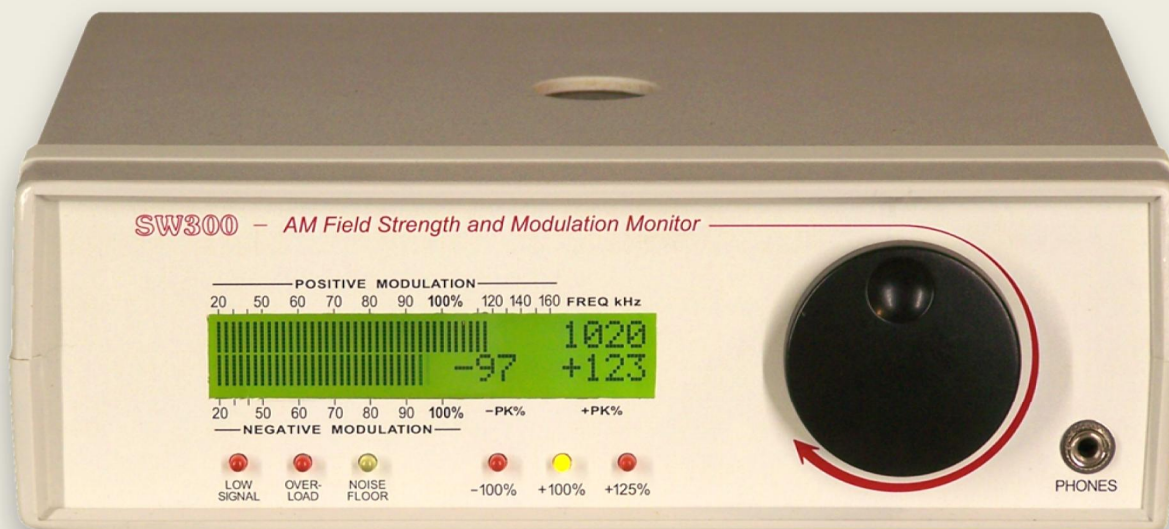


The **Schlockwood 300**

AM Field Strength and Modulation Monitor



The Schlockwood 300 (SW300) is a compact, portable field strength meter and modulation monitor for medium-wave AM broadcast applications. It satisfies needs ranging from those of Part 15 operators to commercial stations.

The SW300 is supplied with our calibrated Goldring™ antenna and an AC mains power adapter. In the field it can easily borrow power from a car's 'lighter socket,' or utilize any 8V to 24V general-purpose backup battery pack.

SW300 FEATURES:

- Dynamic bargraph and peak-holding numerical readouts of off-air signal strength, channel noise floor, and positive and negative modulation peaks.
- Front-panel alarm LEDs clearly define poor signal and overmodulation conditions. Rear-panel alarm 'tallies' may be wired to remote indicators or outboard alarm logic.
- Easy and intuitive operation with jog wheel navigation of LCD menus.
- Defeatable NRSC program de-emphasis and a variable-cutoff audio program output filter that can simulate real-world radio-listening conditions.
- Compatible with power-saving MDCL transmission.
- Rear-panel test jacks for external signal analysis with a 'scope or spectrum analyzer.
- User maintenance and/or modification is made easy by the use of thru-hole assembly and common, readily-available generic components.

SW300 SPECIFICATIONS

INTRODUCTION (Please Read):

The SW300 has been developed and is intended solely for the measurement of signal parameters within the user's local AM-radio broadcast market. It is not a receiver for AM 'DXing.' The SW300 combines dual conversion receiver architecture with synchronous detection to provide precise modulation-percentage measurements. The SW300 also displays field-strength readings with equitable accuracy on a dBV scale. These readings are quickly and easily converted to mV/m using a lookup table in the manual.

Tuning Range:

500kHz - 2MHz in 10kHz or 1kHz steps; 24 nonvolatile memory preset positions.

Sensitivity:

6mV/m required for 40dB SNR (equates to 1% modulation measurement error). Field strength measurements are accurate down to 3mV/m.

Off-Air Reception Bandwidth:

± 0.25 dB, 10Hz - 10kHz for all measurements.

Distortion:

<0.25% THD at 99% carrier modulation.

Antenna Input

Dedicated active-transimpedance input matching for the Goldring™ loop antenna supplied with the SW300. The off-air overload point with this antenna is 1V/m.

High Level RF Input

50 Ω -terminating input (RCA); front-panel LCD readout from 0dBm to -60dBm in three manually-switched ranges.

IF Output:

Buffered output (RCA) of the 300kHz second IF; 1.25Vpp (unmodulated carrier), 100 Ω source.

Wideband Demod Output:

Buffered output (RCA) of the synchronous detector; 5Vpp at 100% modulation, 100 Ω source.

Program Line Output 1:

Balanced (XLR); +4dBu, 200 Ω source.

Program Line Output 2:

Unbalanced (RCA); -10dBV, 1k Ω source.

Headphone Output:

Front-panel 3.5mm jack (TRS) with adjustable level; drives Lo-Z / Hi-Z headphones or an efficient 32 Ω loudspeaker.

NRSC De-Emphasis:

'Truncated' 75 μ s curve (defeatable). (Active only in the program line and headphone outputs.)

Audio Cutoff Filter:

24dB/octave low-pass filter (defeatable); tunes from 10kHz to 2kHz (-3dB points) in 1kHz steps. (Active only in the program line and headphone outputs.)

LCD Display Screens:

Total Modulation: Simultaneous bargraph and peak-holding numerical readouts of positive and negative peak values, -20% to -100%, +20% to +160%; <2% meas. error.

Field Strength: Bargraph and numerical readouts, 0dB to -60dB; <1dB meas. error. Lookup table converts dBV to a corresponding range of 1V/m to 1mV/m.

Noise Floor: The noise floor at the tuned frequency is displayed as bargraph and numerical readouts, 0 - 10% with reference to 100% carrier modulation.

(Other): Station Presets • Tuned Frequency • RF Attenuator • Pre-Emphasis • Audio Cutoff • Headphone Volume.

Power Requirement:

8 - 24Vdc, 1.2W (e.g. 100mA at 12Vdc); 5.5mm x 2.1mm coaxial power connector. A universal switchmode power adapter is supplied for operation from 100 - 240Vac, 50/60Hz AC mains.

Size and Weight:

2½"H x 8"W x 8"D; 4 lbs shipping weight.

Rear Panel View:



Menu Snapshots:



Station Presets Menu:

24 memory positions spread over four menu screens.

Main Menu: Used when tuning the SW300; also displays frequency and peak modulation.

RF/NF Menu: Shows the incoming carrier level and the noise floor at the tuned frequency.

Setup Menu: Used to select the RF pad, NRSC de-emphasis and audio cutoff.

Headphone Volume:

Adjusts the headphone listening level.



The SW300 is shown here, as supplied, with its Goldring™ Antenna.

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