

MEASURING RECEIVER

ML524B

25 to 1000 MHz

GPIB
OPTION

For Measuring Service Area



Custom-made product

The ML524B have a full range of features and functions plus de-modulation functions for various signals. Their compact, lightweight construction makes them suitable for a variety of measurement applications. Use of the GPIB interface option allows easy configuration of an automatic test system controlled by a personal computer.

Features

- Very compact and lightweight
- High frequency stability (A synthesizer local is used. Its reference oscillator has a high frequency stability of $\pm 1 \times 10^{-6}$.)
- Wide dynamic range (80 dB without switching)
- Automatic gain calibration

- Direct readout of field strength
- High precision level display (indication in 0.1 dB steps)

Applications

For field strength measurement

- Investigation to determine service areas
- Radio wave propagation test
- Measurement of spurious radiation from transmitter

For other than field strength measurement

- Radio monitoring
- Measuring receiver
- High-sensitivity signal demodulation

Specifications

RF input		Nominal impedance 50 Ω , N-type connector
Frequency	Range	25.0000 to 999.9999 MHz
	Display	Liquid crystal display, 6 digits Minimum digit: 1 kHz (0.5 kHz is displayed using a symbol of ■.)
	Resolution	12.5 kHz (120 kHz bandwidth), 1 kHz (15 kHz bandwidth)
	Setting	Keyboard and FINE dial
	Memory	Up to 100 frequencies can be stored and recalled.
	Reference frequency stability	$\pm 1 \times 10^{-6}$
Voltage measurement (E.M.F.)	Minimum value	5 dB μ V (25 to 300 MHz), 5 dB μ V (300 to 999.999 MHz)
	Maximum value	100 dB μ V (25 to 999.999 MHz)
	Setting	C/N: ≥ 6 dB (at minimum value), Bandwidth: 15 kHz
	Accuracy (digital display)	± 2 dB ($\geq$ minimum value +6 dB)
	Comparison oscillator	Pulse generator
Field strength measurement	Minimum value	-5 to 19 dB μ V/m (25 to 300 MHz), 19 to 32 dB μ V/m (300 to 999.999 MHz)
	Maximum value	0 to 114 dB μ V/m (25 to 300 MHz), 114 to 120 dB μ V/m (300 to 999.999 MHz)
	Setting	C/N: ≥ 6 dB (at minimum value), Bandwidth: 15 kHz
	Type of antenna	Half-wave dipole
Selectivity	6 dB bandwidth	15 ± 2 kHz (15 kHz bandwidth), 120 ± 20 kHz (120 kHz bandwidth)
	Detuning characteristics	15 kHz bandwidth ≥ 50 dB (± 20 kHz off center)
Image ratio		≥ 60 dB (at 25.000 to 299.999 MHz), ≥ 45 dB (at 300 to 999.999 MHz)
Residual spurious		≤ 10 dB μ V (typical near 50, 130, 600, 1000 MHz)
Detection system		Average value

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Measured level indication	Display: Liquid crystal display, 4 digits, Minimum digit 0.1 dB (on digital display), Up to 80 dB (on analog display) Unit: dBμV, dBμV/m (on digital display)
Monitor output	AM and FM can be heard from a loudspeaker, and earphone output terminal is also provided.
IF output	Level: ≥85 dBμV at 80 dBμV input, Impedance: 50 Ω (nominal), Connector: BNC-type
Discriminator output	Level: 1 V ±20% (modulation frequency: 2 kHz, frequency deviation: 3.5 kHz, into 100 kΩ load) Impedance: ≤150 Ω Connector: BNC-type
Output for recorder	Level: 1 V ±10% (at 80 dB on digital display, into 100 kΩ load), Impedance: ≤150 Ω, Connector: 3.5φ jack
Ambient temperature	0° to 50°C (operate), -20° to 60°C (storage)
Power	12 Vdc: <1 A 100 Vac, 50/60 Hz, ≤35 VA (using MZ114A AC Power Pack supplied) Ni-Cd battery (optional MZ110B Battery Pack)
Dimensions and mass	210 (W) x 60 (H) x 175 (D) mm, ≤4 kg

Power supply selection guide

Type of power supply	Model	When used with ML524B	Remarks
Dry cell	MZ137A Battery Pack 	- Operates continuously for about 2.5 to 5 hours*1 - Sold separately	- Twelve alkaline dry cells (LR20) - Does not permit GPIB operation
Ni-Cd battery	MZ110B Battery Pack 	- Operates continuously for about 30 to 60 minutes*1 - Sold separately	- Six Ni-Cd batteries with the same dimensions as R14 battery, chargeable 200 to 300 times - Fits inside the receiver - Does not permit GPIB operation
AC supply	MZ114A AC Power Pack 	- Permits operation at 100/220 Vac - One of accessories supplied	- DC power is fed to the EXT +12 V terminal of the receiver. - Permits GPIB operation - EMC, safety
External DC supply	—	The receiver can be operated directly from an external 12 Vdc supply.	- One DC power cord is supplied. - Permits GPIB operation
Battery charger	MZ115B Battery Charger	Sold separately	- Two MZ110B can be charged simultaneously. - EMC, safety

*1: For continuous reception after power on, with calibration performed once only (more calibrations reduce the operating time). Operating is also affected by how the battery has been stored, and operating temperature.

Ordering information

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

Model/Order No.	Name
ML524B	Main frame Measuring Receiver
J0231	Standard accessories Connecting cord for recorder (3.5φ plug · — · alligator clips), 1.5 m: 1 pc
J0144	DC power cord (RM12BPG-5S · 2CC7 · arrow tips), 1.5 m: 1 pc
A0002	Earphone: 1 pc
MZ114A	AC Power Pack: 1 pc
B0259	Carrying case: 1 pc
W0285AE	ML524A/B/C operation manual: 1 copy
ML524B-01	Options GPIB
ML524B-05	Terminated voltage indication

Model/Order No.	Name
	Optional accessories
MP612A	RF Fuse Holder
MP613A	RF Fuse Element (5 pcs/set)
A0004	Headphone
MZ110B	Battery Pack (with six Ni-Cd batteries)
MZ115B	Battery Charger
MZ114A	AC Power Pack
MP635A	Log-periodic Antenna
MZ137A	Battery Pack
MB19A	Tripod (for MP635A)
J0006	GPIB cable, 0.5 m
J0007	GPIB cable, 1 m
J0008	GPIB cable, 2 m
J0009	GPIB cable, 4 m
MP663A	Dipole Antenna (with pole and tripod)
MP651B	Dipole Antenna
MP18A	Pole (for MP651B)
MB9A	Tripod (for MP651B)
MP520B	CM Directional Coupler (25 to 1000 MHz, 75 Ω, NC-type connector)
MP520D	CM Directional Coupler (100 to 1700 MHz, 50 Ω, N-type connector)