

TEK 100 MHz GENERAL PURPOSE OSCILLOSCOPES

7603 R7603

Dc to 100 MHz Bandwidth

3.5 ns Risetime

6.5 in CRT

CRT Readout

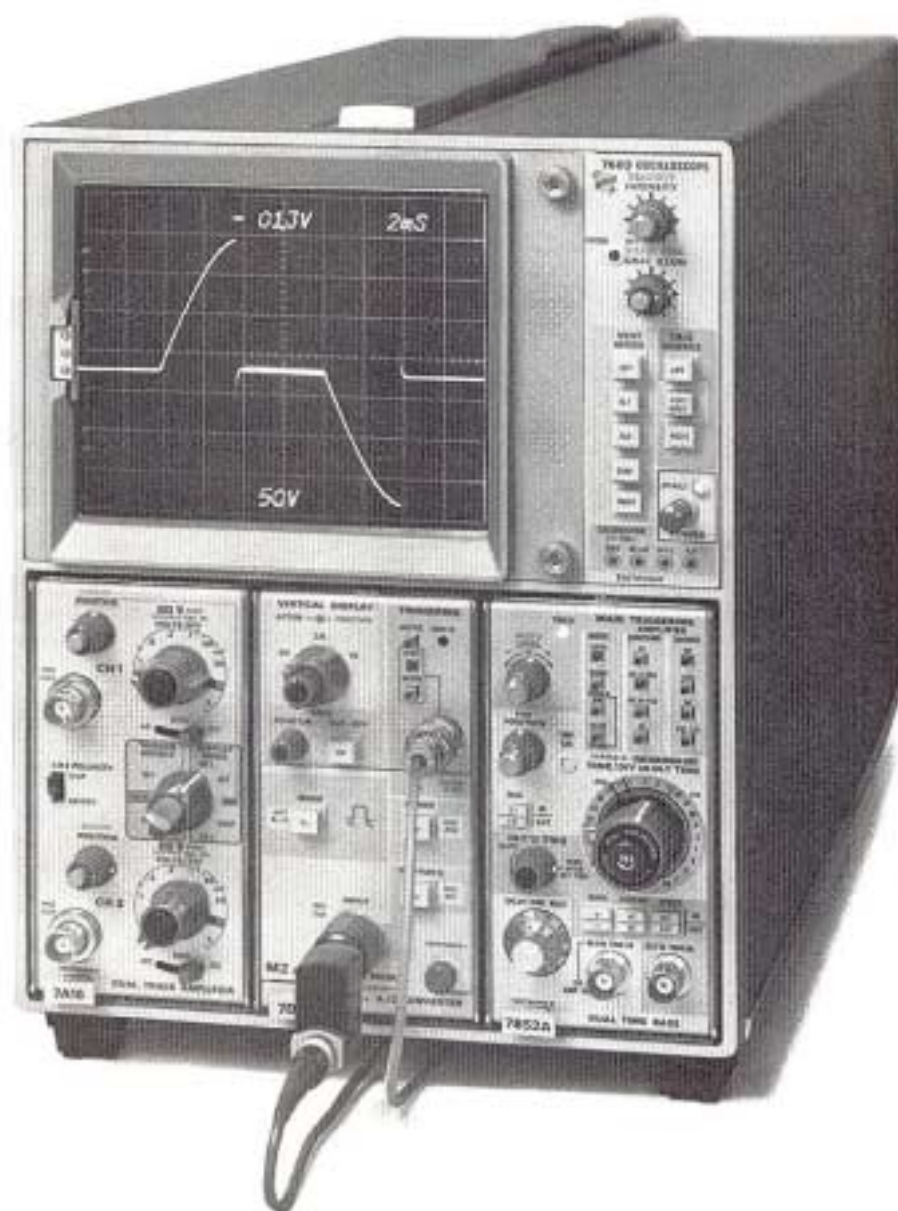
5.25 in Rackmount

APPLICATIONS

Digital Design and Testing

Communications

Spectrum Analysis



The TEKTRONIX 7603 and R7603 Oscilloscopes represent the best price/performance ratio available in the 100 MHz plug-in oscilloscope market today.

