



1/2-Octave Real Time Audio Analyzer

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Used with a mike and oscilloscope, it displays system output to permit accurate matching to room acoustics.

PART 1

IT'S COMMON knowledge that an equalizer can shape a sound system's frequency response. But adjusting multiple equalizer bands for flat audio response in a room is a challenge. This project, an audio Real Time Analyzer, provides a solution to the problem. It generates a graphic representation of the system's output with sufficient detail

plifier then passes the MIC or AUX signal to twenty half-octave active bandpass filters. Each filter passes only that portion of the input signal within its pass-band. These filtered ac components are then rectified by diodes (one for each filter) and smoothed by RC combinations. The resulting dc levels, proportional to the amplitude of each filter's output,

tions of the RTA are carried on so quickly that all bands are shown simultaneously or in "real time."

Circuit Details. The input stage of the Analyzer is shown schematically in Fig. 2. A balanced differential amplifier, IC1, allows the use of long lines and low-