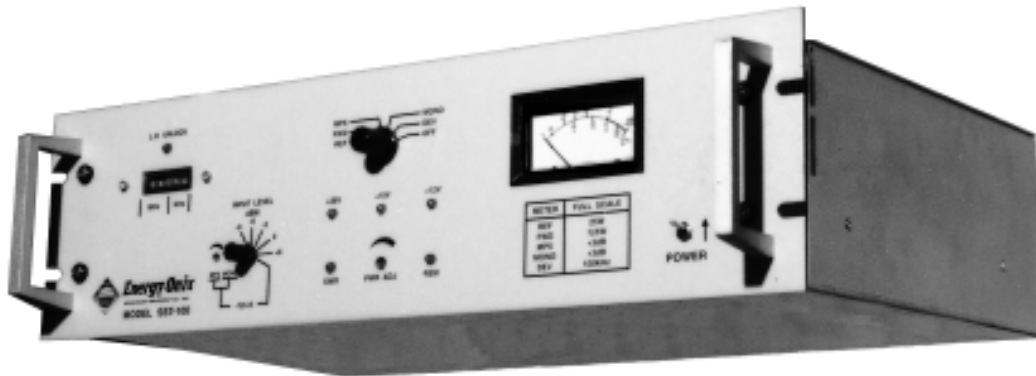


# SST-150

## 150 Watt FM Broadcast Exciter/Transmitter



### Features:

- ◆ Extremely Low Distortion
- ◆ Frequency Agile with Front Panel Selector
- ◆ Internal Harmonic Filter and Directional Coupler
- ◆ Front Panel 5 Function Multimeter with 2% Accuracy.
- ◆ Remote Control Ready
- ◆ Mono, Stereo, MPX, SCA, and External Sync Inputs
- ◆ RF & Test Outputs
- ◆ Automatic Power Output Control and VSWR Protection
- ◆ Front Panel Power Adjustment
- ◆ VSWR Trip, Remote Shut Off and VCO Unlock Indicators
- ◆ RDS Compatible

### Application:

The SST-150 is designed to serve as a 150 Watt Exciter, Low Power Transmitter or as a Translator when packaged with an appropriate receiver.



**ENERGY-ONIX**

*The Transmitter People*

P. O. Box 801 • 1306 River Street • Valatie, New York 12184

VOICE: 518.758.1690 / 888.324.6649 • Fax: 518.758.1476

E-MAIL: [energy-onix@energy-onix.com](mailto:energy-onix@energy-onix.com)

WEB SITE: [www.energy-onix.com](http://www.energy-onix.com)

# Technical Specifications

## POWER SUPPLY:

117-230V ,  $\pm 10\%$  , 50-60Hz, 1 Phase.

**POWER CONSUMPTION:** 350W.

**RF OUTPUT IMPEDANCE:** 50 ohms, type "N".

**POWER OUTPUT:** 10 to 150 Watts.

## RF HARMONIC AND SPURIOUS SUPPRESSION:

Meets or exceeds all FCC, DOC, and CCIR standards

## FREQUENCY RANGE:

Front Panel Selectable from 76MHz - 139MHz (10kHz steps).  
Extended range available .

## FREQUENCY STABILITY:

$\pm 300\text{Hz}$ ,  $+32^\circ\text{F}$  to  $122^\circ\text{F}$  ( $0^\circ\text{C}$  to  $+50^\circ\text{C}$ ).

## MODULATION TYPE:

Direct FM at Carrier Frequency.

**MODULATION CAPABILITY:**  $\pm 350\text{kHz}$ .

## ASYNCHRONOUS AM SIGNAL TO NOISE RATIO:

-65dB below reference carrier with 100% Amplitude Modulation  
@ 400Hz and 75 Microsecond Deemphasis  
(no FM modulation present).

## SYNCHRONOUS AM SIGNAL TO NOISE RATIO:

-55dB below reference carrier with 100% Amplitude Modulation  
@ 1kHz (FM modulation:  $\pm 75\text{kHz}$  @ 400Hz)

## MULTIMETER:

5 function analog meter  $\pm 2\%$  accurate. Includes monitoring for audio and MUX input levels and carrier total modulation.

## REAR PANEL TEST CONNECTION:

RF test output port at -40db below 100W.

## AUDIO/CONTROL CONNECTIONS:

10 Terminal barrier strip and 5 BNC connectors

## Wideband Composite Operation

### COMPOSITE INPUTS:

1 unbalanced/balanced

### COMPOSITE IMPEDANCE:

UNBALANCED: 10k ohms

BALANCED: 10k ohms or 50 ohms

### COMPOSITE INPUT LEVEL:

3.5V p-p Nominal, for  $\pm 75\text{kHz}$  Deviation (1V RMS)

### COMPOSITE FM SIGNAL TO NOISE RATIO:

75dB below  $\pm 75\text{kHz}$  Deviation @ 400Hz (78dB Typical). Measured with 75 microsecond de-emphasis

### COMPOSITE HARMONIC DISTORTION PLUS NOISE:

.05% or less (.03% Typical) at 400Hz.

### STEREO SEPARATION:

52dB, 30Hz to 15kHz

## SCA INPUTS:

2 total, unbalanced BNC Connectors

## SCA INPUT IMPEDANCE:

10k ohms, nominal , resistive

## SCA INPUT LEVEL:

3.5V p-p nominal for  $\pm 7.5\text{kHz}$  deviation

## SCA AMPLITUDE RESPONSE:

$\pm 0.2\text{dB}$ , 40kHz to 100kHz

## Monaural Operation

### AUDIO IMPEDANCE:

600 ohms balanced, resistive, adaptable to other impedances,  
60dB common mode suppression

### AUDIO INPUT LEVEL:

+10dBm Nominal for  $\pm 75\text{kHz}$  deviation @ 400Hz, adaptable to other levels

### AUDIO FREQ RESPONSE:

$\pm 0.5\text{dB}$ , 30Hz to 15kHz, selectable flat, 25, 50 or 75 microsecond preemphasis

### HARMONIC DISTORTION PLUS NOISE:

0.05% or less at 400Hz

### FM SIGNAL TO NOISE RATIO:

75dB below + 75kHz deviation @ 400Hz (78dB typical) measured with 75 Microsecond deemphasis.

*NOTE: All measurements were taken in controlled laboratory environment with laboratory instruments. Specifications are subject to change without notice.*

## Electrical Description

The SST-150 utilizes a modern, conventional, direct FM modulation system with a Phase Lock Loop (PLL) circuit to maintain the center frequency of the free running, modulated oscillator. The front panel frequency selector switch determines the division of the frequency comparator circuit. This permits selection in 10kHz steps of carrier frequencies between 76mHz and 139mHz. Expanded frequency range is available upon request.

Exciter power output is front panel adjustable. This adjustment controls the 28 volt power supply for the final stage. In addition a remote mute control when grounded, turns off the PA power supply but allows the exciter to maintain its phase lock with no RF power output.

## Mechanical Specifications

### Net

**Dimensions:** 5 1/4" H x 14" D x 19" W

**Weight:** 45 Pounds

### Gross

**Dimensions:** 9" H x 21" D x 21" W

**Weight:** 50 Pounds