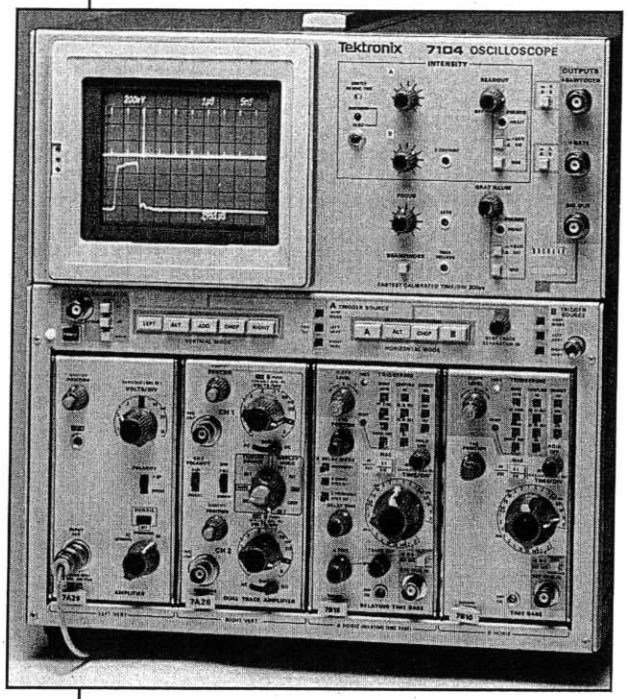
7104 *1 GHz OSCILLOSCOPE*

- *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*



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 ≈	**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 ≈1 MHz.

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

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 ≈ 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° 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° from dc to 50 kHz.

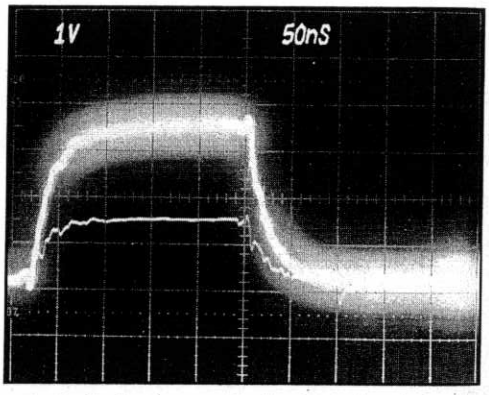
CRT AND DISPLAY FEATURES

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

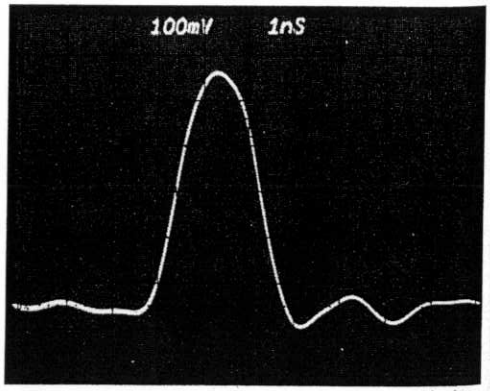
Photographic Writing Speed – 20 cm/ns.

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

Beam Finder – Aids in locating offscreen signal.



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.