



## UPC2 UPLINK POWER CONTROL UNIT

### SPECIFICATION

#### FUNCTIONAL

Attenuator Module UPC2-L-ATT	
Frequency	950-2150 MHz
Insertion Loss at min. Attenuation	4.0 dB typical, 5.0 dB maximum
Attenuation Range	20 dB in 0.2 dB steps
Attenuation Response	±0.7 dB/950-2150 MHz
Input Return Loss	15 dB minimum
Output Return Loss	15 dB minimum
Input/Output Impedance	50 ohms
Input Third Order Intercept Point	+28 dBm minimum
Power Output (P1dB)	+18 dBm minimum
Failsafe Path Insertion Loss	3.5 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
UPC Chassis Features	
Summary Alarm	Contact closure for attenuator channel status and summary fault
Remote Interface	10/100 Base-T Ethernet and RS485/RS422
Beacon Level Voltage Input	0 to +10VDC or 0 to -10VDC (no Zero crossing)

#### OPTIONS

##### Available Attenuator Options (total of ten channels maximum)

950-2150 MHz, 50 ohms - See specifications above

##### Option

1-1-L	One	UPC2-L-ATT
1-2-L	Two	UPC2-L-ATT
1-3-L	Four	UPC2-L-ATT
1-4-L	Four	UPC2-L-ATT
1-5-L	Five	UPC2-L-ATT
1-6-L	Six	UPC2-L-ATT
1-7-L	Seven	UPC2-L-ATT
1-8-L	Eight	UPC2-L-ATT
1-9-L	Nine	UPC2-L-ATT
1-10-L	Ten	UPC2-L-ATT



The Narda-MITEQ UPC2 Uplink Power Control Unit is a rack-mountable unit, designed for geo-stationary satellite communication systems. It adjusts the strength of uplink signals to compensate for varying weather conditions.

The UPC2 can be set up 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. The UPC2 protocol set is backward-compatible with the well-known Narda-MITEQ UPC-A and UPC-L products.

A customer-supplied Beacon Receiver provides the UPC2 with a DC voltage proportional to the downlink signal strength.

The UPC2 can control up to ten L-band uplink attenuator channels resident in the UPC2, and can adjust up to 20 dB of power correction for each channel. In the event of an internal attenuator fault or power loss to the UPC2, 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 UPC2 is equipped with fully redundant power supplies.

PRIMARY POWER REQUIREMENTS	
Voltage	100-240 VAC
Frequency	47-63 Hz
Power Consumption	40 W Typical
PHYSICAL	
Weight	25 pounds nominal
Overall Dimensions	19" [482.6mm] x 5.25" [133.35mm] panel height x 20" [508mm] max.
Connectors Signal Path	
L-Band I/O	SMA female
Beacon Level Voltage Inputs	BNC female or DE-9P
Receiver Fault Inputs	DE-9P
Remote Interface	
RS485/RS422	DE-9S
Ethernet	RJ-45
ENVIRONMENTAL	
<b>Operating</b>	<b>Non-Operating</b>
Ambient Temperature 0°C to 50°C	Ambient Temperature -50°C to +70°C
Relative Humidity Up to 95% at 30°C	Relative Humidity Up to 95% at 40°C
Atmospheric Pressure Up to 10,000 feet	Atmospheric Pressure Up to 40,000 feet
	Shock and Vibration Normal Handling by Commercial Carriers

TOUCH SCREEN DISPLAYS

Typical control functions available; Three of seven primary screens illustrated below.

