

# marantz

## *Electronic Crossover*

A considerable improvement in clarity and smoothness of reproduction is obtained when a loudspeaker is connected directly to the amplifier terminals without intervening reactive networks. The low internal impedance of the amplifier then tends to dampen spurious speaker resonances. In multi-speaker systems it would be necessary to accomplish the crossover at an earlier stage in order to supply separate amplifiers with the frequency range required for each speaker. The Marantz Electronic Crossover was designed for this purpose.

This new unit embodies typical Marantz quality features. Careful engineering and high grade construction make this one of the finest instruments of its type (terminal board wiring, low-noise deposited carbon resistors, precision components, etc.). A basic two-channel unit, it can be cascaded for multi-speaker systems.

- ★ 12 crossover points at  $\frac{1}{2}$  octave intervals. Adjustable from 100 cps to 7000 cps. Separate switch and a balance control for each channel.
- ★ 12 db per octave rolloffs with - 3 db (non-ringing) "knees". 12 db down one octave beyond crossover.
- ★ Self-powered by remote supply. All 3 dual triode tubes provided with filtered DC on filaments for elimination of Hum problems.
- ★ IM Distortion: 2 volts equivalent RMS . . . less than 0.1% 15 volts equivalent RMS . . . less than 1%.
- ★ Noise: better than - 90 db below 2V. output.
- ★ 10 db gain available with balance controls at maximum. Normal (Zero db gain) position indicated.
- ★ Cathode follower outputs.

ELECTRONIC CROSSOVER (complete with power supply) . . . . .	\$90.00
Cabinet (Mahogany, Walnut or Blonde) . . . . .	15.00
Dual Cabinet to house two units . . . . .	19.50
<i>Dual Cabinet can be used with one unit. A matching blank panel can be supplied to cover unused section.</i>	
Blank panel . . . . .	3.00

**marantz company** 25-14 BROADWAY, LONG ISLAND CITY 6, N. Y.

See other side for "TESTED IN THE HOME" report



# Tested in the Home

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## High Fidelity

### Marantz Electronic Crossover

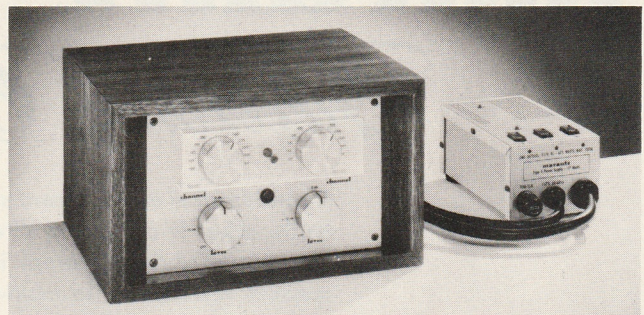
**SPECIFICATIONS** (furnished by manufacturer): a self-powered two-way electronic crossover for use in biampifier systems. **Crossovers:** 100, 150, 220, 350, 500, 700, 1,000, 1,500, 2,200, 3,500, 5,000, or 7,000 cps, switch-selected individually for both channels. **Slope:** 12 db per octave. **Gain:** zero db with channel level controls at normal position; 10 db with controls at maximum position. **Hum and noise:** over 90 db below 2 v out. **IM distortion:** below 0.1% @ 2 v out; less than 1.0% @ 15 v out. DC heater supply. **Input:** one, from preamplifier-control unit. **Controls:** bass channel crossover; bass channel level; treble channel crossover; treble channel level. **Outputs:** two, to bass channel and treble channel amplifiers, from cathode followers. Three AC outlet receptacles. **Tubes:** 3—12AX7, selenium rectifiers for heaters and B+. **Dimensions:** crossover unit, 4 $\frac{1}{2}$  in. high by 7 $\frac{1}{4}$  wide by 7 $\frac{1}{4}$  deep; power supply, 2 $\frac{1}{2}$  in. high by 3 $\frac{1}{2}$  wide by 6 deep, over-all. **Price:** \$90. **MANUFACTURER:** The Marantz Co., 25-14 Broadway, Long Island City 6, N. Y.

Since distortion reduction is one of the aims of biampification (see "Why Biampify," by Roy F. Allison, Nov. '56), the electronic crossover network (which does the frequency dividing, ahead of the power amplifiers) must be as free of distortion as possible. This requirement seems to have been met in the Marantz electronic crossover, as have the requirements of flexibility and low noise.

The unit consists of two small chassis: one containing the power supply, the other the crossover itself. There is a single input, from the preamp-control unit, and two outputs, for the bass and treble channels. Each channel has its own controls for crossover frequency and volume level, and the crossover control switches provide 12 settings, at  $\frac{1}{2}$ -octave intervals, from 100 to 7,000 cycles. A removable plastic cover is supplied to protect the tweeter from damage due to tampering with the high-channel control. Nominal crossover rate is 12 db per octave. Although the benefits of biampifier operation accrue primarily to the woofer, two or more of these crossover units may be cascaded to provide multiple frequency division, for use with three- or more-way loud-speaker systems.

Our sample Marantz electronic crossover met or exceeded its specifications in all respects, as far as I was able to establish. Its noise level was extremely low, and the crossover selector switches were free of clicks or pops when rotated through their ranges.

Careful listening tests, conducted with a wide-range speaker system, and with the electronic crossover's outputs paralleled and feeding a single amplifier (to negate temporarily the inherent benefits of biampification), showed that the crossover was introducing very, very



*The Marantz crossover and power supply.*

little sound of its own. Direct comparison between the reproduced sound with and without the crossover unit in circuit indicated that it had a barely detectable tendency to soften highs and fortify bass. But comparisons between my standard system with its speaker crossover, and the same speaker with the Marantz electronic crossover in a conventional biampifier hookup, left no doubt that the electronic crossover had improved things quite a bit. Bass was tighter, cleaner, and better defined, and although the audible improvement at the high end was much less noticeable, it *was* audible as a gain in over-all detail and transparency.

Biampification is not likely to be very beneficial to a speaker system whose woofer uses an acoustical (rather than electrical) crossover. But for those who've gone about as far as they can go with a conventional system, or whose speaker system uses a lightweight crossover network, the Marantz electronic crossover may effect a significant improvement in over-all sonic purity.—J.G.H.

**MANUFACTURER'S COMMENT:** The precision performance and long, dependable life of this electronic crossover are assured by the use of low-tolerance, high-quality components throughout.