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RF-AM (AM Modulation Monitor / Variable RF Sampler)
(200 Watts)

The model **RF-AM** (AM Modulation Monitor) is designed both as an AM Audio Demodulator, External Trigger source and Variable RF Sampler.

The base band AM Audio Demodulator is designed to directly demodulate the RF envelope from your transmitter to a usable signal, yielding a flat audio frequency response ranging from 10 Hz to 16 kHz.

This signal is suitable for feeding stereo headphones, line level amplifiers or audio mixers with the final audio level adjustable to the 1/4" TRS output Jack.

The External Trigger output of the model **RF-AM** provides a unique signal suitable for feeding the "External Trigger" input of your oscilloscope. This signal has an ability to synchronize your horizontal modulation envelope sweep, regardless of changing voice or data modulated frequencies, in either SSB or AM envelope monitoring.

An RF envelope may be monitored simultaneously from the Variable RF Sampler in conjunction with an oscilloscope.

The power rating is from 1.5w ~ 200w PEP, typical 40w carrier. The model **RF-AM** is an ideal solution for LPAM (Low Power Amplitude Modulation) or low powered medium wave, short wave or amateur broadcast transmitters.

Note: It is recommended to stay as near to your transmitter's max PEP power rating when choosing any of the **RF-AM** series, as this will yield the best signal output to the end user.

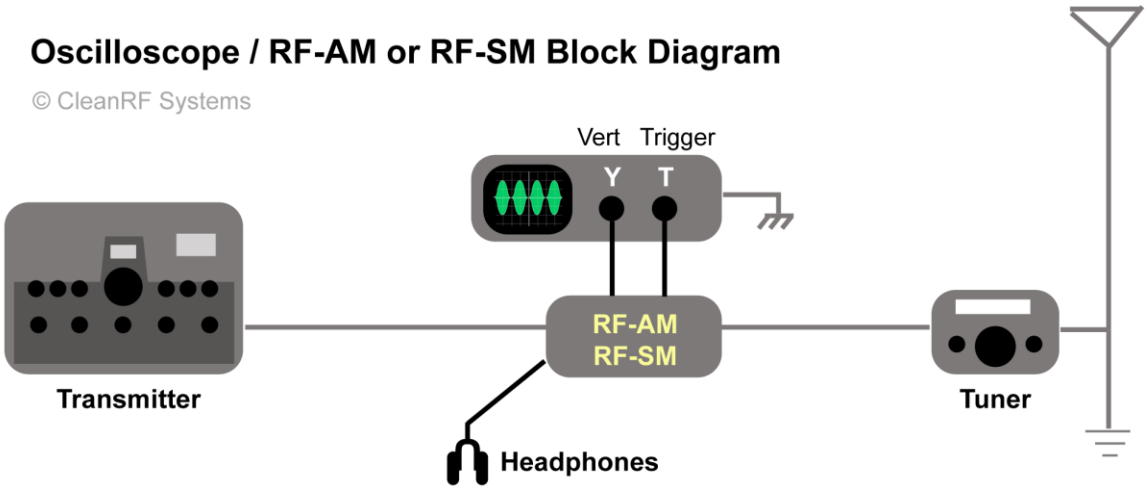
Additionally, the model **RF-AM** features a passive-flat operational VSWR over a broad frequency range and insertion loss is a negligible 0.1 dB. The **RF-AM** produces both an un-rectified, variable and continuously adjustable non-directional sample at the BNC; a rectified, continuously variable, non-directional demodulated source at the 1/4" TRS jack and a rectified, non-variable, non-directional demodulated source at the eternal triggers BNC jack making the **RF-AM** an ideal choice for a variety of applications.