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### System Status

Power Supply Status

	20.0V	-15.0V	5.0V
Supply 'A'	15.27	-15.28	5.31
Supply 'B'	15.33	-15.21	5.24

Receiver Status

Rcvr 'A':	ACTIVE	-2.5dB
Rcvr 'B':	OFF	

Channel Status

Status:	1	2	3	4	5	6	7	8	9	10
Atten Mode:	AUTO	AUTO	AUTO	AUTO	AUTO	AUTO	AUTO	AUTO		
Atten Level:	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0		

Correction Algorithm: CLOSED\_LOOP  
 Firmware Version: 209768 v1.17, 209769 v1.03  
 Serial Number: 2174148

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### Level Status

ACTIVE OFF  
-3.0 dB

RECEIVER

	1	2	3	4	5	6	7	8	9	10
Mode:	AUTO	AUTO	AUTO	AUTO	AUTO	AUTO	AUTO	AUTO		
Attn:	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0		

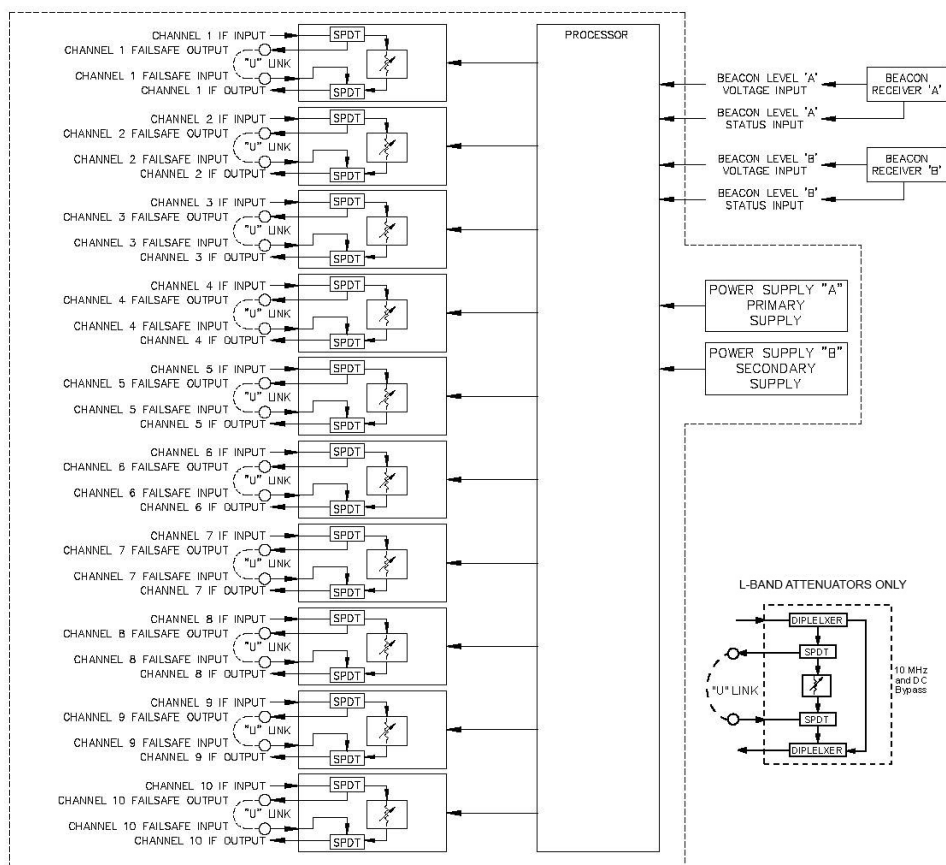
ATTENUATOR

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### Channel Setup

	1	2	3	4	5	6	7	8	9	10
Atten Mode	AUTO	AUTO	AUTO	AUTO	AUTO	AUTO	AUTO	AUTO		
Clear Sky	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		
Attenuation	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0		
Power Ratio	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6		
Max Step	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6		
Offset	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2		
Impedance	50	50	50	50	50	50	50	50		

## FUNCTION BLOCK DIAGRAM



## UPLINK POWER CONTROL UNIT

## KEY FEATURES

- > L-Band 950-2150 MHz attenuators with fail safe signal paths
- > Up to ten uplink channels
- > DC and 10 MHz by-pass for L Band
- > 10/100 Base-T Ethernet Interface
  - > HTTP
  - > Telnet
  - > SNMPv1
- > RS485/RS422 selectable remote interface
- > Field expandable attenuator channels
- > Color Touch Screen simplifies setup and operation

## OPTIONS

- > Number of attenuator channels (up to ten)

### UPC2 Uplink Power Control Unit

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