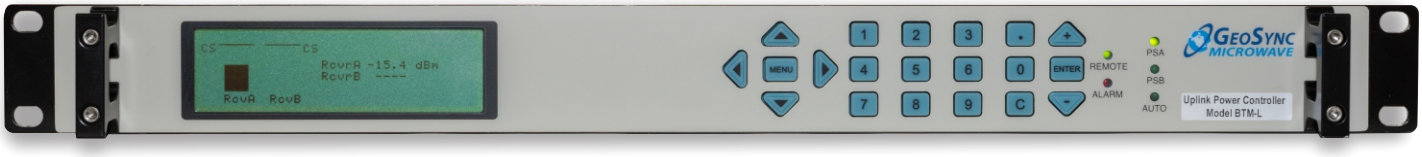
UPLINK POWER CONTROL SYSTEM
with 1 to 3 Attenuation Channels



Simple to install, Simple to set-up.
UPLINK POWER CONTROL SYSTEM with up to 3 uplink channels

An uplink signal transmitted from an RF terminal is subject to weather conditions that will affect signal strength received at the satellite. The Uplink Power Control (UPC) System is designed to adjust uplink signal strength in order to minimize weather induced variations in signal strength received by geostationary satellites. This UPC System accomplishes this control of the uplink RF power based on a DC voltage level provided by a customer supplied beacon receiver by adjusting calibrated variable signal attenuators in the upconverter IF path.

Multiple configurations are offered. The base UPC chassis can support two receiver inputs and up to three attenuator channels. The attenuator channels can be either in the traditional 50-180 MHz IF or L-band (up to 950-2150 MHz). Narrower bands offer higher precision.

Standard features include a failsafe attenuator bypass mode for system or beacon receiver failure and two receiver inputs to support comparison algorithms.

STANDARD FEATURES

- RS422, RS485 and 10/100Base-T Ethernet
- Dual redundant power supplies
- Graphical interface
- Selectable uplink channel power ratio
- Single Beacon Receiver input with open and closed loop correction algorithms
- Failsafe attenuator by-pass path.
- Second Beacon Receiver input providing
  - Comparison and
  - Dual track algorithms
- Adjustable
  - sample time
  - idle time
  - attenuator channel offset
- History screen

OPTIONS

- 50 Ohm 50-180 MHz IF impedance

MODEL NUMBER CONFIGURATION

Component	Part #	Frequency (MHZ)
Chassis Frame	BTM	
IF attenuator	IF	50-180 MHz
L-band Attenuator	L	950-2150 MHz
	AL	950-1750 MHz
	BL	950-1450 MHz
	CL	950-2200 MHz

Model Numbers consist of the frame prefix BTM - followed by the number of attenuator bands
Example: BTM-L2 is a two Channel L-band UPC

Example: BTM-IFL has one L-band channels and one IF-band channel

SPECIFICATIONS	IF ATTENUATOR	L-BAND ATTENUATOR
Frequency	50-180 MHz	Model L: 950-2150 MHz Model AL: 950-1750 MHz Model BL: 950-1450 MHz Model CL: 950-2200 MHz
Insertion Loss at minimum attenuation	1.5 dB maxium	3.5 dB maximum
Attenuation range	20 dB in 0.2 dB steps	20 dB in 0.2 dB steps
Amplitude response 50-90 MHz 100-180 MHz 950-1450 MHz 950-1750 MHz 950-2150 MHz 950-2200 MHz	 ±0.2 dB ±0.25 dB N/A N/A N/A N/A	 N/A N/A ±0.5 dB ±0.5 dB ±0.75 dB ±1.0 dB
Input return loss	20 dB minimum	15 dB minimum
Output return loss	20 dB minimum	15 dB minimum
Input/output impedance	75 ohms (50 optional)	50 ohms
Input third order intercept point	+28 dBm minimum	+28 dBm minimum
Power output at 1 dB compression point	+18 dBm minimum	+18 dBm minimum
Beacon Level Voltage Input	0 to +10 VDC or 0 to -10 VDC	
Failsafe bypass path Insertion loss	1 dB maximum	2 dB nominal, 3.5 dB maximum
DC bypass Power Reference	 N/A N/A	 24 VDC/2 amp maximum 5/10 MHz, 1 dB typical insertion loss, 2 dB maximum

REMOTE CONTROLS

Serial Interface	RS485/RS422
Ethernet Interface	10/100Base-T Ethernet interface providing: -HTTP-based web server -SNMP1.0 configuration -Alarm reporting via SNMP trap -Telnet access