The CRT is large, 8 x 10 div (1.22 cm/div), and features an internal graticule with variable illumination and 15 kV accelerating potential. An optional maximum brightness CRT with a smaller 8 x 10 cm display and 18 kV potential gives you greater visual brightness and higher photographic writing speed.

VERTICAL SYSTEM

Channels — Two left-hand plug-in compartments; compatible with all 7000 Series Plug-ins. Bandwidth determined by main-frame and plug-in unit; see Vertical System Specifications Chart.

Modes of Operation — LEFT, ALT, ADD, CHOP, RIGHT.

Chopped Mode — Repetition rate is ~1 MHz.

Delay Line — Permits viewing leading edge of displayed waveform.

HORIZONTAL SYSTEM

Channels — One right-hand plug-in compartment; compatible with all 7000 Series Plug-ins.

Fastest Calibrated Sweep Rate — 5 ns/div.

X-Y Mode — The phase shift between vertical and horizontal channels is within 2° from dc to 35 kHz. Bandwidth is dc to at least 2 MHz.

CRT AND DISPLAY FEATURES

Standard — Internal 8 x 10 div (1.22 cm/div) graticule with variable illumination. Accelerating potential is 15 kV with P31 Phosphor.

Option 01, Without CRT Readout — No CRT readout.

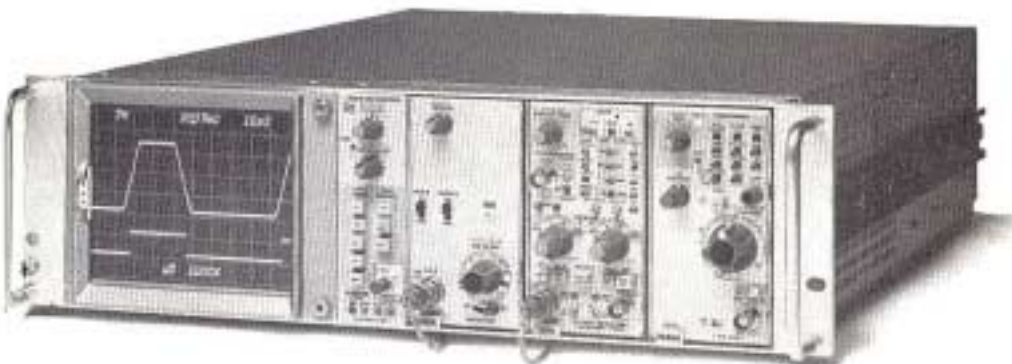
Option 04, Max Brightness CRT With Reduced Area — Internal 8 x 10 cm graticule with variable illumination. Accelerating potential is 18 kV with P31 Phosphor standard.

Option 06, Spectrum Analyzer Graticule.

Optional Phosphors (Specify) — P7, P11, or P7/SA. (Phosphor/Spectrum Analyzer graticule combination.)

Minimum Photographic Writing Speed — Using Polaroid film without film fogging can be increased by using the Tektronix Writing Speed Enhancer.

CRT	Writing Speed div/µs		Camera	Less
	Type 612			
	P31	P11		
Standard 8 x 10 div (1.22 cm/div)	100	150	C-50	1/1.8
Option 04 8 x 10 div (1 cm/div)	200	300		1.8/7



The 7603 requires only 5.25 in. of rack height in a standard 19 in. rack. It is fan cooled and comes complete with slide-out chassis 0034.

Internal Z-Axis Input — 2 V p-p for full intensity range from 0 to 2 MHz; intensity range diminishes to 20% of full range at 10 MHz. A positive signal blanks the trace. Max input voltage is 10 V (dc + peak ac) and p-p ac.

Autofocus — Reduces the need for additional manual focusing adjustments in intensity after focus control has been adjusted.

Max Finder — Limits display within graticule area.

