

SSPA Amplifier, C-Band, 20-500W, Indoor (IDU)/ or Outdoor Unit (ODU), Redundant Ready (1+1) or 2:1



Indoor Model



Outdoor Model

Frequency Range (GHz)

Band		Frequency Range
Intelsat	Clnt	5.850 – 6.425
ST-1/Palapa-C	CPal	6.425 – 6.725
Insat	Clnt	6.725 – 7.025
Full-C	C	5.850 – 6.725

Features

- o High RF output power
- o Low spurious levels
- o Various output power rating
- o Easy installation & configuration
- o RF output sample port
- o Available for specific satellite brands
- o Surge Protection
- o Built-in Redundancy (1:1)
- o Built in Isolator and Harmonic reject filter

Reverse Power Detection

OPTION: Enhanced Monitoring and Control

SSPA offers M&C via RS232/485 and SNMP. It features full remote M&C through Windows using PC.

These include:

- o TX level monitoring
- o Temperature monitoring
- o RF inhibit selection
- o Gain control for rack mount SSPA
- o Automatic fault identification & alarm
- o SNMP

Order Examples: RSSPA-C(5.85-6.725)-Nf-CPR137G-500W-IDU-1+0-g11

Description: (Solid State Power Supply, C-Band(5.85-6.725GHz), N-Type Female Input Connector, CPR137G Output Connector, 500 Watts, Indoor Unit, Non-Redundancy)

Options: Frequency Range (See Table) **Nf(N-Female (20W to 50W Only) Watts (See Table) IDU(Indoor Unit) or ODU(Outdoor Unit), Redundancy 1+1 or 2:1**

Transmit Specs

Power (Watts)	Output P1dB (dBm) min	Gain (dB)	Power Consumption
20W	43	44 – 48	120W
25W	44	45 - 49	135W (p)
40W	46	48 – 52	200W
50W	47	48 – 52	230W
80W	49	50 – 54	300W
100W	50	51 – 55	500W
150W	52	53 – 57	700W
200W	53	54 – 58	1000W
300W	55	56 – 62	1200W
400W	56	57 – 62	2000W
500W	57	57 – 62	2400VA (Outdoor)/ 2500VA (Rack mount)

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Transmit	Units	
Gain Flatness over full BW	±1.0	dB max
Gain Slope over 36 MHz	±0.3	dB max
Gain Stability over Temperature	±2.0	dB (max) Outdoor
	±1.0	dB (max) Rack Mount
Gain Control Range	20	dB min step 0.1 dB (Rack Mount SSPA)
Input / Output VSWR	1.3:1	(Max)
Intermodulation (with 2 carriers, ±1MHz apart, 6dB backoff)	-25	dBc max
Harmonics (@P1dB)	-60	dBc max
Spurious (@P1dB)	-60	dBc max
Maximum Input Power	+ 10	dBm (without damage)
Display	24 x 2 LCD Display (Rack Mount SSPA)	
Power Supply	220 Vac or 110Vac (factory preset) +48 Vdc (Rack Mount 50W ~ 100W – Optional)	
Interface		
RF Input	50 Ω N-Type Female	
RF Output	CPR137G (20W to 500W) / 50 Ohm N-Type Female (20W to 50W) Optional	
Monitor and Control		
Monitor	SSPA Temperature Status Alarm RF Output Power RF Output monitor -30 dBc typical	
Control	Temperature threshold setting SSPA On/Off	
Protection	Over temperature SSPA shutdown	
Interface	RS232 / RS485 SNMP (Optional)	
Inbuilt Redundancy Control	Yes	
Environmental		
Operating Temperature	-40 to + 60°C (Outdoor SSPA) 0 to + 50 °C (Rack Mount SSPA)	
Relative Humidity	Up to 95% (Non-Condensing)	

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Mechanical	
Size (Outdoor SSPA)	210L x 150W x 90H mm (20W) 235L x 175W x 90H mm (40W to 50W) 525L x 285W x 275H mm (80W to 150W) 610L x 328W x 251H mm (200W) 474L x 464W x 416H mm (250W to 500W)
Weight (Outdoor SSPA) in kg	3.0 kg (20W) 3.9 kg (40W to 50W) 23.5 kg (80W to 200W) 55.0 kg (250W to 500W)
Color (Outdoor SSPA)	White powder coat
Size (Indoor SSPA)/ Rack Mount	19" rack, 3 RU height (20W to 100W) 19" rack, 5 RU height (150W to 500W)
Weight (Indoor Rack Mount SSPA) in kg	25.0 kg (20W to 100W) 37.0 kg (150W to 500W)
Color (Indoor SSPA/Rack Mount)	Grey
Compliance Standards	
IEC 60950C	International Safety Standard for Information Technology Equipment
ETSI EN 300 673	Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) Standard for Very Small Aperture Terminal (VSAT)
ETSI EN 301 489-1	Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Electro Magnetic Compatibility Standard for Radio Equipment and Services

Reliability

Field proven under harsh environment conditions, Outdoor SSPA can withstand temperature ranging from -40°C to +60°C with up to 100% humidity

Quality Assurance

Outdoor SSPAs go through intensive active electrical stress screening. They undergo 100% waterproof test equivalent to IP65 to ensure normal operation during tropical, cold and harsh environment

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2:1 Redundancy Information Sheet

The 2:1 Redundancy System comprised of 3 SSPAs.

2 SSPAs will be in operation while the 3rd SSPA stays in standby mode.

All 3 SSPAs are connected to the RCU via M&C cable to monitor the status of the SSPAs.

RF input signals are fed into 2 separate ganged Waveguide switches which will ensure that at one time, only 2 signals are directed to the 2 operational SSPAs.

The output of the SSPAs is then fed to the waveguide switches to direct the amplified signals out to the OMT.

When a fault occurs in either of the operating SSPAs,

an alarm will be raised and the RCU will issue a switch command to the corresponding waveguide switch, switching the transmit path from the faulty SSPA to the standby SSPA automatically.

You can also manually issue a command to switch operation from an operating SSPA to the standby SSPA even in the absence of a fault.

250W / 400W C SSPA 2:1 Redundant System Block Diagram Example

