PowerBoost System

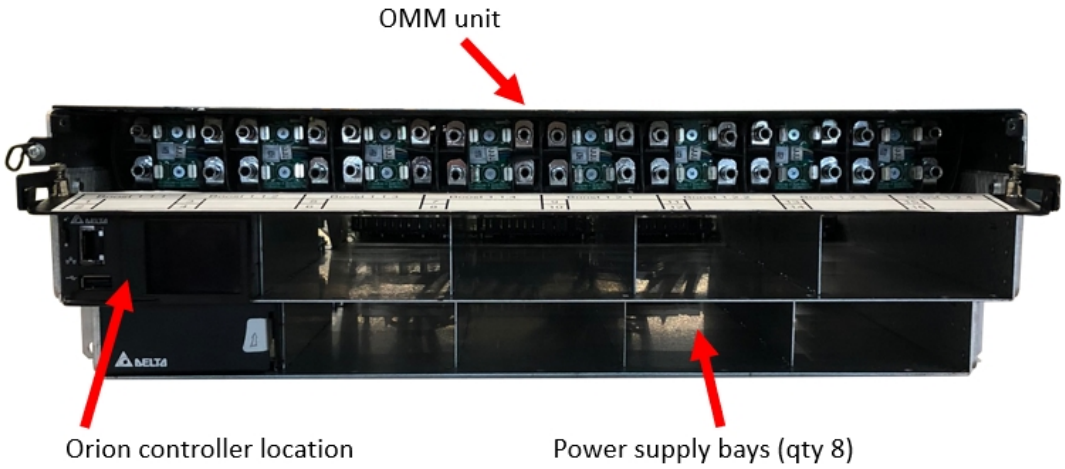
DC Up-Converter with Output Management

Installation instructions

Contact technical support:
1-888-201-6073
techsupport@jmawireless.com

Features

- Class-leading power density supports up to 16 radios in only 3 rack units
- Unmatched flexibility - configurable to support low- and high-power radios
- Integrated output circuit breakers eliminate the need for a separate device
- Removable output circuit breakers, sized according to system requirements
- Touchscreen controller eliminates the need for PC to manage system
- Can be operated in telemetry or non-telemetry modes; selectable by boost module.
- SNMP support for parameters such as voltage, power, current, etc.



System specifications	
Number of output channels supported	1-16
User interface	Controller, rack mounted “Orion” (touch screen or Ethernet access)
Chassis earth ground connection(s)	Dual lug female 1/4” x 5/8” (2) bolts provided in hardware kit
Alarm connections	Multiple; see Quick Start Guide. (4) connectors provided[6]
Redundancy (per channel)	1+1 capable, redundancy plates included with 16-channel shelf

Electrical - boost	
Input connections	Dual lug studs 1/4”-20 x 5/8” (nuts provided / pre-installed)
Input voltage range[1] (VDC)	-38 to -58
Input current per feed, max[2] (A)	220
DC input breaker sizing (per feed), min[3] (A)	Channel-dependent. See Quick Start Guide
Output connections	Dual lug studs 1/4”-20 x 5/8” (nuts provided / pre-installed)
Output voltage range[4] (VDC)	-48 to -73
Output current per channel, max[7] (A)	33
Upper OVP setpoint (VDC)	-56
Supported distance (output cable), max[5] (ft)	650
Power efficiency (%)	95 min / 97 typ.
Output power, system total per channel, max (W)	1980

Electrical - output management OMM	
Input & output connections	Dual lug 1/4”-20 x 5/8”
Circuit breakers	1 per channel, user selectable 30A, 35A, 40A, 50A, 60A (PB-BR-XX)
Alarm feature	Included, pre-wired. Alarm on tripped breaker. User programmable

PowerBoost System

DC Up-Converter with Output Management

Mechanical	
Rack dimensions, in.	5.3 h x 19.0 w x 22.0 d (19-inch rack, 3U high)
Rack bays, modules supported	Circuit breakers 1-16 (1 output channel per breaker) Boost modules 1-8 (2 output channels per boost module)
Fully loaded weight (oz / lb) (see further information below)	60.1

Environmental	
Operating temperature, °C/°F	-40° to +65° / -40° to 149°
Relative humidity (non-condensing)	0% to 95%
MTBF, hrs.	300,000 / 40 °C | 220,000 / 55 °C

Approvals/compliance/certification	
UL IEC 60950, NEBS	

Boost module specifications	
Boost rack weight (with 1 Orion Cont., 0 brks, 0 boost bricks) (oz / lb)	678 / 42.4
Circuit breaker weight (ea) (max qty. 16 per boost rack) (oz / lb)	2.4 / 0.2
Boost module weight (ea) (max qty. 8ea per boost rack) (oz / lb)	49.6 / 3.1
Boost module cover weight (ea) (oz / lb)	4.0 / 0.3
Boost module maximum power added, W	870
Boost module maximum boost current per channel, A	33
Boost module maximum Voltage boost per channel, V	29

Summary of weights for reference

# of active channels/breakers	# of boost modules	# of boost module covers	Total weight, oz	Total weight, lb
0	0	0	678	42.4
1	1	7	758	47.4
2	1	7	761	47.6
3	2	6	809	50.6
4	2	6	811	50.7
5	3	5	859	53.7
6	3	5	862	53.9
7	4	4	910	56.9
8	4	4	912	57.0
9	5	3	960	60.0
10	5	3	962	60.2
11	6	2	1010	63.2
12	6	2	1013	63.3
13	7	1	1061	66.3
14	7	1	1063	66.5
15	8	0	1111	69.5
16	8	0	1114	69.6

Part number	Description
PB-SYS-16-BB-01	19IN 16 OUTPUT DC BOOST SHELF wOMM
PB-PSU-162-BB	DC BOOST MODULE
PB-PSU-COV	SLOT BLANK COVER, PSU (for rack slots without boost module)
PB-BR-XX (-30, -35, -40, -50)	Circuit breaker 30A, 35A, 40A, 50A, 60A

Important: Prior to beginning installation of hardware, a system design that evaluates the site characteristics including RRHs, installed conductors, and the DC plant must be performed. Installation (conductor sizing etc.) must comply with national and local codes.

[1] −38.5 V required for startup

[2] At minimum input voltage −38 V (4 feeds per system)

[3] Determined by system design

[4] Output must be 3 volts greater than system battery / float voltage

[5] Cable gauge and radio power dependent. Must use low inductance (coaxial design) cable

[6] Phoenix Contact #1745904 or equivalent

[7] System design should be less than 30 amps