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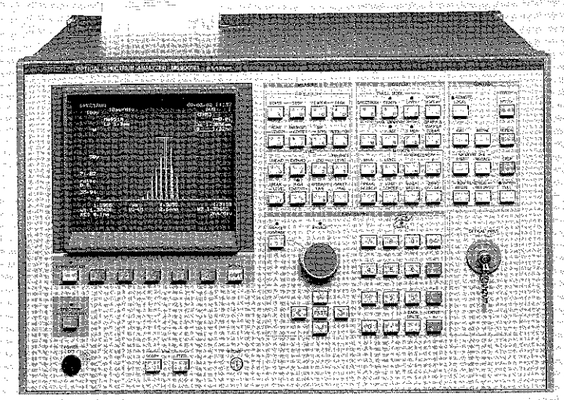
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Find the *Anritsu MS9001B1* at our website: *Click HERE*

OPTICAL SPECTRUM ANALYZER

MS9001B/B1, MS9002A/C

0.6 to 1.75 μm　　0.35 to 1.1 μm



《GP-IB》

The MS9001B/B1 and MS9002A/C are the latest multifunctional optical spectrum analyzers with high-speed and accurate measurement capabilities. The MS9001B/B1 is best for optical communication wavelengths and the MS9002A/C is best for wavelengths including visible light. The MS9001B/B1 covers wavelengths up to 1.75 μm and can be used to measure 1.55 μm band light-emitting elements developed for long-distance optical communications as well as the loss characteristics of optical parts and materials using white-light sources (MG922A).
The diffraction gratings used in other spectrum analyzers have polarization characteristics. Therefore, the measured level of a polarized light source such as an LD is not stable and the level accuracy cannot be guaranteed.
The MS9002A separates the S and P polarization component at the light receiving section to guarantee the level accuracy and compensates each of them. However, the MS9002C does not separate the polarized wave, so the level accuracy is not guaranteed but the sensitivity is improved and the measurement time is shorter when low-level light is measured. Consequently, if a light source such as an LD has polarization characteristics and the level accuracy must be guaranteed, the MS9002A must be used. But if a light source has no polarization characteristics, such as an LED, and loss characteristics must be measured and high sensitivity is required, the MS9002C is best.

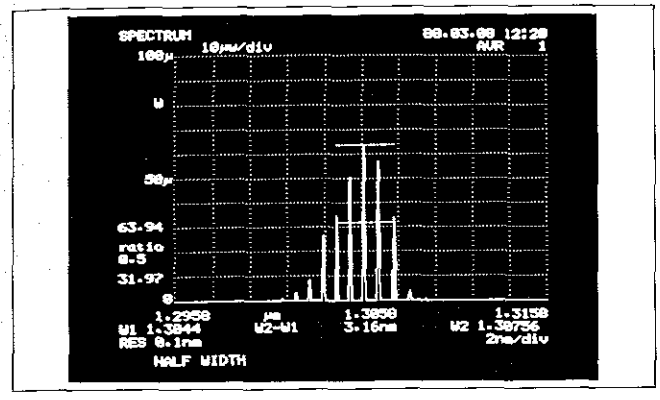
Features

- **High-speed sweep**
  A 16-bit CPU permits a 0.3-second (0 to 2 ns sweep width) high-speed sweep.
  Spectral stability and mode-hopping of light-emitting elements can be measured quickly.
- **Guaranteed level measurement accuracy**
  The absolute optical level is guaranteed to be accurate within ±2 dB by using a dispersion spectrophotometric method in the light receiving section that is not affected by polarization changes even in single-mode fibers (except MS9002C).
- **Guaranteed wide dynamic range (stray light level)**
  The 45 and 50 dB dynamic ranges of the MS9001B and MS9001B1, respectively, have been achieved by using a spectroscope that has less stray light. This permits accurate measurement of DFB laser side-modes.
- **Various functions**
  These spectrum analyzers have various operation functions, such as the peak-center function in which the spectrum peak is moved to the center of the screen, peak level function in which the level scale is set to the optimum value, and peak search function in which the wavelength and level of the spectrum peak value are read.
- **Instant measurement hard-copies**
  The built-in thermal printer hard-copies waveforms from the screen on the spot.

