ANTENNA CONTROLLER

NGC BEACON RECEIVER

The Kratos NGC Beacon Receiver is an optional module installed in the NGC-IDU. This option provides an L band input tracking receiver for satellite beacon up to Ka band frequency with associated frequency conversion.

DETAILS

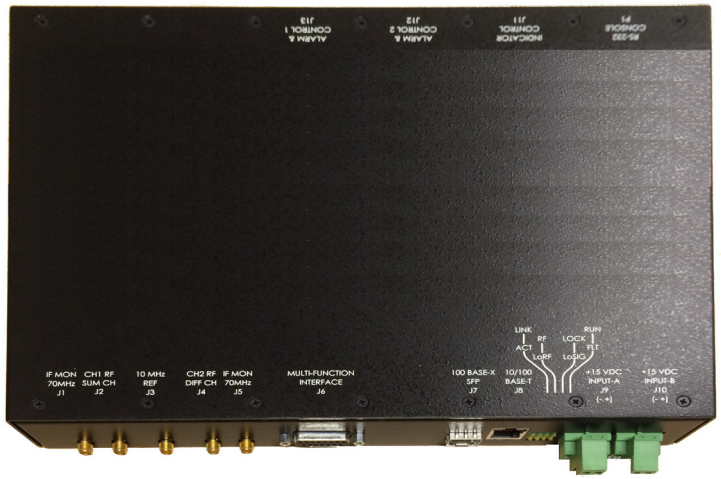
The NGC-004-02 Beacon Receiver option tracks L band beacons in the 930 to 2300MHz range.

This beacon receiver can operate on satellites with modulated or non modulated L Band beacons, with downlink carrier frequency through Ka band with associated external BDC.

This beacon receiver is designed to track the power density of a satellite beacon in real time using FPGA DSP. It provides information about the beacon level directly to the NGC tracking system, the unit also provides a DC output for controlling an uplink power control system.

The integrated module is entirely controlled by the NGC-IDU. The beacon information are stored in the satellite parameters table so when moving the antenna from one satellite to another, the NGC will update the beacon receiver with the beacon parameters, providing automatic beacon receiver settings for each satellite eliminating the need to manually enter or having an M&C system perform this task.

This beacon receiver can be used in monopulse applications when controlled by the NGC-IDU.



Features

- Integrated in the NGC-IDU
- Frequency range 930 to 2300MHz
- Frequency resolution 1kHz
- Internal or external frequency reference
- Minimum C/No 35dB-Hz
- Dynamic range > 110dB
- Monopulse capabilities
- Compatible with all commercial and military satellite beacons

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KPBESANGC004-02.B

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SPECIFICATIONS

Input Frequency Range	930 to 2300 MHz
Frequency Resolution	1kHz
Frequency Stability	1ppm
Frequency Reference	Internal or External 10MHz Selectable
Automatic or Manually Set Frequency Range	20kHz to 1MHz
Pre-detection Bandwidth	2kHz to 250kHz (1kHz step size)
Bandwidth Filter	16kHz to 500kHz
Out of Band Interference Rejection	>40dB @ 1MHz
Image rejection	>40dB
Frequency Drift / Doppler	The Beacon Receiver will track a Signal deviation of up to ±150 kHz at a rate up to 10 kHz/sec caused by source frequency drift or Doppler shift
Acquisition Time	Less than 1 second
Minimum C/No	35dB-Hz
Input Level (Operational band)	-10dBm to -110dBm
Beacon Level	-30dBm to -110dBm
Input Level (No Damage)	+10dBm
Attenuation	31dB
Attenuation Step Size	0.5dB
RF Input Impedance	50-Ohm
RF Connector	SMA or N
Number of L Band Input	2 (one is dedicated to Monopulse)

Configuration	
NGC-004-02	NGC Beacon Receiver Integrated Module

Monopulse functions	Mute Control
	Mute Status
	Degree Command Control
Measurements	C/N, C/No, S/N
Tracking Signals	CW, BPSK/PSK/PM having up to three subcarriers occupying the band 15kHz to 500 kHz separation from the main carrier, and main carrier modulation index up to 1.4 radians
Beacons Supported	Capable of receiving beacons from all commercial and military satellites including NATO, Skynet, DSCS, WGS, and ARSTRAT
Analog DC Output *	0-10 VDC
Analog Output Tracking Gradient	Programmable slope 0.xxx v/dB granularity
Operational Temperature	0° to +50° Celsius
Storage Temperature	-40° to +85° Celsius
Humidity	IEC 60068-2-56 (40°C +/-2°C @ 93% +/-3% Relative Humidity for 2 Days)
Compliance	FCC, ROHS, WEEE

* on the NGC-IDU either the external serial interface or DC output is available

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