

# C-Band Solid-State Power Amplifiers

## *DPCD, DPCM6400R*

Using technology developed for ModuMAX™ amplifiers, these rack-mount SSPAs offer an output power of 400 watts across the standard 5.850–6.425 GHz or extended 5.850–6.725 GHz satellite uplink bands. The SSPAs incorporate a modular architecture that includes the RF modules, power supplies, logic, fans, and front panel assembly. The amplifiers are designed for reliable service in fixed and mobile applications.

### Features

- 400 W saturated output power
- Digital gain adjustment (20 dB range)
- Forward and reflected power monitoring
- Microprocessor-based monitor and control
- Serial interface (RS-232/-422/-485) standard
- 10 Base-T network interface (SNMP, HTTP)
- RF input and output sample port
- Integral 1:1 redundancy control

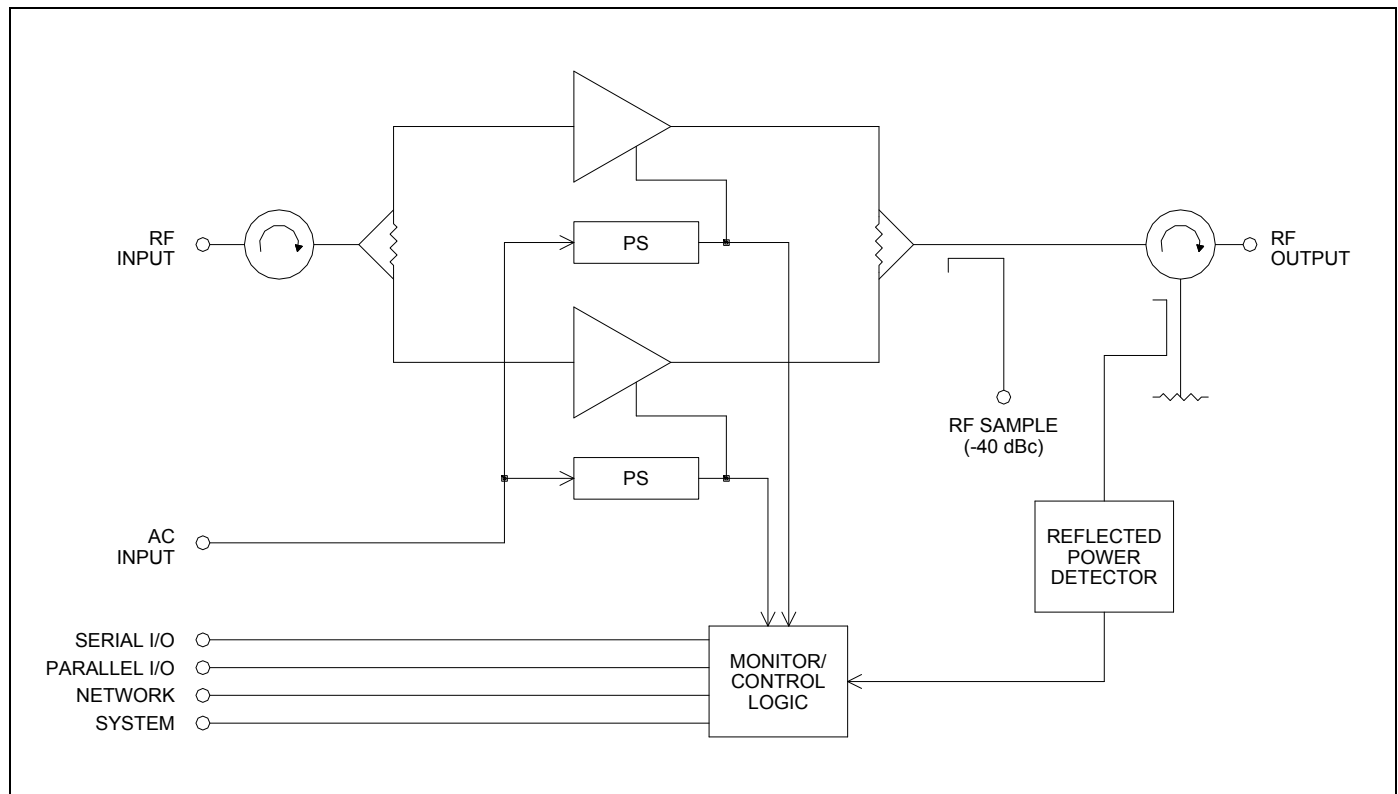
### Applications

- Single-thread SSPA
- Redundant systems (1:1, 1:2)
- Fixed installations
- Mobile terminals
- Commercial, Government, and Military systems

