



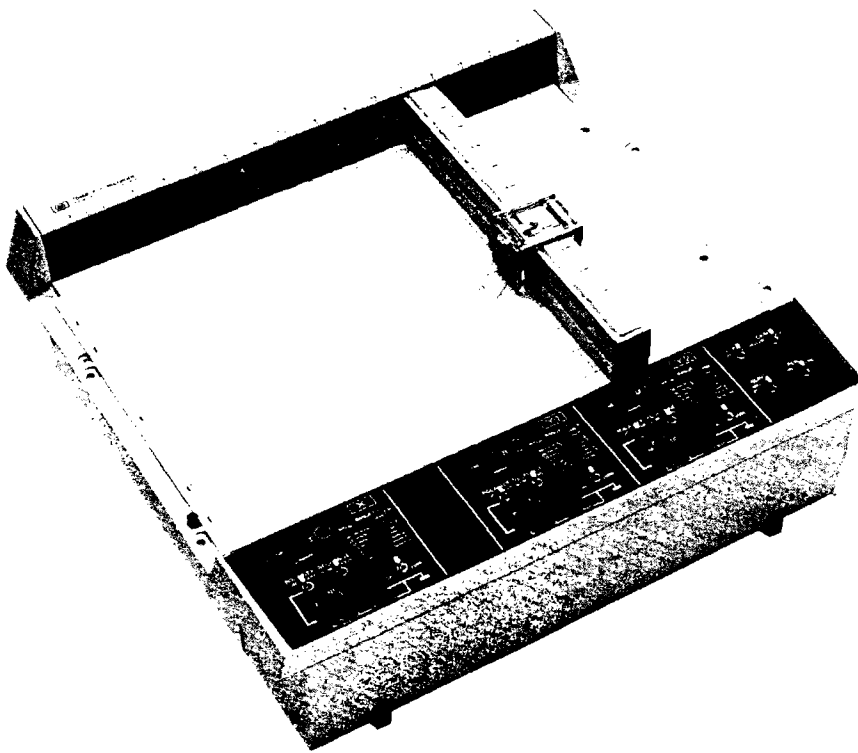
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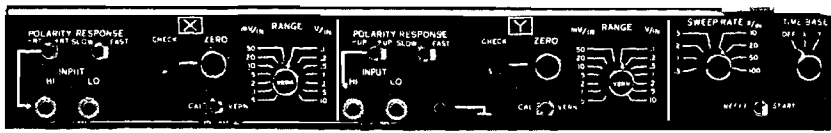
258 RECORDERS, PLOTTERS & PRINTERS

High Performance General-Use X-Y Recorders

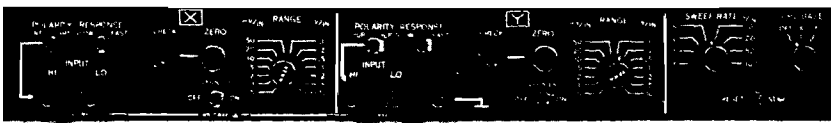
Models 7044B, 7045B, and 7046B



Does your application require maximum general-use capability? Do you need two pens to draw two or three simultaneous variables? . . . **Choose the 7046B**



Do you have a dedicated application, relatively low frequency requirements, or flexible needs for basic recording? . . . **Choose the 7044B**



Do you have multi-users and many applications, need fast pen response but have no need to plot two simultaneous Y variables? . . . **Choose the 7045B**

The 7044B, 7045B, 7046B

This series of general-use X-Y recorders has been designed to satisfy both current and future laboratory applications. The high-level performance and reliability of these recorders are the results of a design philosophy that has evolved through 30 years of Hewlett-Packard experience as a leading manufacturer of X-Y recorders.

Whether the buyer purchases the one-pen (X or T vs Y) 7044B or 7045B or the two-pen (X or T vs Y1 & Y2) 7046B, the recorder will provide the following quality features:

Very high dynamic performance: with a combination of high slewing speed and acceleration, these recorders can capture fast changing signals that an ordinary recorder might miss. For example, the 7045B will, typically, record a signal from dc to 10 Hz at 2 cm peak-to-peak amplitude on either axis.

TTL remote control: with TTL or simple contact closure to ground, a rear connector offers easy interface to measurement systems. TTL provides remote control of sweep, start and reset, pen lift, servo mute, and chart hold. Pen lift, the most important action to be controlled remotely, is also available from a convenient rear-mounted banana jack connector.

