

# CCA Optimod-FM Stereo Processor/Generator

FM-O

# CCA

## CCA Electronics Corporation

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### Features

- Totally integrated FM stereo processor/generator
- Provides complementary broadband and high frequency limiting
- Precisely matched phase compensated active filters
- Extensive front panel metering and control provide for convenient set-up and adjustment
- Optically isolated remote stereo switching eliminates ground loop problems
- Suitable for operation in high RF fields
- Unsurpassed linear process generator
- 100% compatible with all CCA direct FM excitors

### Description

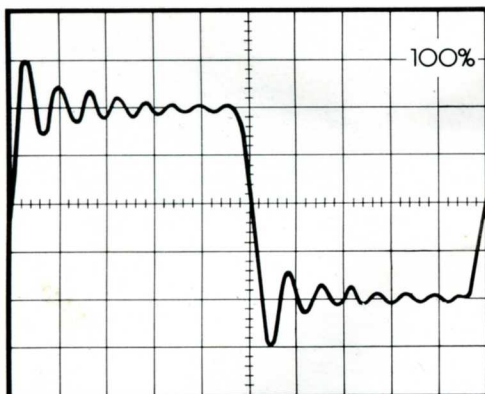
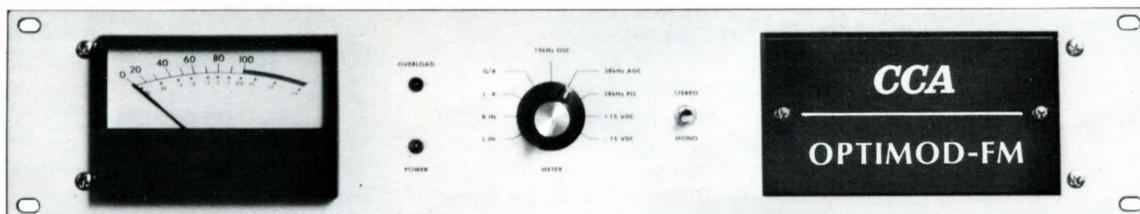
The CCA Optimod-FM is a rack mounted, independently powered stereo generator system, incorporating specially designed audio processing circuitry to provide the differential advantage needed in today's competitive market. The system is totally compatible with all CCA direct FM excitors, as well as other manufacturers' excitors, which in some cases, require wideband interface.

The input is through 600-ohm balanced transformers which are RF filtered, followed by input level controls, preamplifiers and a 30Hz high-pass filter. The signal is then processed by a broadband automatic gain control amplifier with a sophisticated control loop which provides precise program control before application to the high frequency limiter. The limiter stage provides program control of pre-emphasis on a moment-to-moment basis to eliminate overmodulation due to excessive high frequency content in the program material. The left and right channels are coupled into phase compensated lowpass filters and instantaneous limiters which eliminate audio frequency components above 15kHz and provide precise preconditioning of peak levels prior to further processing in the stereo generator.

The stereo generator has a leveled 19kHz crystal oscillator providing a low distortion pilot signal, stable in output amplitude and phase. The 38kHz generator is a buffered phase locked loop driven by the 19kHz oscillator providing an exceptionally low distortion signal to the linear stereo modulator stage. The stereo modulator uses a two quadrant Gilbert Linearized Transconductance Multiplier which exhibits a substantially lower level of noise and distortion than conventional stereo generation techniques.

Stereo/Mono switching is effected through opto-isolated inputs and digital memory logic. The power supply is a regulated bipolar supply that can be monitored on the front panel meter along the levels of the left and right audio inputs, L-R, gain reduction, 19kHz oscillator and 38kHz generator. An LED overload indicator is provided to indicate unsuitably high audio input levels.

The CCA Optimod-FM is contained in a 3½" EIA 19" rack mounting cabinet. For ease of adjustment, all necessary controls are under a front mounted trim panel.



Conventional elliptic function filter excited by 1kHz square wave



CCA Optimod-FM phase-compensated filter excited by 1kHz square wave