### Accessories

- RCP-2001 remote panel

### Block Diagram



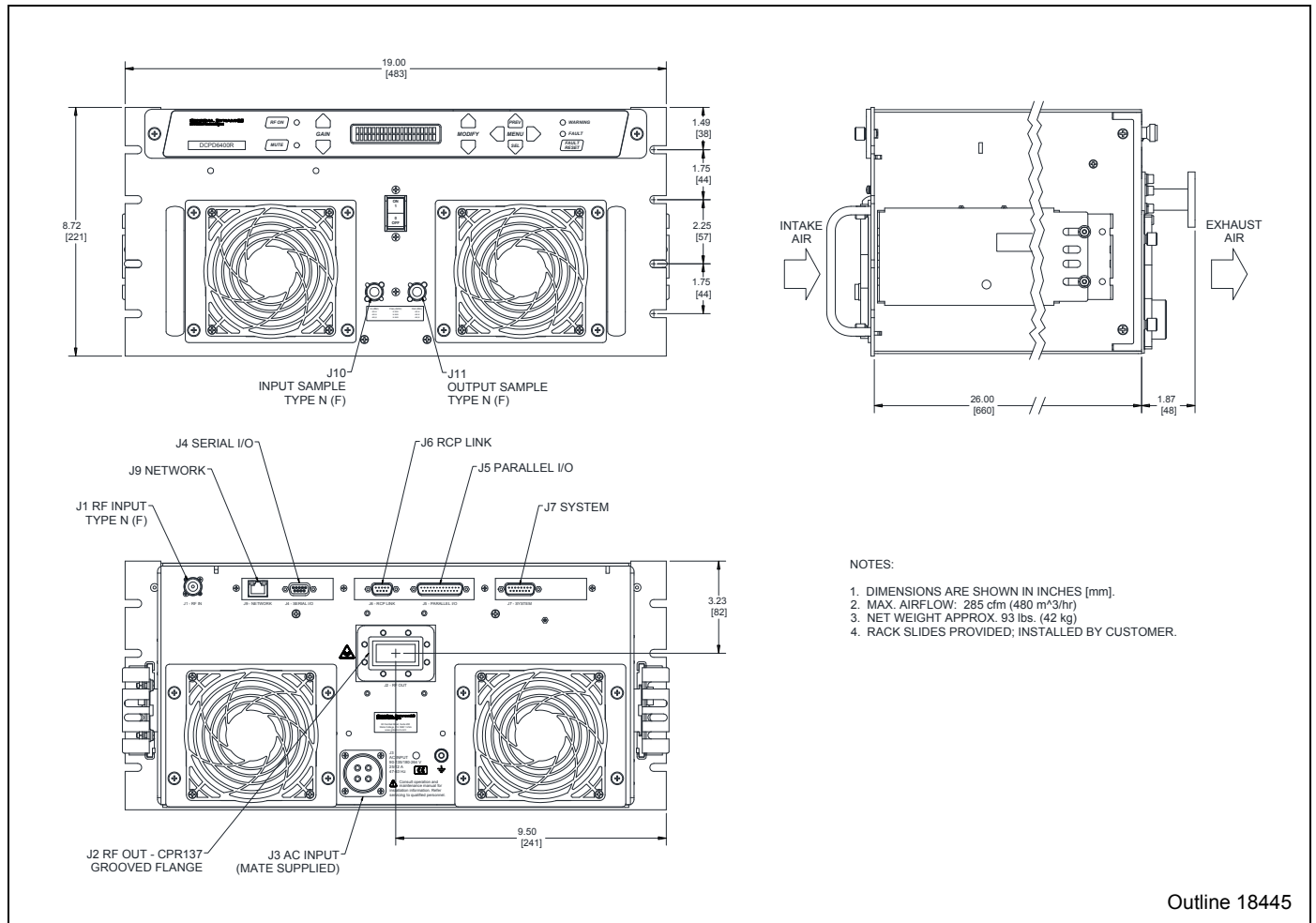
## Specifications

Parameter	Notes	Min	Nom/Typ <sup>†</sup>	Max	Units
Frequency Range	Band "D"	5.850		6.425	GHz
	Band "M"	5.850		6.725	GHz
Gain, at maximum gain setting	Standard	70			dB
Gain Adjust Range	Digital, 0.1 dB steps	20			dB
Gain Flatness	Full band Per 40 MHz			±1.0	dB
				±0.3	dB
Saturated Power Output			+56.0 (400)		dBm (W)
Power Output at 1 dB compression (P <sub>1 dB</sub> )		+55.2 (320)			dBm (W)
Two-tone Intermodulation	At 3 dB total backoff from 1 dB compression point		-30	-25	dBc
Group Delay	Linear			0.03	ns/MHz
	Parabolic			0.003	ns/MHz <sup>2</sup>
	Ripple			1.0	ns p-p
AM/PM Conversion	At P <sub>1 dB</sub>		2.5	3.5	%/dB
VSWR	Input		1.25	1.30	:1
	Output		1.20	1.30	:1
RF Sample Ports	Input		-10		dB
	Output		-40		dB
Connectors	RF Input		Type N Female		
	RF Output		CPR137G Waveguide		
	Sample Ports		Type N Female		
	Serial I/O		9-pos D-sub Female, mate supplied		
	Parallel I/O		25-pos D-sub Male, mate supplied		
	System		15-pos D-sub, Male		
	RCP Link		9-pos D-sub, Male		
	Network		RJ-45 Jack		
Power		4-pos CE05, mate supplied			
Power Requirements	Voltage		90–135 or 180–270		Vac
	Frequency	47		63	Hz
	Power		2000	2400 <sup>A</sup>	W
	Power factor corrected		0.98		
Cooling System			Forced air		
Operating Temperature Range	Ambient air temperature	0		+50	°C
Dimensions	See outline drawing		8.75 H x 19 W x 27.88 D		inches
			222 H x 483 W x 708 D		mm
Weight	Approximate		93 (42)		lb (kg)

<sup>†</sup> When there is only one value on a line, this column is a nominal value. Otherwise it is a typical value. Typical values are intended to illustrate typical performance, but are not guaranteed.

<sup>A</sup> Cold start, at -40 °C and P<sub>OUT</sub> in saturation.

