



# Southern Avionics Company

## NAVTEX Transmitter SV1500

Part Number: SLF37000

SPECIFICATION SHEET

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FEATURE	SPECIFICATION
Power Output	Carrier power into 50 Ohms continuously adjustable from 150 - 1500 W (max)
RF Power Output	1500W into a 50 Ohm load; adjustable from 5% - 100%
Frequency Range	490kHz or 518kHz, Dual Channel Fixed Frequency Select
RF Source, External	1.5V P-P RF Sine Wave via BNC Jack
RF Source, Internal	Direct Digital Synthesizer generated with 1PPM accuracy
Spurious Emission	Greater than 60 dB down at transmitter output; additional attenuation of harmonics provided by ATU
Emission Mode	NON (continuous wave with no modulation); F1B (frequency shift keying $\pm$ 85Hz)
Keying Rate	100 Baud Maximum in F1B Mode
Power Requirements	230VAC 50 - 60Hz single phase
Ambient Temperature	-15°C - +55°C at 0 - 95% relative humidity
Radiated Harmonics	Less than -60dBc (measured at a dummy antenna)
Noise and Hum Level	Less than -40dB
Power Consumption	2000 W for 1500 W RF Output
Metering	Forward power output, reflected power output, PA voltage and PA current
Qualifications	Meets applicable requirements of the FCC

\*Information provided is subject to change without notice

### Application:

The SV1500 is a complete Navtex transmitter that operates in the 485-525 KHz band and has a carrier output power that can be varied from 75-1500 Watts (Max). The transmitter uses Class D switching technology in the power amplifiers and power controllers to provide a highly efficient system. The transmitter units are modular with each module providing up to 750 Watts of power. Each module consists of a power supply regulation stage, power controller, switching power amplifier, post filter and power monitoring stage. The modules are hot swappable thereby allowing service on parts of the transmitter without shutting the system completely down.

### Dual Systems:

A Dual SV1500 system will require two SV1500 Transmitters along with an arbitration controller which provides switch over in case of a failure. This is contained in one, single rack.

The SV Series Dual System is continuously in dual hot/standby configuration. This includes an arbitration controller between the two transmitters which provides switchover to the secondary transmitter in case of primary failure. The system also allows the secondary transmitter to be tested into an external dummy load without interruption to the primary transmitter allowing it to remain "on the air."

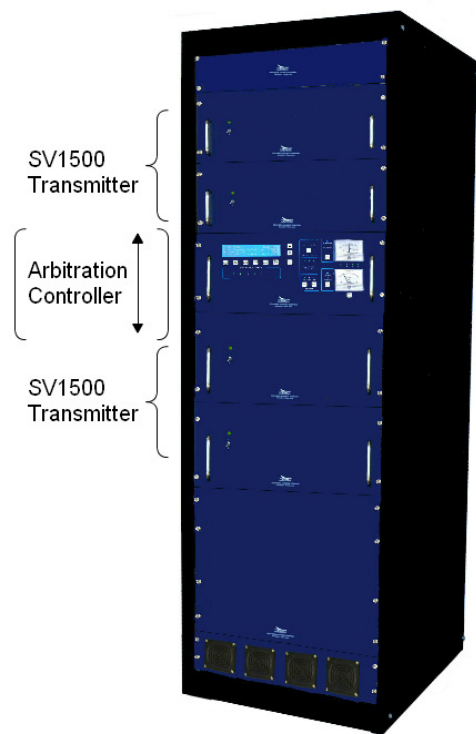
### System Upgrades:

The SV1500 is upgradable to 2250 Watts and 3000 Watts output by the addition of 750 Watt power amplifiers.

### Monitoring:

SV Series NAVTEX Transmitters can be remotely monitored by RS485 with full control available at the remote controller. SV transmitters include a standard embedded Ethernet server and allow control and monitoring over an Ethernet connection. ***No special software is required to monitor any of SAC's Transmitters over the Ethernet.***

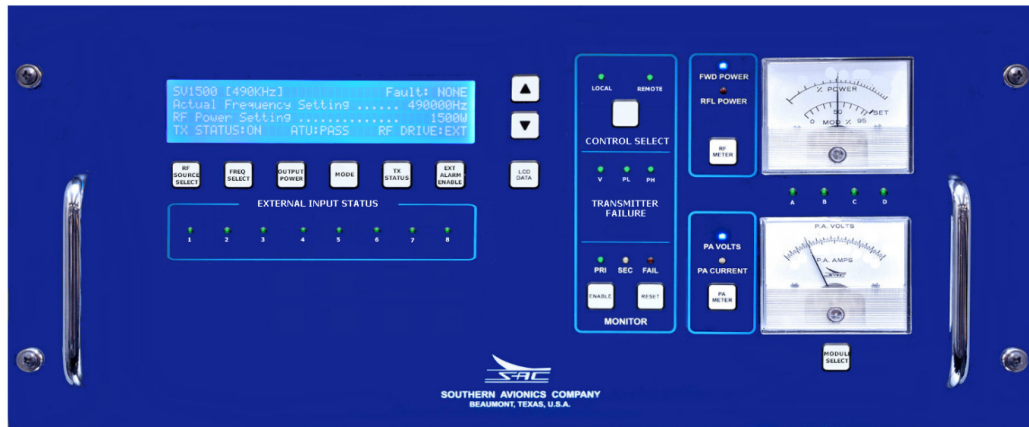
A user friendly membrane keypad provides user controls. An LCD displays test point data within the transmitters. A powerful microcontroller monitors critical parameters and provides control for abnormal conditions.



Dual SV1500 System

### Alarm Monitoring Includes:

- VSWR
- Power Decrease by 3 dB;  
Power Increase by 2 dB
- ATU or Transmitter  
Excessive Temperature
- Cooling Fan Failure
- Low Input AC Power
- RF Drive Failure
- External Alarms (Door  
Open, Air Conditioning  
Failure)
- Self Protection Feature  
Includes Power  
Reduction upon sensing  
elevated VSWR



**Key Features:**

- Graphical User Interface for Local and Remote Control and Monitoring
- Powerful Renesas M16C/65 Microcontroller with Ethernet Interface for extensive User Control (Parameters, Alarms, and Selective Transmitter Control)
- Hot Swap 750W RF modules for ease of service
- External or Internal RF Source select from Front Panel
- 40 character by 4 line LCD Display
- Built-In Test Equipment (BITE) allows Troubleshooting from anywhere
- Dual Front Panel Meters
- Alarm Monitoring
- All Alarms, Parameters, and Full Transmitter Control via Remote Control Panel through RS485
- Full Function Membrane Keypad
- 8 External Opto Isolator/Relay Contact Interface
- 8 External Monitor Switch Closure Interface
- Automatic ATU Interface by either RS485 or MultiMode Fiber
- Circuit Protection includes: DC circuits are protected by individual fuses, a VSWR circuit cuts back on transmitter power when VSWR exceeds an adjustable value, individual RF Power Amplifiers have a special over-current protection circuitry with transient recovery capability, MSK signal conditioning protects the Power Amplifiers from signal loss

**Parameters Displayed on LCD Display:**

- Forward and Reflected Power
- Power Amplifier Voltage and Current
- AC Input Voltage and Current
- ATU and Transmitter Temperatures
- VSWR
- Antenna Current
- Desired Frequency and Actual Frequency of Incoming RF Drive
- External RF Drive Level
- Local and Remote Control
- Internal or External RF Drive
- Low Voltage and High Voltage Power Supply Outputs
- Transmitter, ATU, Antenna, External RF Drive, Cooling Fan Status
- Status Alarms for Internal Transmitter
- ATU and External Sensors