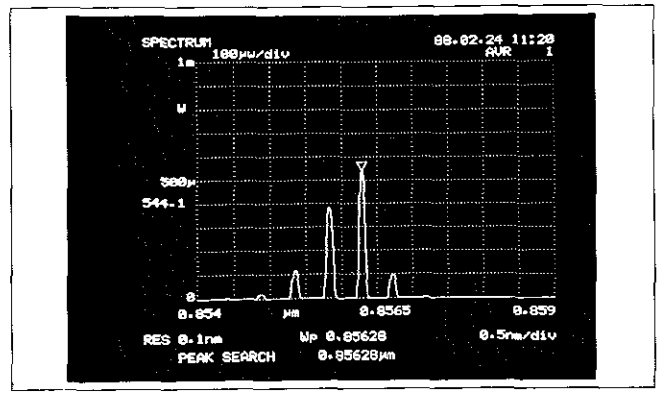
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Processing functions

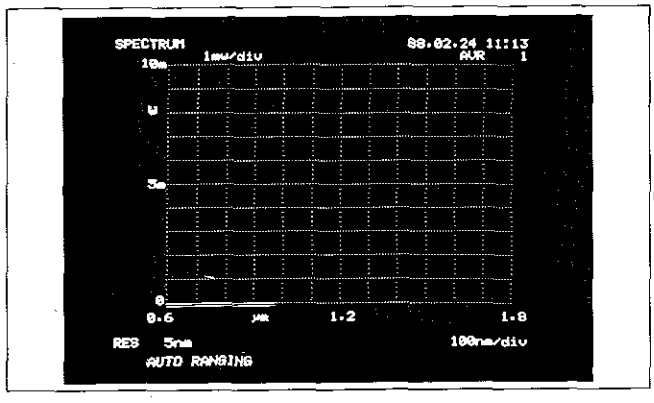
- **Half-width automatic reading function**
  A marker indicates the spectral half width and the numeric value of the width is displayed on the CRT when the half-width key is pressed

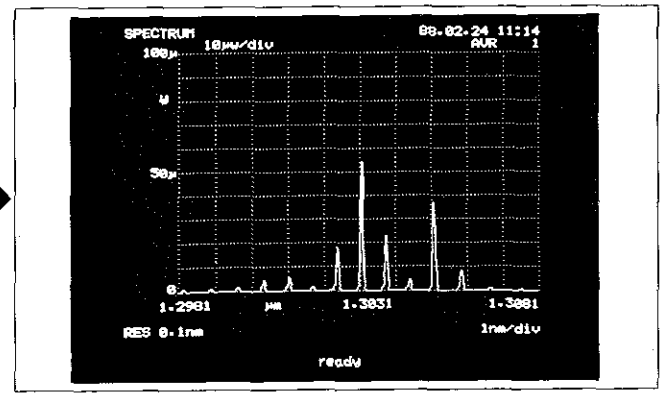


- **Peak search function**
  A marker indicates the measured spectrum peak and the numeric level and wavelength values are displayed on the CRT

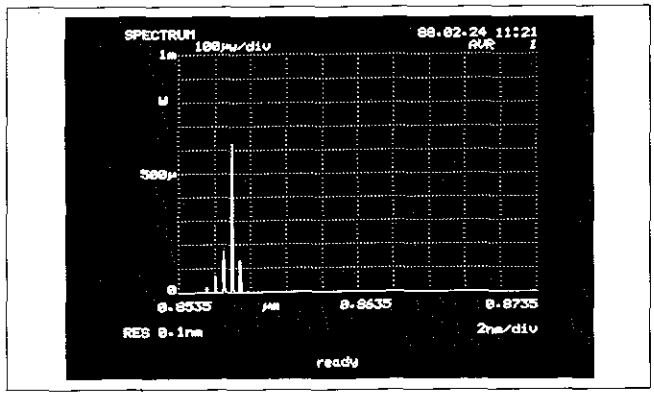


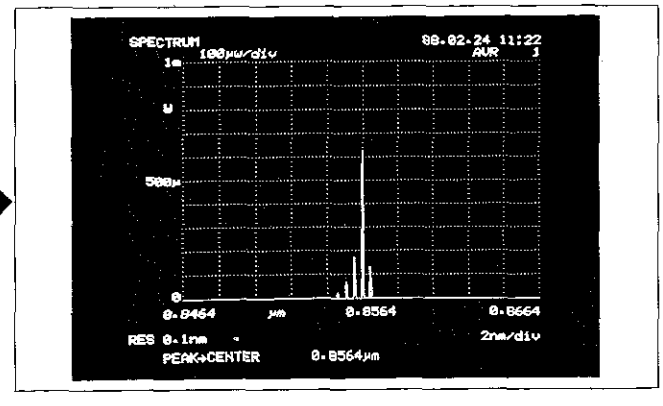
- **Spectrum auto ranging function**
  When the spectrum auto ranging key is pressed, this function repeats automatic measurements until the optimum measurement conditions are satisfied The results are then displayed on the CRT