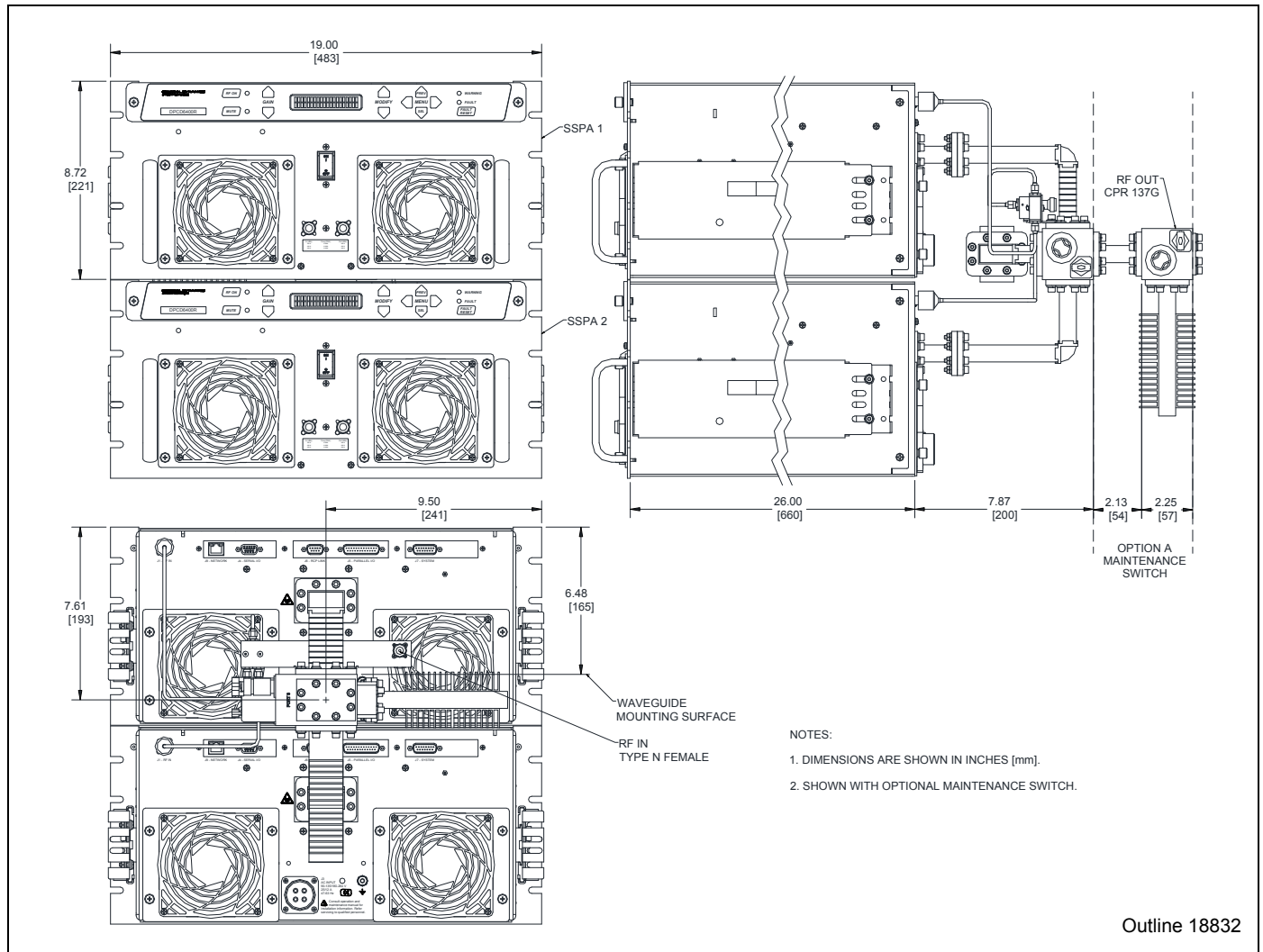
## Outline Drawing, SSPA



## Connector Interface

Ref. Des.	Function	Connector Type	Mating Connector	Comment
J1	RF Input	Type N Female	Type N Male	
J2	RF Output	CPR137G Waveguide	CPR137 Flange	
J3	AC In	4-pos CE05, Male	4-pos MS or CE05, Female	Mate supplied
J4	Serial I/O	9-pos D-sub, Female	9-pos D-sub, Male	Mate supplied
J5	Parallel I/O	25-pos D-sub, Male	25-pos D-sub, Female	Mate supplied
J6	RCP Link	9-pos D-sub, Male	9-pos D-sub, Female	
J7	System	15-pos D-sub, Male	15-pos D-sub, Female	
J9	Network	RJ-45 Jack	RJ-45 Plug	
J10	Input Sample	Type N Female	Type N Male	Front panel mounted
J11	Output Sample	Type N Female	Type N Male	Front panel mounted

## Outline Drawing, 1:1 System



### Part Number/Ordering Information

<p><b>SSPA:</b></p> <p>Part/Model No.            <b>DPC</b> <input type="checkbox"/> <b>6400R</b></p> <p>   5.850–6.425 GHz = D</p> <p>   5.850–6.725 GHz = M</p>	<p><b>1:1 Redundant System:</b></p> <p>Part/Model No.            <b>DPRC1</b> <input type="checkbox"/> <b>400R-X</b></p> <p>   5.850–6.425 GHz = D</p> <p>   5.850–6.725 GHz = M</p> <p><b>Option:</b></p> <p><b>Maintenance Switch..... A</b></p> <p>Selects antenna or dummy load at system output</p>
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**Related Accessory:**

**RCP-2001, SSPA Remote Control Panel**  
 1U-high rack-mount panel enables remote manual control of the SSPA. Can be located up to 1.3 km (4000 ft.) away and interconnects with inexpensive cable.

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