SNELL ACOUSTICS

MODEL EC-2 ELECTRONIC CROSSOVER

CIRCUIT DESCRIPTION

The EC-2 is designed with all active devices being Field-Effect transistors. It's crossover frequencies may be varied to accomodate any given frequency, at any slope between 6db and 24db. This is accomplished via two plug-in modules per channel, (4 channels total), allowing thedesired slope and frequency to be tailored to any frequency in 6db increments. The unit is shipped from the factory with Type AIII modules, Type Ci modules are also available.

The input impedance is 50K which is very compatible with all pre-amp outputs. The input is then routed to the High and Low pass sections via level controls so that balance may be retained if different amplifiers with different input sensitivites are used.

The seperate inputs are then routed to their respective sections, and are prosesed through the first filtering network. The output of this filtering network is then sent to the gate of the first active J-FET stage, which is in a source-follower configuration. The output from this active stage is taken off of the source and then fed toanother filtering network, and again sent to the gate of the second source-follower stage which is identical to the first. The outputt is taken offof the source and capacitor coupled to the output stage gates. The output stage is a complimentary MOS-FET source-folower circuit which achieves an extremely low output impedance in order that it may drive very long, or highly capacitive

cables to the power-amps. It's output impedance is so low that it can actually drive an 8 Ohm speaker directly!

The EC-2 utilizes very stable and low distortion circuitry, therefore feedback is not required, and there is consequently no need for any protection circuits. There are no turn-on or turn-off thumps to damage speakers or power amps. Switching jacks are used for all input and output connections, so that amplifiers amd pre-amp may be plugged in and out without any obnoxious noises or fear of blown speakers. The EC-2 is essentially a unity gain device and output vltage will be approximatly 95% of the input voltage in its respective pass bands.

The power supply uses a capacitor input ¶ filter section followed by a zener controlled shunt type regulator to stabilze operating voltages over a wide range of AC line voltages.