OPTICAL COMPONENT TEST

Tunable Laser Sources

HP 8167A/8168B/C

- Single-mode operation at each wavelength
- Accurate and fast tuning
- Independent control of power and wavelength

HP 8168B

HP Instrument Drivers

DESIGNED FOR HP-IB SYSTEMS

HP 8167A and HP 8168B/C Tunable Laser Sources

Tunable laser sources are basic tools for characterizing and testing optical amplifiers and components. The HP 8167A addresses the 1300 nm transmission window; the HP 8168B/C operate in the 1550 nm window. A built-in side mode filter ensures that a true single-mode laser line is generated for every wavelength point, eliminating any possible multimoding. All tunable lasers provide independent control of output power and wavelength. The user does not need to monitor values with additional instruments. Wavelength scans, which require an output power that is stable over time and flat across all wavelengths, can be performed reliably, accurately and quickly. In manufacturing applications, the instruments can be integrated into a fully automated production-test environment for precise, repeatable high-speed testing. In a manual set-up, built-in application software supports all those measurements. In a manual setup, built-in application software supports single- or dual-channel loss, return loss, and coupling ratio measurements of around 1300 nm or 1550 nm on pigtailed or connectorized devices, depending on the configuration selected.

For more information, refer to the *Lightwave Test and Measurement Catalog* and the data sheet.

Ordering Information

Price

One connector option (Option 021, 022, or 023) must be ordered with each tunable laser source. Options 003 and 022 are retrofittable; contact your HP service location for more details.

HP 8167A Tunable Laser Source
HP 8168B Tunable Laser Source
HP 8168C Tunable Laser Source

Available Options (HP 8167A and 8168B/C)

Opt 021 Straight Contact Output Connector
Opt 022 Angled Contact Output Connector
Opt 023 Diamond HMS-10/HP/HRL Output Connector (angled, non-contact connector; one HP 81000AI included)
Opt 003 Built-In Variable Attenuator
Opt 007 Polarization Maintaining Fiber (cannot be combined with Opt 023 or Opt 003)

HP 81600 Series 200 EDFA Test System

Please refer to *Lightwave Test and Measurement Catalog.*

Specifications

	HP 8167A	HP 8167A Option 003	HP 8168B/C	HP 8168B/C Option 003
Wavelength range	1280 nm to 1330 nm		1500 nm to 1565 nm (HP 8168B) 1470 nm to 1580 nm (HP 8168C)	
Absolute wavelength accuracy	<±0.1 nm			
Relative wavelength accuracy	±0.035 nm (typical: ±0.02 nm)			
Wavelength resolution	0.001 nm, 170 MHz at 1300 nm		0.001 nm, 125 MHz at 1550 nm	
Wavelength stability (typical over 1 h at constant temp.)	<±100 MHz			
Wavelength repeatability	±0.035 nm (typical: ±0.02 nm)			
Linewidth (typical) **broadened** (effective, typ.)	100 kHz 50 to 500 MHz			
Sidemode suppression ratio	>40 dB		>40 dB	>50 dB (1520 nm to 1570 nm)
Tuning speed (typical, for a 1 nm/10 nm/100 nm step)	200 ms (250 ms with Option 003)/300 ms/2s			
Maximum output power	−4 dBm	−5.5 dBm	−3 dBm (HP 8168B) +2.5 dBm (HP 8168C) (1520 to 1570 nm)	−4.5 dBm (HP 8168B) +1.0 dBm (HP 8168C) (1520 to 1570 nm)
Minimum output power	−10 dBm	−50 dBm	−10 dBm	−50 dBm

For the most current prices and product information, contact your local Hewlett-Packard sales office—see page 652.