- **Peak center function**
  This function sets the measured spectrum peak wavelength to the central wavelength and shifts the peak to the center of the CRT

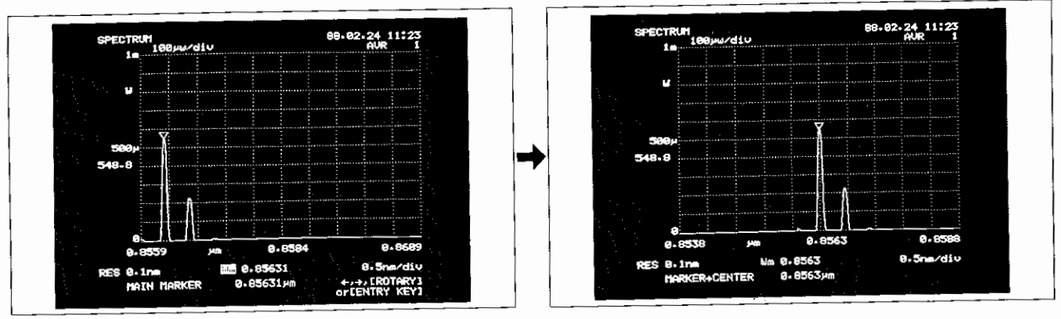




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• Marker center function

This function sets the wavelength of the point indicted by the main marker (▼) set on the measured spectrum to the central wavelength and shifts the point to the center of the CRT



Marker functions

• Main (▽) and zero (▼) markers

Wavelength analysis has been enhanced by installation of main and zero markers

For example, when the zero marker is used, level and wavelength differences between peaks are indicated numerically

• Wavelength and level markers

When the wavelength markers are used the wavelengths and their difference are displayed on the CRT For the level markers levels and their difference or ratio are indicated

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Specifications (MS9001B/B1)

Model	MS9001B	MS9001B1
Wavelength range	0.6 to 1.75 μm	
Level measuring range*1	−70 to +10 dBm (0.7 to 1.6 μm), −65 to +10 dBm (0.6 to 1.7 μm), −55 to +10 dBm (1.6 to 1.75 μm)	
Measuring level accuracy*2	±2 dB (at 0.85/1.3/1.55 μm)	
Linearity	±0.5 dB/20 dB, ±1 dB/60 dB	
Polarization	±0.5 dB (at 1.3/1.55 μm)	
Level scale	0.2 to 10 dB/div and LINEAR	
Dynamic range (background light level)*3	≧35 dB (level difference between peak level and ±1 nm from peak level) ≧45 dB (level difference between peak level and ±10 nm from peak level)	≧40 dB (level difference between peak level and ±1 nm from peak level) ≧50 dB (level difference between peak level and ±5 nm from peak level)
Wavelength read-out resolution	2 pm	
Wavelength accuracy	±1 nm, ±0.5 nm (25°C)	
Resolution bandwidth	0.1 to 5 nm	
Wavelength sweep width	0 to 100 nm/div	
Sweep time*4	≦0.3 s (sweep width: ≦2 nm), ≦1 s (sweep width: ≦50 nm), ≦3 s (sweep width: ≦500 nm), ≦7 s (sweep width: ≦1200 nm)	
Processing functions	Automatic setting for optimum measurement, subtraction averaging, peak-search peak-to-center, spectrum half-width, wavelength calibration, title display, time display, memory backup, direct plotting	
Temperature, rated range of use	10° to 40°C	
Dimensions and weight	266H × 426W × 450D mm, <30 kg	

*1 Levels per resolution bandwidth, excepting 0.1 and 0.2 nm
*2 At −30 dBm, resolution bandwidth 0.2 to 5 nm (SM fiber)
*3 At 1.1523 μm or 1.532 μm with 0.1 nm resolution (SM fiber)
*4 Averaging times: 1, measuring ranges: ≧ −30 dBm (1 μW)

Specifications (MS9002A/C)

