



UPLINK POWER CONTROL SYSTEM



MODEL

FREQUENCY

UPC-A	50 - 180 MHz
UPC-L	950 - 2150 MHz

FEATURES

- Up to 10 attenuator channels
- 20 dB correction range
- Failsafe signal path
- Fully redundant power supplies
- RS485/RS422 selectable remote interface
- Field expandable attenuator channels
- DC and 10 MHz by-pass (UPC-L)

OPTIONS

- Remote RS232 or IEEE-488 interface

The Uplink Power Control System (UPC) is a self-contained, rack-mountable unit, designed for geostationary satellite communication systems. It adjusts the strength of uplink signals at IF frequencies to compensate for varying weather conditions. The UPC can be setup completely from the front panel or over a remote bus via a host computer. All monitor and control functions are accessible at the front panel as well as over the remote bus.

A customer supplied Beacon Receiver provides the UPC with a DC voltage proportional to the downlink signal strength.

The UPC is configured with one attenuator channel and is capable of up to a total of ten attenuator channels. Each attenuator is capable of providing up to 20 dB of power correction. In the event of an attenuator fault or power loss to an attenuator, the signal will be switched to a failsafe path. This failsafe path is routed through the rear panel via a "U" link connection. This connection allows the user to install a fixed attenuator in each path.

The UPC is equipped with fully redundant power supplies.



SPECIFICATIONS

Functional	Model UPC-A	Model UPC-L
Frequency	50–180 MHz	950–2150 MHz
Insertion loss at minimum attenuation	1.5 dB maximum	3.5 dB maximum
Attenuation range	20 dB in 0.2 dB steps	20 dB in 0.2 dB steps
Amplitude response	±0.2 dB/50–90 MHz ±0.25 dB/100–180 MHz	±0.75 dB/950–1750 MHz
Input return loss	20 dB minimum	15 dB minimum
Output return loss	20 dB minimum	15 dB minimum
Input/output impedance	75 ohms (50 ohms 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
Failsafe path insertion loss	1 dB maximum	2 dB maximum
DC by-pass		
Power		24 VDC/2 amp maximum (no fuse)
Reference		5/10 MHz, 1 dB typical insertion loss 2 dB maximum
Attenuator channel status outputs		Normally closed
Summary alarm		Form C
Remote interface		User selectable RS485 or RS422
Beacon level voltage input		0 to +10 VDC or 0 to -10 VDC

OPTIONS

- 1.** Optional configurations.
 - 1-2.** Two attenuator channels.
 - 1-3.** Three attenuator channels.
 - 1-4.** Four attenuator channels.
 - 1-5.** Five attenuator channels.
 - 1-6.** Six attenuator channels.
 - 1-7.** Seven attenuator channels.
 - 1-8.** Eight attenuator channels.
 - 1-9.** Nine attenuator channels.
 - 1-10.** Ten attenuator channels.
- 2.** Normally open attenuator channel status outputs.
- 17.** Remote control.
 - C.** RS232.
 - F.** IEEE-488.
- 15.** 50 ohm IF impedance (UPC-A only).
 - 15-1.** 50 ohm IF impedance Channel 1.
 - 15-2.** 50 ohm IF impedance Channel 2.
 - 15-3.** 50 ohm IF impedance Channel 3.
 - 15-4.** 50 ohm IF impedance Channel 4.
 - 15-5.** 50 ohm IF impedance Channel 5.
 - 15-6.** 50 ohm IF impedance Channel 6.
 - 15-7.** 50 ohm IF impedance Channel 7.
 - 15-8.** 50 ohm IF impedance Channel 8.
 - 15-9.** 50 ohm IF impedance Channel 9.
 - 15-10.** 50 ohm IF impedance Channel 10.