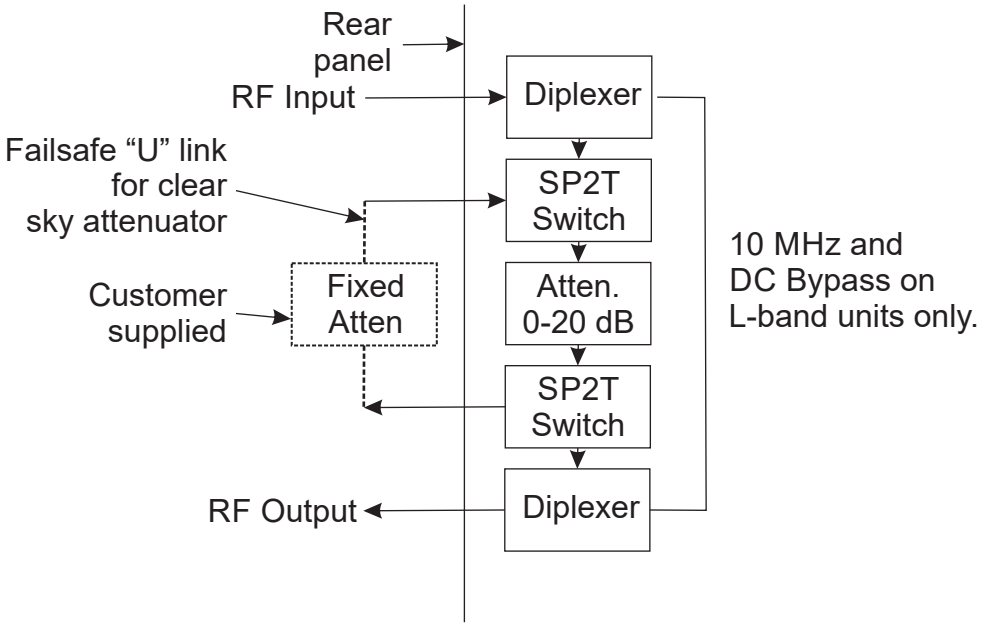
INDICATOR and ALARMS

Remote mode	Green LED (front panel)
Power supply alarm	Red LED (front panel)
Summary alarm	Red LED (front panel)
Channel position indicator	Green LED (antenuator channel, rear panel)
Automatic mode indicator	Green LED (front panel)
Summary alarm	Contact closure/open for DC voltage and controller fault

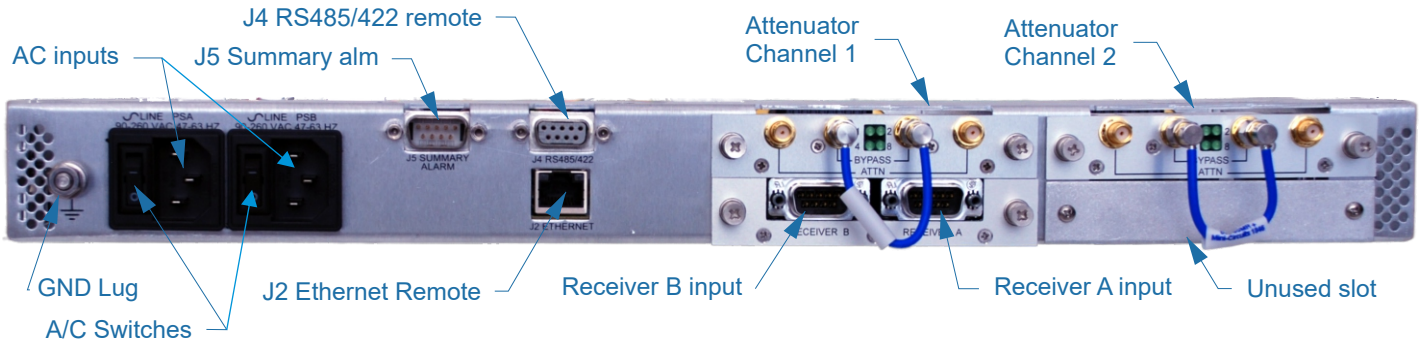
OPTIONS -

32-1 50 ohm 50-180 MHz Attenuator channel impedance

GeoSync Microwave™



ATTENUATION CHANNEL BLOCK DIAGRAM



TYPICAL REAR PANEL VIEW - TWO CHANNEL SYSTEM

PRIMARY POWER REQUIREMENTS

Voltage..... 90-250 VAC
Frequency..... 47-63 Hz
Power Consumption ..... 40W typical
Fuses T1.5A

SUMMARY ALARM

Contact closure/open for DC voltage and/or system alarm. Status alarm readout on remote control bus.

PHYSICAL

Weight ..... 10 pounds (4.5 kg), nominal without rack slides
14 pounds (6.4 kg), nominal with rack slides
Chassis Dimensions ..... 19” x 1.75” panel height x 20” maximum
Connectors -
Beacon level voltage inputs DE-9P
Summary Alarm DE-9P
Remote Interface ..... DE-9S for RS422, RS485
RJ-45 female for Ethernet
Primary Powers..... IEC-320-C13/C14 (x2)

ENVIRONMENTAL

Operating -
Ambient Temperature ..... 0 to 50°C
Relative Humidity ..... Up to 95% at 30°C
Altitude .....Up to 10,000 feet
Non-operating –
Ambient Temperature ..... -50 to +70°C
Relative Humidity ..... Up to 95% at 40°C
Altitude .....Up to 40,000 feet
Shock and Vibration ..... Normal handling by commercial carriers

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