1/1 : 1 selectable)
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