



## GENERAL DESCRIPTION

The 845 FM SCA Monitor is designed to monitor up to three FM subcarrier frequencies, selected from the front panel. 67 kHz is supplied standard. Applications include independent off-air SCA Monitoring, SCA Proof-of-Performance measurements, and confirmation of subcarrier generator performance.

In addition, one or two optional Service Channel plug-in boards provide uninterrupted SCA program or data outputs. A Loss-of-Modulation alarm is also provided with this option.

## INDEPENDENT OFF AIR SCA MONITOR

An optional RF module allows the Model 845 to be used as a standalone off-air SCA Monitor. The RF Module consists of a crystal-controlled, single channel RF pre-selector and high-quality FM demodulator circuit. The output of the FM demodulator feeds the input of the Model 845 when this option is ordered.

## FREQUENCY-SYNTHESIZED TYPE MODULATION CALIBRATOR

A frequency-synthesized FM modulation calibrator is built-in for calibration of the modulation meter and peak flashers. Stability and accuracy are determined by crystal oscillators which remain stable regardless of temperature or aging. Accuracy exceeds 1%. This feature eliminates the need for Bessel null calibration with external equipment.

## ACCURATE PEAK MODULATION DETECTION (P.M.D.D.)

The 845 features an exclusive TFT Peak Modulation Duration Differentiator (P.M.D.D.) which separates true modulation peaks from peaks caused by transient noise, overshoot and multipath distortion.

## ADJUSTABLE PEAK MODULATION FLASHERS

Dual LED Peak Modulation Flashers may be set over a range of 50% to 199% modulation. A thumb-wheel switch eliminates the ambiguity and imprecision of potentiometer-type controls

## BUILT-IN VOLTMETER AND ATTENUATOR

A switchable 50 dB attenuator (in 10 dB steps) is built-in to perform a complete proof. The only other equipment needed are a distortion analyzer and an audio generator.

## MODEL 845

## FEATURES AND BENEFITS

- **Multiple Subcarrier Capability**
- **Full Monitoring and Measurement Capability**
- **Built-in Modulation Calibrator**
- **Operational RF Pre-Selector**
- **Optional Service Channels for Continuous Channel Output**

## SPECIFICATIONS

### COMPOSITE BASEBAND INPUT

Input Signal	Composite or single subcarrier selectable from front panel switch
Signal Level, Connector	1.0 V, 600 Ohms, unbalanced, BNC
Frequency Range	41 kHz to 125 kHz
Subcarrier frequencies	Three crystal-controlled frequencies selectable from front panel switch, 67 kHz supplied standard.

### METER MEASUREMENTS

Meter Range	0 to 133%, and dB scales
Meter Characteristics	3½" illuminated scale
Meter Attenuator Range	50 dB in 10 dB steps, pushbutton selectable

#### Total Modulation Measurement:

100% Modulation	± 75 kHz
Modulation Accuracy	± 4%
Injection Accuracy	± 0.5%, 5% to 30% injection level

#### SCA Subchannel Measurement:

100% Modulation	± 4 kHz or ±6 kHz, pushbutton selectable
Modulation Accuracy (100% Modulation, 1 kHz Tone)	± 2%

#### Audio Frequency Response:

Composite Input	± 2 dB, 40 Hz to 6.0 kHz
Or	± 3 dB, 20 Hz to 7.5 kHz
*Subcarrier Input (Bandpass filter out)	± 0.5 dB, 20 Hz to 7.5 kHz

### INTERNAL CROSSTALK

*Main to SCA; Stereo to SCA; and SCA to Main	- 66 dB
*Wideband input measurement	

### SCA PEAK MODULATION INDICATORS

Variable Peak Indicators  
Positive and negative modulation LED flashers, peak limit set by thumbwheel switches in 1% increments from 50% to 199% Accuracy: ± 1%

### SCA MODULATION AND INJECTION CALIBRATOR

Built-in modulation and injection level calibrator for calibrating modulation meter and the peak flashers from the front panel. Accuracy: ± 1%.

### SUBCARRIER FREQUENCY MEASUREMENT

SCA Subcarriers	Available on front panel for external frequency counter
Off-Frequency Indicator	LED on when SCA carrier frequency is > ±500 kHz from center

### OUTPUTS, FRONT AND REAR PANEL

SCA Subcarrier	500 mV, into 5K Ohms (front panel) Audio (with 150 µsec)
De-Emphasized "Meter" Output	2 Volts RMS, 600 Ohms balanced at 400 Hz, 100% modulation, follows subchannel selected by front panel switch
*Audio Distortion	0.5% at ±6 kHz
*Signal-to Noise	66 dB with de-emphasis
*Single subcarrier input only, measurement made without bandpass filter.	

### OUTPUTS, OPTIONAL SERVICE CHANNEL

Audio	2 Volts RMS, 600 Ohms unbalanced at 400 Hz, 100% modulation
Audio Distortion	3% maximum
Signal-to-Noise Ratio	>50 dB with de-emphasis
Loss of Modulation	Relay contact closure

### OUTPUTS

Audio (without de-emphasis)	2 Volts RMS, 600 ohms unbalanced at 100% modulation, follows subchannel selected by front panel switch
Remote Meter and Flashers	For Model 805 remote meter and flasher panel
Connectors	BNC on front panel, terminal block on rear panel

### MECHANICAL AND ENVIRONMENTAL

Input Power	115/230 VAC, ±10%, 50 to 400 Hz, 40 Watts Max
Operating temperature	0°C to + 50°C (+32°F to +122°F)
Size	3½" (8.89 cm) H x 19" (48.26 cm) W x 14.75" (37.47 cm) D
Net Weight	Approximately 9.5 lbs (4.3 kg)
Shipping Weight	Approximately 12.5 lbs (5.6 kg)



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1953 Concourse Drive, San Jose, California 95131-1708 U.S.A.

Telephone: +1-408-943-9323 Fax: +1-408-432-9218

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