

SatMate 1030

The Ultimate Precision Navigation Receiver



- **New DSP based receivers**
- **All-in-view station acquisition/tracking**
- **Adaptive interference cancellation**
- **E-field or H-field antenna operation**
- **NMEA 0183 output messages**

Available, Reliable

The new Locus DSP based receivers elevate Loran performance standards to an unprecedented level, making the SatMate receiver the ideal complement to GPS whenever complete availability, reliability, and integrity are required.

Complete Coverage & Penetration

Locus' patented Linear Averaging Digital (LAD) Loran technology provides simultaneous tracking of up to 40 Loran transmitters with overall signal to noise improvement at least 20 dB better than conventional receivers. Incorporating Locus' proprietary adaptive filtering, digital noise blanking and DSP techniques, the SatMate receiver provides hundreds of thousands more square miles of oceanic and air space coverage and virtually complete penetration into the most dense urban environments, regardless of ambient weather or interference conditions.

Ideal GPS Complement

Loran is the ideal complement to GPS in all marine, aviation, and terrestrial applications, and eliminates the vulnerabilities of a sole-means system. The receiver can be integrated with a GPS receiver and controlled by a single user interface, making operation cost effective and transparent to the user. Built-in Eurofix capability means DGPS corrections can be continuously supplied, whatever and wherever the need. Various GPS antennas and Locus' H-Field antenna can be integrated in a single small radome. Locus will work with companies interested in compact, integrated GPS/Loran systems.

Interface

Data available in NMEA 0183, RTCM SC104 Type 9, and ASCII formats via RS-232 port.



Availability

Available now, order directly from Locus.

Applications

Marine, Aviation, and Terrestrial Navigation

SatMate 1030 Product Specifications

Receiver	Signal Level	30-120 dB uV/M
	Interference Cancellers	44 automatic, variable Q notches
	Tracking Capability	Up to 40 stations ¹ , 12 chains simultaneously tracked, tracks CHAYKA (Russian Loran)
Performance	Acquisition Time at 25° C	20 s typical TTFF ²
	Independent Position Calculation Rate	1 s position update rate (typical)
Antennas	E-Field 	Active antenna: 45.7 cm (18") height, cable lengths to 457 meters (1,500 feet) with 24-gauge cable (standard), and 915 meters (3,000 feet) with 18-gauge cable (custom).
	H-Field 	Active antenna: Dome diameter: 199.0 mm, 7.84 inches Dome height: 96.6 mm, 3.80 inches Dome height including 1"-14 mast thread: 128.4 mm, 5.06 inches Cable lengths to 152 m (500 feet) with 24 gauge cable (standard), and 305 m (1,000 feet) with 18 gauge cable (custom).
Power	Requirements	10-36 VDC 100 mV _{p-p} ripple
	Consumption	18 W nominal
Physical	Dimensions	44 x 213 x 203 mm (1.72 x 8.37 x 8.0 inches)
	Weight	0.9 kg (2 lbs.)
Communications	Outputs	(2) RS-232 serial communications ports
	Data Message	TDs, TOAs, latitude, longitude, time, Eurofix data, NMEA 0183 V2.3, RTCM SC104 Type 9 DGPS
	Alarms	Station blink, ECD skywave uncertainty, cycle slip, SNR
Environmental	Operating Temperature	-25°C to 60°C
	Storage Temperature	-40°C to 85°C
	Humidity	To 95% non-condensing
	¹ Dual rated station = 2 stations ² Time to first fix ¹	