

LEVEL METER

ML424A, ML424B

10 Hz to 20 MHz, 10 Hz to 30 MHz

- Measuring accuracy: ± 0.2 dB
- Psophometer (option) according to CCITT Rec. P.53 and J.16



The ML424A/B is a compactly designed level meter of high level measuring accuracy with calibrated signals internally provided. It is also capable of measuring noise levels (in conformity with the CCITT Recommendations) with the necessary psophometer option.

Features

- Wide frequency range from 10 Hz to 20 MHz
- Excellent frequency response of ± 0.1 dB over the range from 10 Hz to 13 MHz
- High measuring accuracy of ± 0.2 dB including the frequency response, attenuator step accuracy and temperature stability
- A psophometer option can be incorporated (Option 01) for measuring noise levels of telephone and sound program circuits. The characteristics of the weighting filters conform to the CCITT Recommendations (P.53 and J.16).
- The ML424B provides true RMS detection.

Applications

The ML424A/B is suited for use as a level meter to be used in construction and maintenance of FDM transmission lines and as a noise level meter. With its small dimensions and ease of operation, it can be utilized as a basic measuring instrument for various purposes in laboratories and production lines.

The ML424A/B can be used in conjunction with the Synthesized Level Generator MG442A and the Level Comparator MN415A. For details, see the catalog for the Transmission Measuring Set ME446NB and ME447A/B.

Functions

The level measurement range of the ML424A/B is from -60 to $+20$ dBm (from -70 to $+22$ dBm with the indicator scale) and its noise level measurement range is from -80 to 0 dBm (from -90 to $+2$ dBm with the indicator scale in CCITT Rec. P.53).

Measurement is performed by using the 10 dB and 1 dB step dials and the indicator scale. The indicator scale is used in two modes: NORMAL and EXPAND. In the EXPAND mode, the range of ± 1 dB of the indicator scale can be expanded to 0.05 dB in the minimum graduation. With the internal calibrated signals, the best condition can be maintained by adjusting the meter with the LEVEL CAL button.

The ML424A/B can be used also as an amplifier (using the AMP OUT terminal).

Moreover, a DC output for recording can be obtained.

Performance

The ML424A/B has excellent frequency response and level measuring accuracy.

Figure 1 shows typical frequency response.

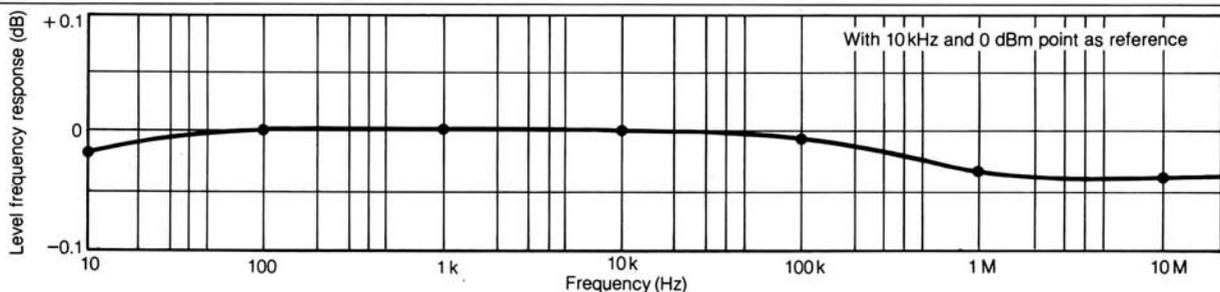


Fig. 1 Typical Level Frequency Response (75 Ω unbalanced)

VOLTMETER, POWER METER AND LEVEL METERS

Specifications

Item	ML424A	ML424B																																								
Frequency	10 Hz to 20 MHz (75 Ω unbalanced) 4 to 650 kHz (75 Ω, 150 Ω balanced) 30 Hz to 150 kHz (600 Ω balanced)	10 Hz to 30 MHz (75 Ω unbalanced) 4 to 650 kHz (75 Ω, 150 Ω balanced) 30 Hz to 150 kHz (600 Ω balanced)																																								
Detection system	Mean-value type	Root-mean-square type																																								
Level measuring range	-60 to +20 dBm at 0 dB indication of the indicator (attenuator only) -70 to +22 dBm (using indicator scale and attenuator)																																									
Level frequency characteristic	±0.1 dB (100 Hz to 13 MHz) referred to 10 kHz at 0 dBm, 75 Ω unbalanced	±0.1 dB (100 Hz to 13 MHz), ±0.5 dB (10 Hz to 30 MHz) referred to 10 kHz at 0 dBm, 75 Ω unbalanced																																								
Level measuring accuracy	±0.2 dB (20 Hz to 6 MHz), ±0.3 dB (10 Hz to 20 MHz) when calibrated and measured from -60 to +20 dBm at 0 dB indication of the indicator	±0.2 dB (20 Hz to 6 MHz), ±0.3 dB (10 Hz to 20 MHz), ±1.2 dB (10 Hz to 30 MHz) when calibrated and measured from -60 to +20 dBm at 0 dB indication of the indicator																																								
Maximum crest factor	—	≥4 at 0 dB indication of the indicator (Input level ≤10 dBm)																																								
Scale expansion	Minimum graduation: 0.05 dB, expanded range: ±1 dB																																									
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Recorder output	DC 1 ±0.01 V (at 0 dB indication, internal resistance: ≤1.5 kΩ)																																									
AMP output	<ul style="list-style-type: none"> ● Gain: 0 to 60 dB, variable in 1 dB steps ● Maximum output level: +2 dBm into 75 Ω load ● Output impedance: 75 Ω ● Noise level: -75 dBm (converted into input level) 																																									
Noise measurement	When Option 01 built in <ul style="list-style-type: none"> ● Weighting filter: for telephone circuit (CCITT Rec. P. 53) and for sound program circuit (CCITT Rec. J. 16) ● Level measuring range: -80 to 0 dBm at 0 dB indication of the indicator (attenuator only) -90 to +2 dBm (using indicator scale and attenuator for CCITT Rec. P. 53) ● Detection system: Root-mean-square type ● Maximum input level: 0 dBm (in the range from -30 to 0 dBm on 10 dB step dial) -10 dBm (in the range from -80 to -40 dBm on 10 dB step dial) 																																									
Power	AC 100 V ±10%, 50/60 Hz ≤22 VA (≤35 VA with the level comparator MN415A)	AC 100 V ±10%, 50/60 Hz ≤27 VA (≤40 VA with the level comparator MN415A)																																								
Ambient temperature, rated range of use	0° to 45°C																																									
Dimensions and weight	99H × 282W × 200D mm, ≤4 kg																																									

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Ordering information

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

Model number/ Order number	Name	Remarks
ML424A ML424B	Main frame Level Meter Level Meter	10 Hz to 20 MHz, detection of mean value 10 Hz to 30 MHz, detection of effective value
J0115A J0050A	Standard accessories Coaxial Cord, 1 m: 1 pc Balanced Cord, 1 m: 1 pc Fuse for ML424A/B, 1 A: 1 pc ML424A/B Operation Manual: 1 copy	3CZ-P•—•3CZ-P M-214S•—•M-214S T1A250V
ML424-01	Options Psophometer for ML424A/B	CCITT J.16, P.53
B0009	Optional accessories Front Cover	To protect front panel