

# STB100 SPECIFICATIONS

<b>STB100</b>	<b>Options</b>	
	-add AIS Rx	-add AIS Rx/Tx

406 MHz Measurements			Uncertainty
Measures all Cospas-Sarsat Channels	•		-
15 HEX ID	•		-
Full HEX	•		-
Decodes all Cospas-Sarsat protocols	•		-
Frequency (Ext Ref)	•		± 1 Hz
Frequency (Int Ref)			
Leaving factory	•		± 100 Hz
Long Term			± 1.5 ppm/yr
Frequency Stability* <small>(using Ext Reference)</small>	Nominal Frequency	•	± 2.5 x 10 <sup>-11</sup>
	Short Term	•	
	Medium Term – Mean Slope	•	
	Medium Term - Residual	•	
Power	•		± 0.25 dB
Power rise time	•		± 0.5 ms
Pre-burst level	•		± 0.5 dB
Pulse Repetition period	•		± 10 ms
Bit rate	•		± 0.2 bps
CW preamble time	•		± 0.8 ms
Total transmission time	•		± 0.8 ms
Rise time	•		± 10 µs
Fall time	•		± 10 µs
Phase deviation: positive	•		± 0.04 rad
Phase deviation: negative	•		± 0.04 rad
Modulation phase symmetry	•		± 0.005
<b>121.5/243 MHz Measurements</b>			
Frequency (Ext Ref)	•		± 30 Hz
Frequency (Int Ref)			
Leaving factory	•		± 250 Hz
Long Term			± 1.5 ppm/yr
Peak Power	•		± 1dB
Sweep Direction	•		-
Audio Frequency - upper	•		± 30 Hz
Audio Frequency - lower	•		± 30 Hz
Audio Sweep Range	•		± 60 Hz
Modulation Index	•		± 5%
Sweep Rep Rate	•		± 0.1 Hz
Duty Cycle	•		± 2%
<b>AIS Measurements</b>			
Frequency (Ch 87B & 88B) (Ext Ref)		• •	± 30 Hz
Frequency (Ch 87B & 88B) (Int Ref)			
Leaving factory		• •	± 250 Hz
Long Term			± 1.5 ppm/yr
Output power		• •	± 0.25dB
Digital Data (Burst Details for bursts 1-8)		• • •	-
Tx AIS for GMDSS		•	-
<b>Graphic Measurements</b>			
-406 spectrum mask graphics data	•		-
-406 output power during burst graphic data	•		-
-406 phase modulation graphics data	•		-

\*User must supply a stable 10MHz Reference

Miscellaneous Measurements	Range	Uncertainty
Vin @ DC PWR IN	1V to 30V	± 2%
Vout @DC PWR OUT	1V to 30V	± 2%
Iout @DC PWR OUT	5mA to 8A	± 2% (>100mA)
leakage current @DC PWR OUT	200 nA to 40 µA	± 5%
Vdropout (Vin to Vout)	100 mV at 2 A	-
Aux Analog Input (Aux ADCn)	0 – 12V	± 2%
Temperature (probe 1 and probe 2)	-60°C to +75°C	± 0.5 C°

Interface Parameters		
<b>50 Ω RF Input</b>		
RF Range		>10 m
406 MHz		>3 m
121.5 MHz/243 MHz		>3 m
AIS		
Connector		BNC-f
VSWR		1.20:1
Dynamic Range	406 MHz Burst	0 dBm to +43 dBm
	121.5 MHz/243 MHz	-5 dBm to +35 dBm
	AIS	0 dBm to +43 dBm
Absolute Maximum Input Level (Burst)		+46 dBm
Absolute Maximum Input Level (Continuous)		+35 dBm
<b>Antenna RF Input</b>		
Connector		SMA-m (RP)
Absolute Maximum Input Level		10 dBm
<b>10 MHz Input</b>		
Connector		SMA-f
VSWR		1.20:1
Input Level Range		-10 to +10 dBm
<b>GPS ANT Input</b>		
Connector		SMA-f
Bias		+5V current limited
<b>USER I/O Connector</b>		
Connector		D-subminiature, 26 pin, HD
Functions:		
-AUX I/O		-8 I/O lines, 5V TTL Tolerant
-AUX ADC		-8 analog inputs, 0V -12 V
-RELAY1		-Relay1 NC/NO 60V 2A
-RELAY2		-Relay2 NC/NO 60V 2A
-PPS Out		-GPS 1 PPS Output
-GPS Tx		-GPS Tx
-GPS Rx		-GPS Rx
-Ground		-Ground
<b>PPS OUT</b>		
Connector		SMA-f
Level		Logic level
<b>AC Power Input</b>		
Connector		IEC 320 Appliance Input
Fuse		240V 1A
Voltage		85-264 VAC
Frequency		47-63 Hz

Environmental and Mechanical	
Operating Temperature Range	+10°C to +35°C
Storage Temperature Range	-20°C to +60°C
Temperature Probe type	RTD
Dimensions: w x l x h mm (inches)	210 (8.3) x 280 (11.1) x 64 (2.5)
Weight	2.73 kg (6.0 lbs)