

DVD/CD Jitter Meter



LE-1854



Upon request

Representing the 3rd generation of CD jitter meters, the LE1854 extends the range of this powerful performance gauge to meet the needs of rapidly expanding CD and DVD applications. Designed for disc mastering, disc production, player production and quality control, this instrument assists in production tuning, optimization and documentation.

RF levels and jitter readings are shown simultaneously with selectors to read 3T and 11T levels of the EFM (eight to fourteen modulation) signal. The sigma measuring mode displays the amount of jitter error within \pm one standard deviation of the mean. This produces a near steady state meter reading to facilitate accurate measurements and adjustments. Displayed values are quantified, repeatable and not subject to the kind of interpretation errors experienced

- Quantified, Repeatable Jitter Measurements
- Increased Accuracy and Throughput
- Objective Readings Free of Interpretation Errors
- Jitter and EFM RF Levels Simultaneously
- Sigma-Weighted Jitter Readings
- Polarity Selector for Jitter Referenced to Rising or Falling Transitions to Show Asymmetry
- Switchable Speeds: X1, X8, X10, X12
- Processing to Correct 3T Asymmetry Prior to Jitter Measurement

when viewing EFM signals on an oscilloscope. The LE1854 reads jitter in Sigma values only. A polarity selector or jitter references the readings to either the rising (pit-to-land) or the falling (land-to-pit) transitions to show asymmetric differences. Signal processing partially corrects 3T asymmetry to minimize the effect on the jitter reading at higher speeds. In addition to 3T and 11T level readings, a buffered output allows oscilloscope observation of ratio and symmetry. Of particular value in production and QC operations, the GO/NO GO judgement section provides adjustable thresholds for 3T and 11T peak levels as well as jitter limits. Front panel GO/NO/GO indicators are augmented by rear panel outputs for remote indicators or alarms. DC meter analogs are also provided on the rear panel for remote level and jitter indicators.

key specifications

INPUT SECTION

Input Signal
EFM Signal
EFM Signal Clock

Speed	EFM Signal Clock
X1	4.3218 MHz \pm 3%
X8	34.574 MHz \pm 3%
X10	43.218 MHz \pm 3%
X12	51.862 MHz \pm 3%
DVD	26.16 MHz \pm 3%
DVD	27.00 MHz \pm 3%

Input Voltage Range
50 mV to 3 V p-p
Probe Selection
10:1, 1:1
Input Impedance
1 M Ω \pm 1%, 35 pF \pm 10%

JITTER MEASUREMENT

Speed	Sigma Indication
X1	30 ns/60 ns
X8	3 ns/6 ns
X10	3 ns/6 ns
X12	3 ns/6 ns
DVD	6 ns/15 ns

Measurement Accuracy
Within \pm 5% of full scale

Polarity

Positive pulse ($\uparrow\downarrow$)
Negative pulse ($\downarrow\uparrow$)

Display Method

SIGMA

Measurement Bit

3T

Asymmetry Compensation Range
 \pm 10% of 3T pulse

LEVEL MEASUREMENT SECTION

Measurement Method

3T, 11T bit: \pm peak detection
11T bit: Peak for x2 or faster speed operation

Measurement Range

1.5 V p-p, 3 V p-p full scale

Measurement Accuracy

Within \pm 5% of full scale

JUDGEMENT SECTION

Judgement Item

Jitter, level

Judgement Method

Level: LED indicates GO when measured value is greater than the reference value.

OUTPUT SECTION

Monitor Output

EEM signal (buffered output of input signal)

Meter Output

Jitter component

Meter Output Voltage

Jitter, level

DC: +1 V \pm 3% at full scale indication

GO/NO GO Output Connector

Amphenol, 57 series, 14-pin connector

GO/NO GO Output Voltage

TTL level, negative logic

REMOTE SECTION

Remote Connector

Amphenol 57 series, 14-pin connector

Remote Item

Remote ON/OFF, speed selection, polarity section

ENVIRONMENTAL CONDITIONS

Operating Temperature

0 to 40 $^{\circ}$ C, 30 to 85% RH

POWER REQUIREMENTS

100, 120, 220, 240 V ac \pm 10%

50/60 Hz, 40 VA

PHYSICAL

Size (W x H x D)

16 $^{3}/_{4}$ x 4 x 11 $^{3}/_{4}$ in.,
426 x 99 x 300 mm

Weight

10.6 lbs., 4.8 kg

SUPPLIED ACCESSORIES

Instruction Manual

Spare Fuse

With compliments

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