

# MBX-3S

The most popular commercial-grade Coast Guard Beacon Receiver



## MBX-3S

- Dual-channel Coast Guard beacon receiver
- Supplements GPS systems with free differential corrections, enhancing accuracy
- Fast signal acquisition
- Wide input voltage range for a variety of power sources
- Low power consumption extends battery life
- Automatic tuning mode for hands-free operation
- Integrated signal splitter outputs GPS signal from combined GPS /differential antennas
- Front-panel interface for easy configuration and status monitoring



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# MBX-3S The most popular commercial-grade DGPS Beacon Receiver

## Receiver Specifications

<b>Channels:</b>	2 independent channels
<b>Channel Spacing:</b>	500 Hz
<b>Frequency Range:</b>	283.5 to 325.0 Hz
<b>MSK Bit Rates:</b>	50, 100, 200 bps
<b>Cold Start Time:</b>	<1 min
<b>Warm Start Time:</b>	<2 seconds
<b>Demodulation:</b>	Minimum shift keying
<b>Sensitivity:</b>	2.5 $\mu$ V/m for 6 dB SNR
<b>Dynamic Range:</b>	100 dB
<b>Frequency Offset:</b>	$\pm 8$ Hz (27 ppm)
<b>Adjacent Channel Rejection:</b>	61 dB $f_o \pm 400$ Hz
<b>Correction Output Protocol:</b>	RTCM SC-104
<b>Input Status Protocol:</b>	NMEA 0183

## Communications

<b>Interface:</b>	RS-232C or RS-422
<b>Baud Rates:</b>	2400, 4800, 9600

## Environmental Specifications

<b>Operating Temperature:</b>	-30°C to +70°C
<b>Storage Temperature:</b>	-40°C to +80°C
<b>Humidity:</b>	95% non-condensing
<b>EMC:</b>	EN 60945 EN 50081-1 EN 50082-1 FCC: Part 15, sub-part J, class A digital device

## Power Specifications

<b>Input Voltage Range:</b>	9 to 40 VDC
<b>Nominal Power:</b>	2.5 W
<b>Nominal Current:</b>	210 mA
<b>Antenna Voltage Output:</b>	10 VDC (5 VDC optional)
<b>Antenna Input Impedance:</b>	50 $\Omega$

## Mechanical Specifications

<b>Dimensions:</b>	150 mm L x 125 mm W x 51 mm H (5.9" L x 4.9" W x 2.0" H)
<b>Weight:</b>	0.64 kg (1.4 lb)
<b>Display:</b>	2-line x 16-character LCD
<b>Keypad:</b>	3-key switch membrane
<b>Power Connector:</b>	2-pin circular locking
<b>Data Connector:</b>	DB9-S
<b>Antenna Connector:</b>	BNC-S
<b>Optional GPS Output Port:</b>	TNC-S

## Operating Modes

<b>MBX-3 Mode (Default):</b>	RTCM SC-104 correction and NMEA status message output (Default Mode)
<b>MBX-E Mode:</b>	RTCM SC-104 correction and NMEA status message output and GPS NMEA message input for position and satellite status display

## NMEA 0183 I/O

- Receiver Automatic and Manual tune command
- Frequency and data rate query
- Receiver performance and operating status queries
- Automatic search almanac queries (proprietary)
- Baud rate selection command
- Receiver tune command
- Force cold start command (proprietary)
- Software upgrade command (proprietary)
- Configuration up-load command (proprietary)

## Accessories

<b>Antenna:</b>	Various
<b>Power Cables:</b>	Various
<b>Antenna Cables:</b>	Various
<b>Data Cables:</b>	Various
<b>CSI Beacon Command Center:</b>	MS Windows 95 <sup>®</sup> beacon control software

## Pin-out

### RS, 232C (DB9 PIN#)

Pin 2	TXD, RTCM SC-104/Status Output
Pin 3	RXD, configuration input
Pin 5	Signal return

### RS-422 (DB9 PIN#)

Pin 1	TXD +, RTCM SC-104 / Status Output
Pin 2	TXD -, RTCM SC-104 / Status Output
Pin 4	RXD -, configuration input
Pin 5	Signal return
Pin 7	RXD +, configuration input

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Warranty: Each CSI Wireless product is covered by a limited one-year warranty on parts and labor.

CSI Wireless Dealer



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