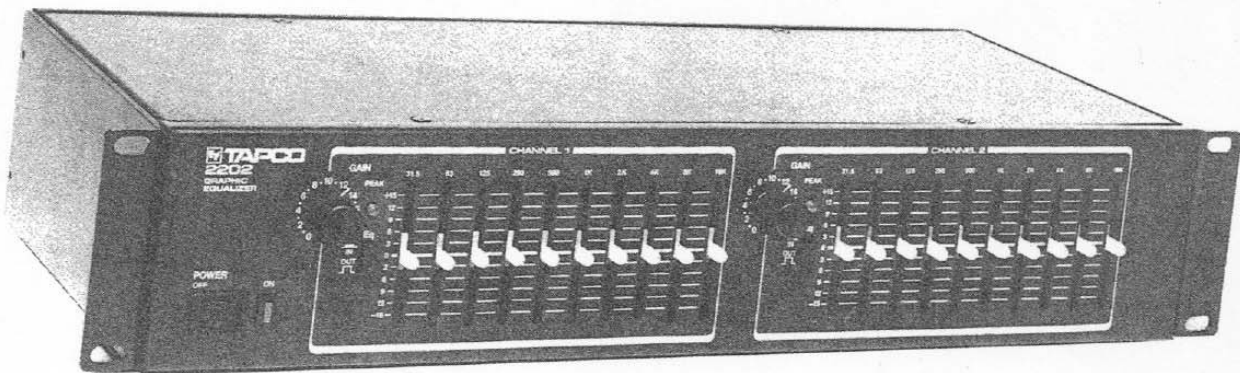


EV TAPCO
2202
GRAPHIC
EQUALIZER

INSTRUCTIONS



OPERATIONS GUIDELINES FOR TAPCO 2202 GRAPHIC EQUALIZER

FRONT PANEL CONTROLS

Power ON/OFF Switch, Power "ON" LED Indicator

The Power On/Off switch simply turns the 2202 on, or off. The green, Power "On" LED will light when the power is turned on. Do not make any connections to or from the 2202 with the power turned on.

The 2202 power supply is equipped with a internal relay system that delays turn on or turn off transients. Normally, most audio electronic equipment generate a loud crack or thump when it's first switched on. Not so with the 2202. The relay doesn't connect the outputs of the 2202 to the rest of the equalizer's circuitry until the power supply has a chance to completely stabilize. The outputs never "see" the transient. Even though the 2202 doesn't generate a turn on/off transient, other equipment in the system very well may. Power turn on/off transients are potential killers of loudspeakers, even crossover networks and other electronics connected after the equalizer. To prevent this type of damage, follow this procedure:

- A) Turn all mixers, equalizers and other auxillary equipment PRE power amp on FIRST. Make sure all gain controls are turned down or off.
- B) After waiting about 15 seconds, then switch on the power amps. It's wise to keep amp level controls down or off, as well.

When powering a system down reverse the above procedure. Turn all amps off, with level controls down, then mixers and auxillary equipment. The PA or monitor system you save will be your own.

Channel Gain Controls

Each channel on the 2202 has a Channel Gain control that adjusts the level of signal coming into the equalizer. These controls allow the proper adjustment of input signal for optimum operation of the internal gain amps and EQ control circuitry. Each control has a position marked "Cal". With the gain control set in this position, gain levels are "0"dB or unity gain. What goes in comes out, with the exception, of course, of and boosted or cut frequencies in the EQ section. This setting is helpful in initial settings of EQ and overall levels in the system, plus gives a fixed point to go from "flat" (Gains at "Cal", all EQ sliders set flat) to a tuned output.

Clip/Overload LED Indicators

Two red LED indicators, one per channel, indicate a circuit clipping condition at two points in the 2202's circuitry. One monitored position is just after the input gain stage, another just after the EQ control section.

The LEDs will flash if the equalizer sees too much signal at these points. When this occurs, either the Channel Gain Control levels should be reduced, and/or the preamp signal source turned down. Another problem could cause the EQ stage to clip: a frequency, or frequency boosted to the point of overdriving the equalizer's circuits. The solution here would be to turn down the EQ sliders with the highest boost till the LEDs quit flashing.

EQ Slide Controls

Each of the 10 slide controls in the equalizer section govern the relative loudness of one octave of the audio spectrum (20Hz to 20KHz). The frequency affected most by each slider is marked on the front panel under the slide pot. The EQ bands are broader when small amounts of control range is used, and become narrower as the boost or cut is increased. This gives the musician or sound engineer control over wider bands when needed, more specific control when great selectivity is desired.

Each slider has a 30dB overall range, +15dB boost, -15dB cut. However, we recommend keeping the EQ controls as close to "flat", or center for the very best results. There are two main reasons why this is true: the overall sound you get when all controls are cut 15dB except one control that's set at +15dB sounds almost the same as when all sliders are centered flat and one control is boosted to +15dB. Note the example below.

The example on the left shows a graphic plot of the EQ controls cut 15dB with one boosted to +15dB. The one on the right shows all EQ sliders centered except one that's boosted to +15dB. Notice all the ripple in the example on the left.

The other reason is simply that a little EQ goes a long way. Any component in the system that requires 15dB worth of equalization should be readjusted or replaced!

EQ In/Out Switches

The EQ In/Out switches on each channel take the EQ control and gain sections out of the signal path. A switch is provided for each channel allowing the 2202 to be used single channel; one channel for house mains, the other for monitors, as an example. The 2202 can also be used as a stereo pair.

REAR PANEL CONNECTIONS AND 2202 INSERTION IN THE SYSTEM

Input and Output Connections

Each channel of the 2202 has two $\frac{1}{4}$ " phone jacks, one for input, one for output.

The example below shows the 2202 properly inserted in the signal chain. Classically, the 2202 like any equalizers is inserted after the preamp or mixer, between it and the power amp.

To connect the 2202 to a system, simply connect the output from a mixer, preamp or other line-level output signal source to the channel one or two input jack. Connect the channel outputs of the 2202 to the line level inputs of a power amp or low level, electronic crossover. Maximum output of the 2202 is +18dBm.

Remember to make any connections to or from the 2202 with the power switched off, or the unit unplugged.

2202 Graphic Equalizer Specifications

T.H.D (+4dBm output)	.05%
CCIF IM (19 & 20KHz mixed 1:1, +4dBm output)	.05%
SMPTE IM (60 & 7 KHz mixed 4:1, +4dBm output)	.05%
Frequency Response (20Hz to 20KHz, 600 ohm load)	± 1 dB
Output Noise (normalized gain)	-86dB
Max. Input/Output Level(600 ohms)	+18dBm
Power	120V, 60Hz 15w max.
Size	19"x3½"x8"
Weight	9½ lbs
