

PCI Receiver, Multiband RF, Single Channel PREC-1011

Features

- **Multiband Coverage**
 - E/S Band 2185 – 2485 MHz
 - L Bands 1429 – 1545, 1700 – 1850
 - C Band Ready, Other Bands Available
- **6 dB Typical Noise Figure**
- **-100 to -10 dB Dynamic Range**
- **AFC Tracking +/- 500 kHz**
- **Wide IF Bandwidth, 50 kHz to 30 MHz**
- **All Standard IRIG Filters**
- **FM/PM/BPSK/QPSK Demods**
- **Supports ARTM Tier I and II**



- **AM Demodulator with 4 Filter Settings**
- **Selectable AGC Output Ranges**
- **Integrated Spectral Analysis Display**
- **Bit Synchronizer Option**
- **Programmable IF to Tape Output Option**

Tri-Band Tuner

Wyle Telemetry and Data Systems' tri-band digital tracking telemetry receiver is ideally suited for embedded telemetry applications. The standard PREC-1011 includes the most popular telemetry bands: Lower-L, Upper-L, and the E/S bands, and because it is completely digital, it does not require calibration. The RF front end sensitivity permits operation with signal levels as low as -100 dBm. A 70 MHz down-converter input is also provided.

Digital Filters

Digital finite impulse response (FIR) and decimation filters minimize signal insertion loss and allow for support of 25 preset IF filter bandwidths and 23 video post-detect bandwidths. User-defined filter bandwidths are also available.

Multimode Demodulators

Included with the user-selectable FM/PM/BPSK/QPSK demodulator, which comes with adjustable outputs, is a noncoherent envelope AM demodulator with four low pass filter settings.

AGC

Receiver RF amplifier modes include manual gain control and automatic gain control (AGC) with an AGC freeze control. Provided with the PREC-1011 are five AGC time constants and AGC output, which operates in three modes: 0 to -5V, 0 to +5V with 20 dB/volt, and 0 to +4 volts with 25 dB/volt.

AFC & Tracking

The PCI Receiver provides for +/-500 kHz tracking with 10 kHz/step tracking response. Tracking modes are +, -, and auto track. It also supplies direction and offset information.

Spectral Data Displays

Support is included for an integrated IF spectral display and for a baseband demodulator data display. The included Windows graphical user interface provides receiver controls and indicators and includes the IF spectral and baseband data displays.

Software

The PREC-1011 includes a Windows DLL and user application for configuration and card operation. Linux drivers and C/C++ User Mode library are also available.

Tuner	Input	Frequency Range	Lower-L band 1429 – 1545 MHz Upper-L band 1700 – 1850 S-band 2185 – 2485 MHz; C-band ready <i>Others are available.*</i>
		Resolution	50 kHz steps, tuning resolution
		IF Bandwidth	Presets provided for 25 IF filter settings: 50 kHz, 100 kHz, 150 kHz, 300 kHz, 375 kHz, 500 kHz, 750 kHz, 1 MHz, 1.3 MHz, 1.5 MHz, 2 MHz, 2.4 MHz, 3 MHz, 3.3 MHz, 4 MHz, 5 MHz, 6 MHz, 7.5 MHz, 10 MHz, 12 MHz, 15 MHz, 20 MHz, 22 MHz, 25 MHz, and 30 MHz <i>Others are available.*</i>
		Dynamic Range	-100 dBm to -10 dBm
		IF Rejection	> 70 dB
		Noise Figure	+8 dB maximum, +6 dB typical
		Maximum	+10 dBm
		Lock Threshold	4 dB E_b/N_0
		Nominal Impedance	50-ohm
		Spurious Rejection	>60 dB
		AFC Tracking	+/- 500 kHz of programmed center frequency with 10 kHz frequency resolution
		AGC Control	ON/OFF manual setting
		AGC Time Constant	0.1 ms, 1 ms, 10 ms, 100 ms, or 1.0s, selectable
		AM	AC coupled AGC detector output 5 Hz, 500 Hz, 5 kHz or 50 kHz low pass filter
		Output	AGC
Down Converter	RF Buffered 70 MHz		
Demodulator	Input	Type	Multimode providing FM, PM, BPSK, QPSK, AM ARTM Tier I and Tier II also available
		Data Rates	FM performance 30 Mbps or 30 MHz PM performance 20 MHz
Output	Loop Bandwidth	100 Hz to 20 kHz	
	Filter Range	Presets provided for 23 standard video filters: 150 kHz, 187.5 kHz, 250 kHz, 357 kHz, 500 kHz, 750 kHz, 1 MHz, 1.2 MHz, 1.5 MHz, 1.65 MHz, 2 MHz, 2.4 MHz, 2.5 MHz, 3 MHz, 3.3 MHz, 3.75 MHz, 4 MHz, 5 MHz, 6 MHz, 7 MHz, 7.5 MHz, 10 MHz, and 15 MHz Other filters are available*	
Connectors	Level	Programmable level from 1.0 to 9.0 Vp-p; offset adjustable	
	RF Input	SMA	
	IF Output	70 MHz, SMA	
Environmental	Reference Input	10 MHz Ref in SMA	
	Temperature	0 to + 50 °C, operating -20 to + 60 °C, nonoperating	
	Humidity	0-90%, noncondensing	

*Please contact Wyle Telemetry and Data Systems for more information. Our contact information is located in the footer.

Ordering Codes

PREC-1011M-201	PCI Receiver, Tri Band, FM/PM/BPSK/QPSK/AM Gen 2
PREC-1011-AC-xx	PCI Receivers: Single Band, FM/PM/AM and Tri-Band, FM/PM/AM
PREC-101C-201	PCI Receiver/Combiner, Tri-Band, Digital Demodulator, FM/PM/BPSK/QPSK/AM
PREC-1011M-OEM	PCI Receiver OEM Version

This is a partial list of our Receiver product line. Please contact us if you would like a complete list.