OUTPUTS/INPUTS

Sawtooth — Sawtooth starts 1 V or less from ground (into 1 M Ω). Output R is 950 Ω . Output voltage is 1 V/div ($\pm 10\%$) into 1 M Ω . 50 mV/div ($\pm 15\%$) into 50 Ω .

Pulse — Positive pulse of the same duration and coincident with sweep. Output R is 950 Ω . Output voltage is 10 V ($\pm 10\%$) into 1 M Ω . 0.5 V ($\pm 10\%$) into 50 Ω . Rise time is 20 ns or less into 50 Ω . Source is selectable from Main, Delay, or Auxiliary 3 μ s.

Sig Out — Selected by TRIGGER SOURCE switch. Output voltage is 0.5 V/div into 1 M Ω . 25 mV/div into 50 Ω . Output R is 950 Ω . Bandwidth depends upon vertical plug-in; see Vertical System Specifications Chart.

External Single-sweep Reset — Ground closure, rear panel BNC provides input to reset sweep.

Single-sweep Ready Indicator — Rear panel BNC provides 5 V for single-sweep ready condition.

CAMERA POWER OUTPUT

Three-prong connector to the left of the CRT provides power, ground, and remote single-sweep reset access for the C-50 Series Cameras.

CALIBRATOR

Voltage Output — Rectangular waveshape, positive-going from ground (dc voltage available when selected by internal jumper). Ranges are 40 mV, 0.4 V, 4 V into 1 M Ω ; 20 mV, 0.2 V, 0.4 V into 50 Ω . Amplitude accuracy is within 1% ($+15^\circ\text{C}$ to -35°C); within 2% (0°C to $+50^\circ\text{C}$). Repetition rate is ≈ 1 kHz.

Current Output — 40 mA rectangular waveshape (dc current available when selected by internal jumper) with optional current-loop accessory (012-0298-00) connected between 4 V and gnd pin jacks.

POWER REQUIREMENTS

Line Voltage Ranges — 100, 110, 120, 200, 220, and 240 V ac $\pm 10\%$; intensity selectable with quick-change jumpers.

Line Frequency — 50 Hz to 60 Hz (R7603 and 7603).

Option 05, Line Frequency Change (50-400 Hz) — Converts the R7603 and 7603 to 50-400 Hz operation.

Max Power Consumption — 180 W, 2.0 A at 115 V line, 60 Hz. Cooling is provided by a fan.

Included Accessories — (For 7603 and R7603) 20 in cable (two-pin-to-BNC) (175-1178-00); CRT filter (Blue 337-1700-01, Clear 337-1700-04). The R7603 includes rackmounting hardware.

Dimensions and Weights — See page 153.

For Recommended Cameras — See page 154.

For Recommended Plug-ins — See page 152.

ORDERING INFORMATION

(Plug-ins not included)

7603 Oscilloscope

R7603 Oscilloscope

7603 OPTIONS

- Option 01 Without CRT Readout
- Option 03 Emc Modification
- Option 04 Max Brightness CRT With 8 x 10 cm Display (specify phosphor)
- Option 05 Line Freq Change (50-400 Hz)
- Option 06 With Internal Spectrum Analyzer Graticule
- Option 08 Protective Panel Cover

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7603 CONVERSION KITS

- 040-0654-02 CRT Readout*
- 040-1000-00 Emc Modification
- 040-0629-01 Sig Out/In
- 040-0688-01 Power Supply to Light Plug-in Pushbuttons
- 040-0718-00 X-Y Horiz Comp

R7603 CONVERSION KITS

- 040-0674-02 CRT Readout
- 040-0955-00 Emc Modification
- 040-0633-00 Sig Out/In
- 040-0688-01 Power Supply to Light Plug-in Pushbuttons
- 040-0718-00 X-Y Horiz Comp

PHOSPHOR OPTIONS (7603/R7603)

- Option 76 P7 Phosphor
- Option 77 P7 Phosphor with Internal Spectrum Analyzer Graticule
- Option 78 P11 Phosphor

*Not Available for 7603N115.