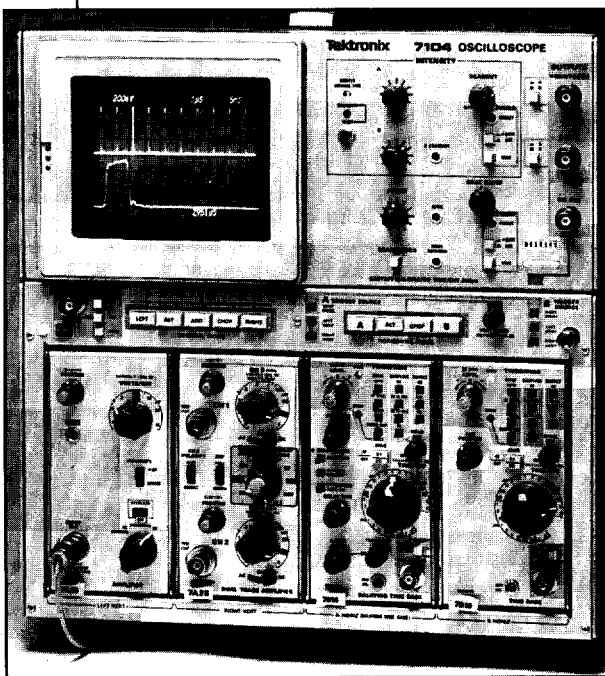


# 7104 1 GHz OSCILLOSCOPE

- Displays Fast Transients and Low Repetition Rate Signals Under Normal Lighting
- 1 GHz Bandwidth (350 ps Rise Time) at 10 mV/Div
- 200 ps/Div Fastest Calibrated Sweep Rate
- 350 MHz Horizontal Bandwidth
- Ultra-High Photographic Writing Rate



## HORIZONTAL SYSTEM

**Channels** – Two right-most plug-in compartments. Compatible with the 7B15, 7B85, and 7B92A, 7000 Series vertical amplifiers, and specialized plug-ins.

**Bandwidth** – Dc to 350 MHz.

**Display Modes** – A, Alt, Chop, B.

Chopped-mode repetition rate is  $\approx$  200 kHz.

**Fastest Calibrated Sweep Rate** – 200 ps/div with the 7B15.

**X-Y Mode** – With Option 02, X-Y Phase Compensation: Phase shift is  $2^\circ$  from dc to 50 MHz. Phase balance can be obtained at any frequency up to 250 MHz. Without Option 02, X-Y Phase Compensation: Phase shift is  $2^\circ$  from dc to 50 kHz.

## CRT AND DISPLAY FEATURES

**CRT** – Internal 8 x 10-division (0.85 cm/div) graticule with variable illumination.

**Photographic Writing Speed** – 20 cm/ns.

**Autofocus** – Compensates for changes in intensity after focus control has been set.

**Beam Finder** – Aids in locating offscreen signal.

## ORDERING INFORMATION

### (PLUG-INS NOT INCLUDED)

**7104** 1-GHz Oscilloscope **\$31,550**

Includes:  
Power cord (161-0066-00),  
Instruction Manual  
(070-2314-00),  
Operator Manual  
(070-2315-00).

### INSTRUMENT OPTIONS

**Opt. 02** – X-Y Horizontal Compensation **+\$450**

**Opt. 03** – EMC Capability **+\$500**

### INTERNATIONAL POWER PLUG OPTIONS

**Opt. A1-A5** – Available **NC**  
See page 374.

### CONVERSION KIT

**EMC Modification** –  
Order 040-0965-00 **\$730**

### ACCESSORIES

**Recommended Cameras** – DCS01. Also, see page 70.

**Recommended Carts** – See page 306.

**Recommended Probes** – See page 70.

### PHYSICAL CHARACTERISTICS

Dimensions	mm	in.
Width	305	12.0
Height	345	13.6
Depth	592	23.3
Weight $\approx$	kg	lb
Net	20.4	45.0
Shipping	25.4	56.0

## 7104 1-GHz OSCILLOSCOPE

The 7104 has both the highest writing speed and highest bandwidth available in a general-purpose oscilloscope today.

The 7104's outstanding writing speed means unsurpassed single-shot capability, with trace brightness about one thousand times that of conventional oscilloscopes. Any single-shot signal within the 1 GHz bandwidth can be seen directly on the crt in average room light. Single-shot photography is now simple and straightforward, using standard oscillographic cameras and film.

You can capture the fastest transients without expensive high-speed film. In fact, you can see those signals on the crt and eliminate costly time-consuming photographs.

Anomalies, such as ringing and overshoot, can only be dealt with by evaluating the signal's analog characteristics.

With a horizontal bandwidth of 350 MHz, Option 2, X-Y Phase-Compensation will give accurate X-Y displays to 250 MHz.

## CHARACTERISTICS

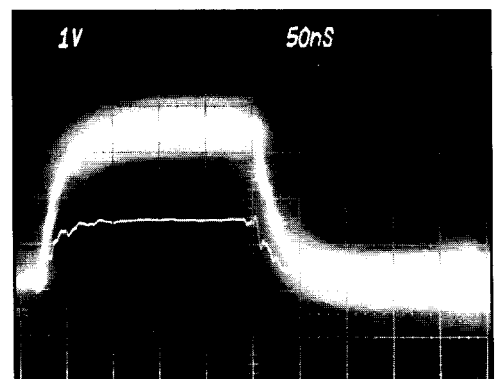
### VERTICAL SYSTEM

**Channels** – Two left-most plug-in compartments. Compatible with all 7000 Series plug-ins.

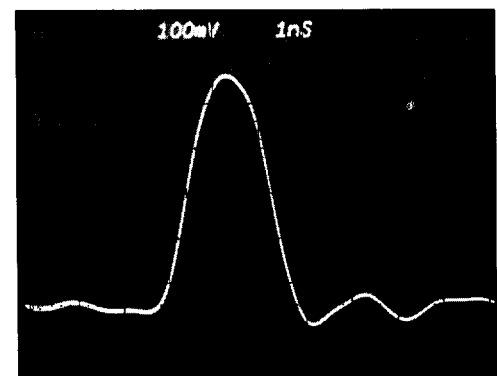
**Bandwidth, Rise Time and Deflection Factor** – Determined by the plug-in used. See page 69.

**Display Modes** – Left, Alt, Add, Chop, and Right. Chopped-mode repetition rate is  $\approx$  1 MHz.

**Trace Separation** – In dual-sweep modes, positions B trace at least four divisions above and below A trace.



*A pulse train with a low level pulse on the 7104, with one thousand times the brightness of conventional oscilloscopes. The researcher can view the pulse directly and take pictures with ease.*



*View of a single clocking pulse of 0.8 ns rise and 2 ns pulse width.*