Wide chart size range: accepts ISO A3, ISO A4, 8.5 x 11 in., 11 x 17 in., and any paper size under the maximum limit (ISO A3 or 11 x 17 in.). With this capability these recorders can fill a variety of charting needs.

Environmental specifications: each unit is designed to meet exacting Hewlett-Packard environmental specifications. For example, these units meet performance specifications through a temperature range of 0°C to 55°C and at relative humidities up to 95 percent. They also conform to rugged shock and vibration specifications.

Other user-oriented features: with this X-Y recorder line, the two design objectives were to produce precision instruments and to make these units easy to use. Major features include:

- Polarity reverse switch that eliminates need to reverse input leads
- Response switch on 7045B and 7046B that allows recorder response to be slowed to simplify initial set up
- Separate rear connector that provides a convenient remote pen lift control connection
- Built-in hardware that simplifies table or rack mounting



7044B, 7045B, and 7046B Specifications

Performance Specifications

	7044B HIGH SPEED	7045B VERY HIGH SPEED	7046B 2-PEN, VERY HIGH SPEED
Type of input	Front and rear input. Floating, guarded. Polarity reversal switch on front panel.		
Input ranges	0.25, 0.5, 1, 2.5, 5, 10, 25, 50, 100, 250, 500 mV/cm. 1, 2.5, 5 V/cm. (0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500 mV/in. 1, 2, 5, 10 V/in.) Continuous vernier between ranges.		
Input resistance	1 megohm constant on all ranges		
Source resistance	10 k Ω maximum on all ranges		
Accuracy	$\pm 0.2\%$ of full scale (includes linearity and deadband) at 25°C. Temp coefficient $\pm 0.01\%$ per °C		
Range Accuracy	$\pm 0.2\%$ of full scale $\pm 0.2\%$ of deflection (includes linearity and deadband) at 25°C. Temp coefficient $\pm 0.01\%$ per °C.		
Deadband	0.1% of full scale		
Common mode rejection	110 dB and 90 dB ac (exceeds 130 dB dc and 110 dB ac under normal lab environmental conditions) with 1 k Ω between HI and LO terminals. CMV applied between ground and LO, and attenuator on most sensitive range. CMR decreases 20 dB per decade step in attenuation.		
Normal mode rejection	Internal filter not available		

Dynamic Performance Specifications

Slewing speed	50 cm/s (20 in./s), min.	97 cm/s (38 in./s) typical under normal lab conditions. 76 cm/s (30 in./s) minimum.	
Acceleration peak—Y axis	2540 cm/s ² (1000 in./s ²)	7620 cm/s ² (3000 in./s ²)	6350 cm/s ² (2500 in./s ²)
—X axis	1270 cm/s ² (500 in./s ²)	5080 cm/s ² (2000 in./s ²)	3800 cm/s ² (1500 in./s ²)
Overshoot	2% of full scale maximum.	1% of full scale maximum.	

Offset Specifications

Zero offset	Zero may be placed anywhere on the writing area or electrically off scale up to one full scale from zero index.
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Time Base Specifications

Time base	8 speeds: 0.25, 0.5, 1, 2, 5, 10, 25, 50 s/cm (0.5, 1, 2, 5, 10, 20, 50, 100 s/in.)
Time base accuracy	1.0% at 25°C. Temp coefficient at $\pm 0.1\%/C^{\circ}$

General Specifications

Power	100, 120, 220, 240 Vac +5 –10%; 48 to 440 Hz; 135 VA	100, 120, 220, 240 Vac +5 –10%; 48 to 440 Hz; 230 VA	100, 120, 220, 240 Vac +5 –10%; 48 to 440 Hz; 230 VA
Pen lift	Electric (remote via TTL level)		
Writing area	25 x 38 cm (10 x 15 in.)		
Weight	Net 13.7 kg (30 lb)		Net 16 kg (35 lb)
Size	400 H x 483 W x 165 mm D (15.8" x 19" x 6.5").		441 H x 483 W x 173 mm D (17.4" x 19" x 6.8").

7044B, 7045B Options

- 001 Time base
- 002 Event marker
- 006 Metric calibration

7046B Options

- 001 Time base
- 002 Event marker
- 007 Metric calibration
- 085 VDE certification (VDE specification DIN 57411)

Ordering Information

- 7044B High speed recorder
- 7045B Very high speed recorder
- 7046B 2-pen, very high speed recorder
- OEM discounts available