ANTENNA CONTROLLER

NGC2-004-xx BEACON RECEIVER

The Kratos NGC Beacon Receiver is an optional module installed in the NGC2-IDU or provided as a standalone 1RU unit. This option depending on the selected version provides a single, dual channel or monopulse tracking receiver for satellite beacon up to Ka band frequency with associated frequency conversion.

DETAILS

The NGC2-004-xx Beacon Receiver option tracks beacons in the 70 - 6,000 MHz range.

This beacon receiver can operate on satellites with modulated or non modulated 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 NGC2 tracking system, the unit also provides a DC output for controlling an uplink power control system.

The integrated module is entirely controlled by the NGC2-IDU. The beacon information is stored in the satellite parameters table so when moving the antenna from one satellite to another, the NGC2 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.

Features

- Module integrated in the NGC2-IDU or provided as a standalone 1RU unit
- Frequency range 70 to 6000MHz
- Frequency resolution 1kHz
- Internal or external frequency reference
- Minimum C/No 35dB-Hz
- Dynamic range > 100dB
- Compatible with all commercial and military satellite beacons

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SPECIFICATIONS

Detection Type	FFT
Input Frequency Range	70 MHz - 6,000 MHz
Tuner Granularity	1 kHz Nominal
Input Connector Type	50Ω SMA
Input VSWR	<1.5 : 1
Input Beacon Level	-105 dBm to 0 dBm
Max Aggregate Input Level (no damage)	+10 dBm (Max)
Variable Attenuation Range	31.75 dB
Attenuation Step Size	0.25 dB
AFC Range / Frequency Track	Programmable, 1 kHz – 1 MHz
Minimum C/No	35 dB-Hz
IF Bandwidth	Programmable, 1 – 250 kHz
Predection Bandwith	Variable, Determined by IF Bandwidth
Acquisition Time	< 0.5 Sec @ 1 MHz BW < 0.1 Sec @ 250 kHz BW
Frequency Reference	Internal or External 10 MHz
10MHz Reference Input Connector	50Ω SMA
10MHz Reference Max Input Power Level (no damage)	+27 dBm (Max)
Monitor Port Frequency	70 MHz
Monitor Port Connector Type	50Ω SMA
Monitor Port Max Output Level	+10 dBm
Out-of-Band Rejection	>40dB @ 1MHz
Frequency accuracy	+/- 2.0 ppm
DAC	0 to +10VDC via NGC2-IDU Rear Panel

Configuration	
NGC2-004-03	1-Channel NGC2 Beacon Receiver Module
NGC2-004-03-2	2-Channel NGC2 Beacon Receiver Module
NGC2-004-MP	2-Channel NGC2 Monopulse Beacon Receiver Module
NGC2-004-MP-X	2-Channel NGC2 Monopulse Beacon Receiver,Extreme Environment
NGC2-004-I03-02-IDU	2-Channel NGC2 Monopulse Capable 1RU Beacon Receiver

Beacons Supported	Capable of receiving beacons from all commercial and military satellites including NATO, Skynet, DSCS, WGS, and ARSTRAT. Measurement of the power density in a 1 - 250KHz band for any available received RF signal (beacon or other desired tracking signal)
M&C	All M&C Performed Through NGC2-IDU
Storage Temperature	-40°C to +85°C
Operational Temperature	-40°C to +60°C
DC Input Power Supply	Supplied Internally by NGC2-IDU, +24VDC Nominal
Power Consumption	
NGC2-004-03 NGC2-004-MP	7W @ +24VDC
NGC2-004-03-2 NGC2-004-MP-X	11W @ +24VDC
Size	
NGC2-004-03	Small Bay Module for use with NGC2-IDU Approx. 9.00” x 4.7” x 1.5”
NGC2-004-03-2 NGC2-004-MP	Wide Bay Module for use with NGC2-IDU Approx. 9.0” x 11.5” x 1.5”
Weight	
NGC2-004-03	2.2 LBS
NGC2-004-03-2	5 LBS
NGC2-004-MP	4.2 LBS
Ingress Protection Rating	IP32 for internal modules IP65 for the NGC2-004-MP-X

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