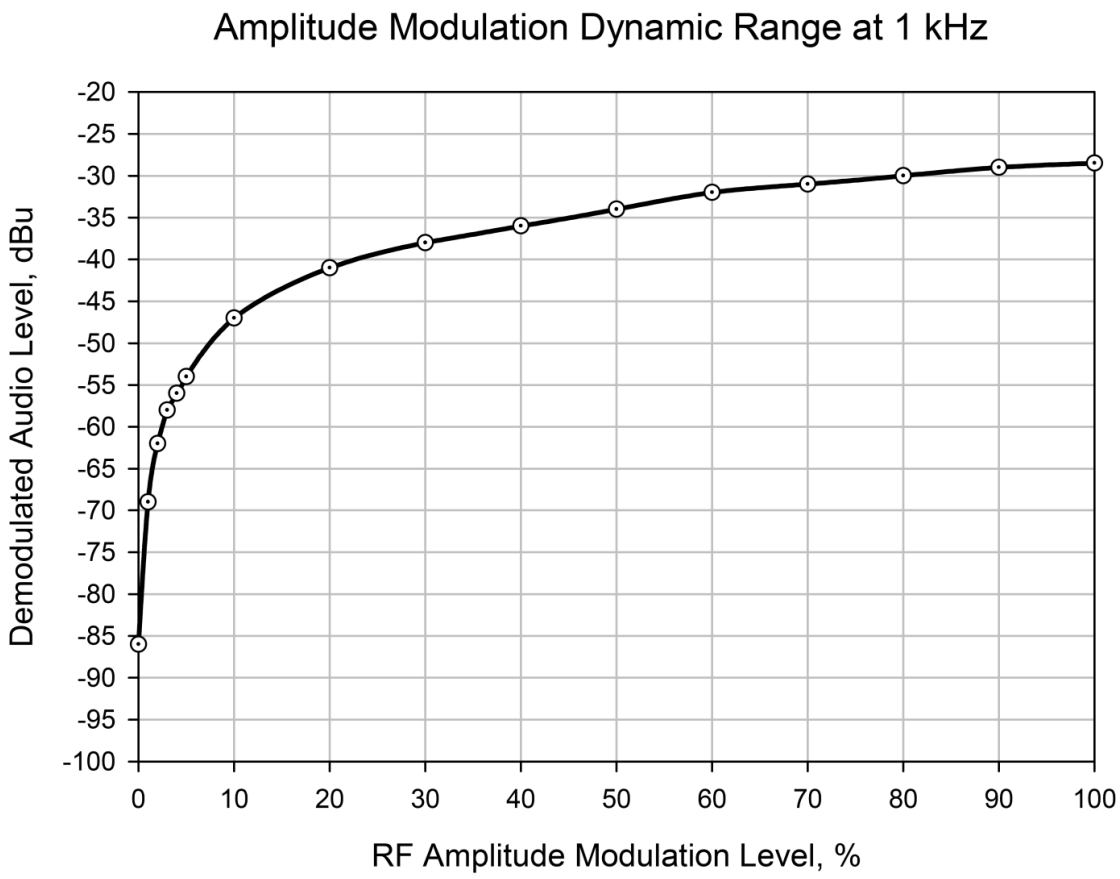
All CleanRF Systems chassis are built, assembled and tested here in the USA headquartered near the grounds of WWV and are finished over by a baked-on black textured outer-coating finish for decades of continual service and performance. Connectors are custom long barrel SO239's for easy installation. Products are fully warrantied against any defects both electrically or mechanically and include BNC cables and adapters for plug and play operation!

RF-AM Specifications

- Frequency Response: RF: 500 kHz ~ 30 MHz – Audio: 10 Hz ~ 16 kHz
- Rated Input: 1.5w ~ 200w PEP
- Sampler Output: -60dBm @ 15MHz
- AM Dynamic Range: 60dBu
- Connectors In: SO-239
- Connectors Out: SO-239, ¼" TRS, and 2 BNC's
- Controls: Variable RF Output 6dB, Variable AF Output
- VSWR: < 1:1.1
- Insertion Loss: < 0.1 dB
- Cables and Adapter: 6 Ft. BNC Male-to-BNC Male and UHF Male-to-Male Adapter
- Applications:
  - RF Modulation Envelope Monitor
  - RF Envelope Source Trigger Synchronization
  - Peak Envelope Power Monitor
  - AM Audio Modulation Monitor
  - Spectrum Analysis
- Dimensions: W 2 1/8" x L 4" x H 1 5/8"

Oscilloscope / RF-AM or RF-SM Block Diagram




Amplitude Modulation Dynamic Range at 1 kHz
Demodulated Audio Level, dBu
-20
-25
-30
-35
-40
-45
-50
-55
-60
-65
-70
-75
-80
-85
-90
-95
-100
0
10
20
30
40
50
60
70
80
90
100
RF Amplitude Modulation Level, %

Sampling: 96000 Hz
FFT size: 65536
Averaging: 1
Window: Hanning

CleanRF.com RF Demodulator
RF at +7.1dBm, AM sweep 80% depth

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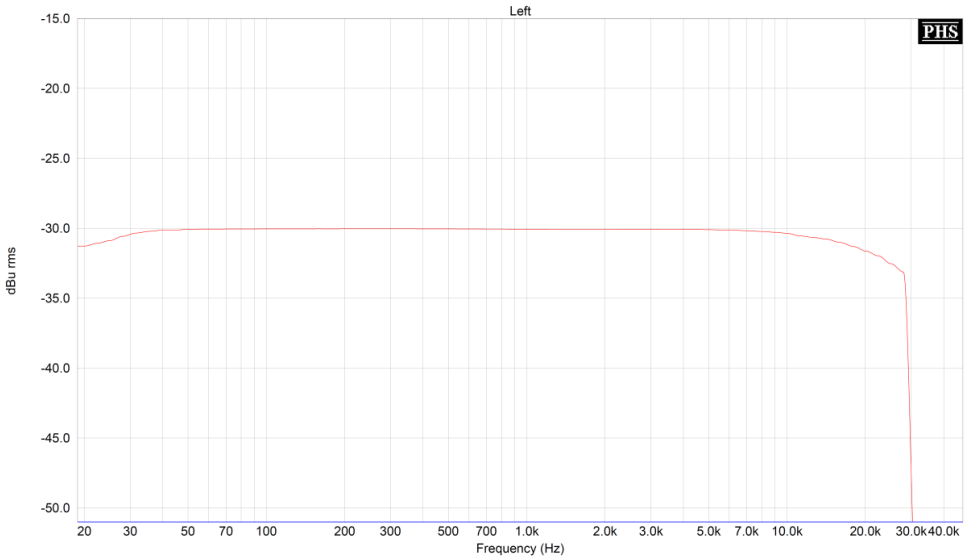

RF signal generated by HP2920A Comm Test Set = 7 MHz at +7.1 dBm carrier and 80% AM level.
RF Demodulator BNC output to M-Audio Delta 1010LT soundcard calibrated with Fluke 289 True RMS Meter at 1kHz.