

STX 600 QUICK START OPERATION PRELIMINARY

INTRODUCTION

The STX 600 is a true Complimiter design based on the same 601 compressor limiter circuit as found in both the C610 and V610. The unit features the same ultra-fast limiter/compressor performance in a small affordable 500 series format. Overall gain the STX 600 is 62dB, which allows for use as a microphone or line preamplifier. Switchable 48 volt phantom and phase control further adds to the versatility of the unit.

A practical concern for most comparable conventional devices, is the use of the much maligned 500 series lunch box format. As with all Spectra 500 STX series products, including the STX 600, performance in terms of noise, distortion, or headroom, are not compromised by the 500 series format. The power requirement for the STX 600 is less than 80 milliamps

THE TOP KNOB-INPUT CONTROL

The STX 600 employs a two-knob operation format. The top knob is used for both input level and threshold adjustment for peak transient limiting and/or mild to moderate compression, (10:1). Unlike conventional mic/line preamplifiers, the threshold lamp located next to the input knob, indicates by intensity, the onset of audio peak transients, as well as mild to moderate compression. In operation, it is not uncommon for percussion, or guitar applications, to provide audio program peaks 20dB above average RMS levels. This means transient peak voltage will reside 20dB above where the Vu meter indicates audio level. It should be noted that the threshold indicator circuit operates in the sub microsecond range, much faster than traditional peak indicator circuits.

The peak limiter circuit operates independent of the compressor circuit, and provides an attack time of 90 nanoseconds, (inaudible). The compressor circuit, like the limiter circuit, also operates in the sub-microsecond range, thus providing seamless transition between the two functions. Regardless of the amount of applied compression,

frequency response, is not altered and “pumping” common to conventional compressor limiters, will not occur.

It is important to set the input threshold first, thus establishing a baseline for minimum input level, with regard to transient peak levels. In this mode, the occasional flashing of the threshold lamp will provide peak limiting only with no compression. Only after the input level is increased, will the onset of dynamic compression occur.

As the input level is increased, a combination of peak limiting and compression will occur, (3-6dB of dynamic compression). Further input level increase will result in a constant threshold lamp indication, which negates the peak limiting function, and provides compression only, (10:1).

THE TOP KNOB-THE INPUT PAD

Located above the input knob is the three-way switched, input pad. The STX 600 has input limiter threshold of -40dBu, thus allowing use with any number of microphone types. The pad levels are 0, -10dB, and -20dB, (starting from the down position), which provides enough level control for line level sources. The input pad allows for proper threshold adjustment range of a given source, without the use of input level extremes, in terms of minimum or maximum rotation of the potentiometer.

THE BOTTOM KNOB-OUTPUT CONTROL

The output knob allows for proper level adjustment of the output level as needed. The overload indicator lamp, (OVL), indicates output clipping 3dB prior to maximum output, (+18dBm). Since the STX 600 has eliminated peak overload transients prior to the output section of the device, overload issues consistent with conventional devices, will not be an issue. In other words, the full RMS output of the can be STX 600 can used.

POWER SUPPLY REQUIREMENTS

Unlike similar devices, the STX 600 does not require and excessive power supply reserve. Typically, the unit requires less than 80mA of current for stable operation under the published maximum output of +18dBm. This statement assumes that the power supply source provides a constant +/- 16 volts DC. The noise performance of the STX 100 is based on a PSU noise ripple above -65dB.

