

VIDEO LCD FLICKER CHECKER

Checks Bottom Level and Magnitude of LCD Panel Flicker



LT 9213A LCD FLICKER CHECKER

GENERAL

The LT 9213A greatly reduces the investment in capital equipment required to adjust and evaluate flicker in LCD and other display panels. Visual methods are difficult, non-repeatable and fatiguing to operators and spectrum analyzer methods are costly and require experienced personnel. Use of the LT 9213A saves space as well, and once set up, provides production speed with fast GO/NO GO judgements. A DC output proportional to the meter reading is provided as well as a TTL output of GO/NO GO finding. The optical sensor is provided.

FEATURES

- Large Equipment Cost Savings as Opposed to Spectrum Analyzer Methods
- Large Indicator Eliminates Operator Fatigue
- Amplitude Compressor Simplifies “Bottom” Adjustment
- Selectable Bandpass Filter Eliminates Noise and Interference and Adapts the Unit to a Wide Range of LCDs
- GO-NO GO Indicators and Judgement Speed Throughput
- DC AGC for Relative Flicker Measurements
- Aids in Evaluating Compliance with VESA 305-5
- Accommodates a Wide Range of Brightness (0.5 to 300 cd/m²)

■ LT 9213A Rear Panel



SPECIFICATIONS

LT 9213A

System

Indication of brightness variation
Variable frequency bandpass filter provided to select flicker component

Functions

- Input section
Abnormal brightness (too bright, too dim) indicator, input level adjustor
- DC AGC normalizes brightness dispersion.
- Meter sensitivity adjustor
- Variable frequency bandpass filter provided to select flicker component
- Flicker indication compressor (COMPRESSION/ LINEAR, selectable)
- GO/ NO-GO judgment and output
- DC output in proportion to the meter indication
- Flicker waveform monitor output

Flicker Measurement

Measurement Range: 0 to 30 %, 2 ranges
(RESPONSE: LINEAR, SENSITIVITY: FIX)

Panel Brightness Range when a provide sensor is used.
Switchable LOW/HIGH by BRIGHTNESS RANGE SWITCH on rear panel.

LOW: 0.5 cd/m² to 50 cd/m², include Brightness level adjustor

HIGH: 30 cd/m² to 300 cd/m², include Brightness level adjustor

The brightness ia measured when the sensor is fully contacted to the LCD panel.

Brightness Range Indicator: Indicates abnormal brightness (too bright, too dim)

Measurement Accuracy

±10 % of full scale
(LINEARITY: LINEAR, SENSITIVITY: FIX)

Sensitivity Adjustor

0.3 to 2 times (refer to FIX)

Meter Indication

Average responding

Built-In Filter

Variable Filter

Type: Single-resonance bandpass filter
Center Frequency: 20 Hz to 150 Hz, variable
Selectivity: Q=3
*Typical attenuation characteristics:
20 dB at 60 Hz (20 Hz tuning frequency)

Frequency Response (30 Hz ref.)

20 Hz to 60 Hz: ±0.5 dB
60 Hz to 150 Hz: ±1 dB

Fixed Filter

Type: RC low-pass filter, 6 dB/oct
Attenuation: -3 dB at 400 Hz

DC Output

Output Signal: Proportion to meter indication
Output Voltage: 1 V±50 mV at full scale, into open
Output Resistance: 1 kΩ approx
Connecting cable length: ≤ 10 m

Accessory Sensor

Type: Silicon photodiode
Model: S2281-01(manufactured by Hamamatsu Photonics K.K.)

Connecting cable length: ≤ 3 m

Monitor Output

Output Signal: Flicker component normalized by DC AGC

Output Voltage: 0.1 Vp-p/% approx.

Output Resistance: 600 Ω approx

Connecting cable length: ≤ 10 m

GO/ NO-GO Function

Method: Preset on the meter

Setting: Judgement value in preset mode

Indicator: LED (GO: Green, NO-GO: Red)

Output: TTL level, fun out: 1

GO: LO, NO-GO or not judged: HI

Connecting cable length: ≤ 10 m

Power Requirements

100 V/ 115 V/ 230 V ±10 %(250 V max.), 50/60 Hz 7 W max.

Environmental Conditions

Operating Temperature Range: 0 to 40 °C

Operating Humidity Range: ≤ 80 % RH (without condensation)

Spec-Guaranteed Temperature Range: 10 to 35 °C

Spec-Guaranteed Humidity Range: ≤ 80 % RH (without condensation)

Dimensions and Weight

132 (W) x 148 (H) x 250 (D) mm, 2.4 kg

Accessories

Sensor..... 1
BNC - BNC cable..... 1
Power cord 1
Instruction manual 1