Model	MS9002A	MS9002C
Wavelength range	0.35 to 1.1 μm	
Level measuring range	−70 to +10 dBm (0.45 to 1.0 μm)*1 −65 to +10 dBm (0.37 to 1.1 μm)*1 −50 to +10 dBm (0.35 to .37 μm)*1	−75 to +10 dBm (0.45 to 1.0 μm)*2 −65 to +10 dBm (0.37 to 1.1 μm)*2 −50 to +10 dBm (0.35 to 0.37 μm)*2
Measuring level accuracy*3	±2 dB (at 0.488/0.6328/0.85 μm)	
Linearity*4	±0.5 dB/10 dB, ±1 dB/20 dB, ±3 dB/60 dB	
Level scale	0.2 to 10 dB/div and LINEAR	
Dynamic range (background light level)	≧35 dB*5, ≧45 dB*6	
Wavelength read out resolution	2 pm	
Wavelength accuracy	±1 nm, ±0.5 nm (25° ±5°C)	
Resolution bandwidth	0.1 to 5 nm	
Wavelength sweep width	0 to 100 nm/div	
Sweep time	≦0.3 s (sweep width: ≦2 nm)*7 ≦1 s (sweep width: ≦100 nm)*7 ≦3 s (sweep width: ≦500 nm)*7 ≦6 s (sweep width: ≦800 nm)*7	≦0.5 s (sweep width: ≦2 nm)*8 ≦1 s (sweep width: ≦100 nm)*8 ≦3 s (sweep width: ≦500 nm)*8 ≦6 s (sweep width: ≦800 nm)*8
Processing functions	Automatic setting for optimum measurement, subtraction averaging, peak-search, peak-to-center, spectrum half-width, wavelength calibration, title display, time display, memory backup, direct plotting	
Temperature, rated range of use	10° to 40°C	
Dimensions and weight	266H × 426W × 450D mm, <30 kg	

*1 Levels per resolution bandwidth, excepting 0.1 and 0.2 nm, 25°±5°C for +5 dB range of lowest measurable level
*2 25° ±5°C (excepting 0.1 and 0.2 nm)
*3 At −30 dBm, resolution bandwidth 0.2 to 5 nm (SM fiber)
*4 At ≧±5 dB of lowest measurable level (MS9002A), at ≧10 dB of lowest measurable level (MS9002C)
*5 Level difference between peak level measured at 0.488 or 0.6328 μm and level ±1 nm from peak level with 0.1 nm resolution (SM fiber)
*6 Level difference between peak level measured at 0.488 or 0.6328 μm and level ±5 nm from peak level with 0.1 nm resolution (SM fiber)
*7 Averaging times: 1, measuring ranges: ≧ −30 dBm (1 μW)
*8 Averaging times: 1

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Ordering information

Please specify model/order number, name and quantity when ordering

Model/Order No.	Name		Remarks
	Main frame		
MS9001B	Optical Spectrum Analyzer		
MS9001B1	Optical Spectrum Analyzer		
MS9002A	Optical Spectrum Analyzer		
MS9002C	Optical Spectrum Analyzer		
	Standard accessories		
J0008	GP-IB Cable 2 m:	1 pc	
J0017	Power Cord 2.5 m.	1 pc	
E0006	Keys for Power Switch.	2 pcs	
Z0007B	Printer Paper:	2 rolls	
F0024	Fuse 5 A:	2 pcs	MF51NN250V5AAC05
F0049	Fuse 8 A.	1 pc	MN51NN250V8ADC01
F0047	Fuse 5 A:	3 pcs	MN51NN250V5ADC01
F0046	Fuse 3 15 A:	4 pcs	MN51NN250V3 15ADC01
F0045	Fuse, 2 A:	1 pc	MN51NN250V2ADC01
W0423AE	MS9001B/B1 Operation Manual:	1 copy	
W0068AE	MS9002A Operation Manual:	1 copy	
W0422AE	MS9002C Operation Manual:	1 copy	
	Optional accessories		
MA918A	Light-Emitting Element Measuring Unit		Composed of main unit and heads
MA919A	Parallel Beam Mount		
J0205	Large Aperture Optical Fiber Cord 600 μm core dia		SM-600FVD-95P
J0202A	Large Aperture Optical Fiber Cord 200 μm core dia		SM-200FVD-95P
J0203	Optical Fiber Cord with lens attached to end 50 μm core dia		OPCL-5G100-FC-□m
J0204	Optical Fiber Cord with lens attached to end 200 μm core dia		OPCL-5G100-FC-□m
MA9013A	Fiber Adaptor		For fibers with 0.3 to 1 mm jacket dia (125 μm clad dia)
	Expendables		
Z0007B	Printer Paper		2 rolls/set
Z0063	Printer Paper		2 rolls/set

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