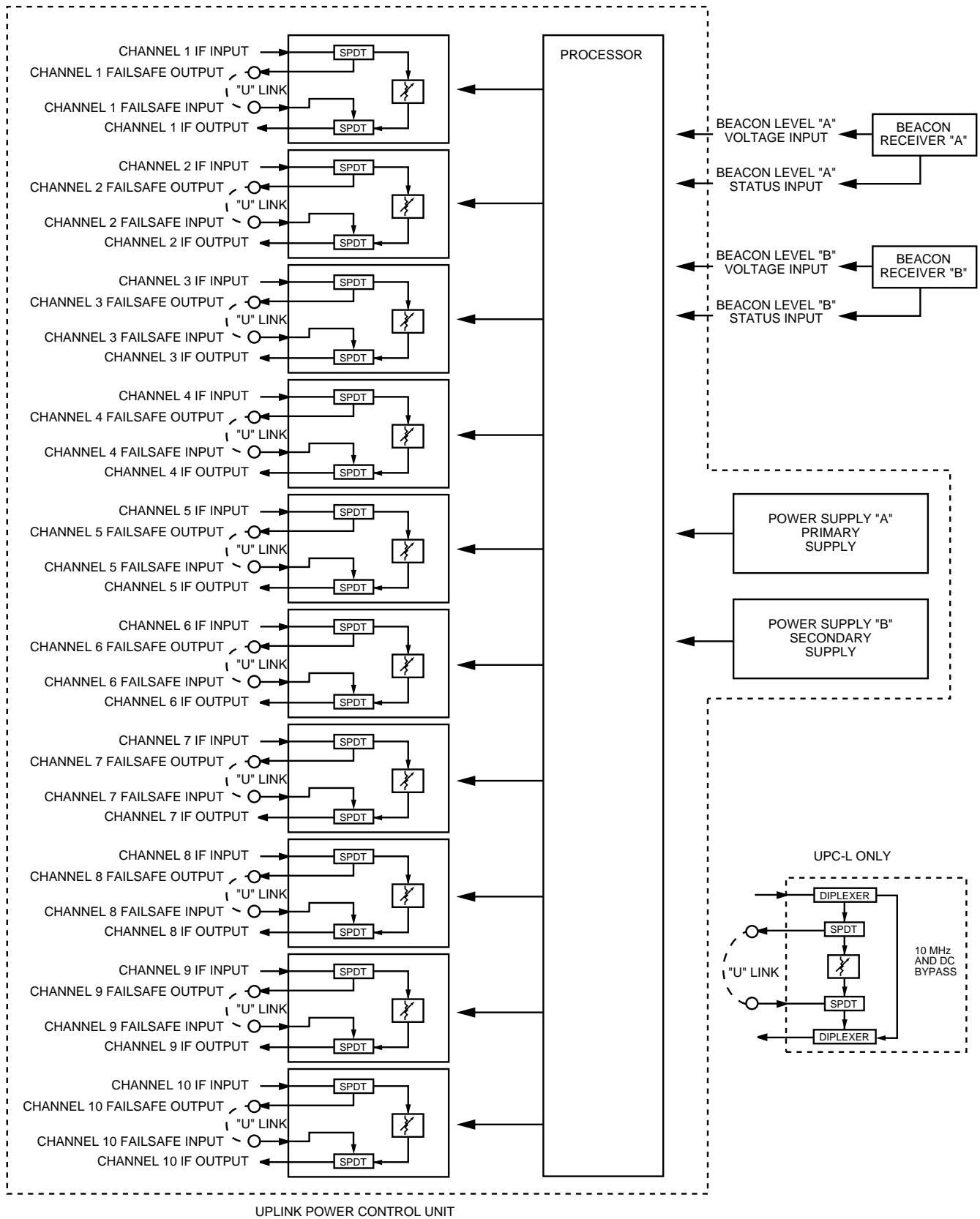
Note: Missing option numbers are not applicable for this system.

BEACON RECEIVER REQUIREMENTS

Voltage output 0 to +10 VDC or 0 to -10 VDC
 Contact closure status outputs Closure for fault or open fault

Note: For more detailed descriptions of the Uplink Power Control System, refer to MITEQ's Technical Note 25T029.

FUNCTIONAL BLOCK DIAGRAM



UPLINK POWER CONTROL SYSTEM

GENERAL SPECIFICATIONS

PRIMARY POWER REQUIREMENTS

Voltage	90–250 VAC
Frequency	47–63 Hz
Power consumption.....	40 W typical

PHYSICAL

Weight	25 pounds nominal
Overall dimensions.....	19" x 5.25" panel height x 20" maximum
Connectors	
Signal Path	
UPC-A.....	BNC female
UPC-L.....	SMA female
Beacon level voltage inputs	BNC female
Receiver fault inputs	DE-9P
Status output.....	DB-25S
Remote interface	
RS485, RS422, RS232.....	DE-9S
IEEE-488	GPIB receptacle

ENVIRONMENTAL

Operating	
Ambient temperature	0 to 50°C
Relative humidity.....	Up to 95% at 30°C
Atmospheric pressure	Up to 10,000 feet
Nonoperating	
Ambient temperature	-50 to +70°C
Relative humidity.....	Up to 95% at 40°C
Atmospheric pressure	Up to 40,000 feet
Shock and vibration	Normal handling by commercial carriers



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