## These high power solid-state amplifiers offer output powers of 50, 100, 125, or 200 watts accross the standard 7.90-8.40 GHz satellite uplink bands

Housed in a compact weatherproof enclosure, the amplifiers can be mounted in an antenna hub or outdoors in applications where it is desirable to reduce cable losses by mounting the SSPA close to the antenna. The amplifiers feature a microprocessor-based M&C system that facilitates easy setup and control.

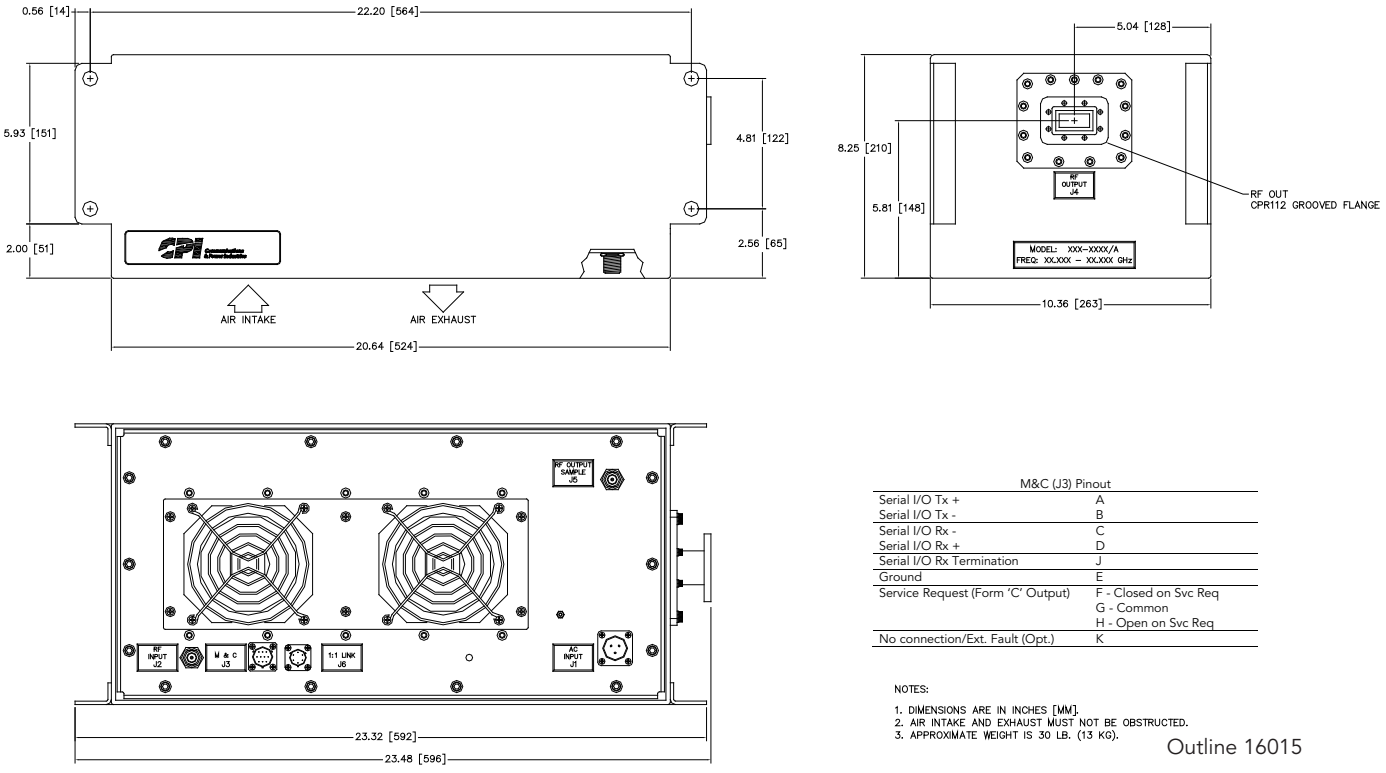
### FEATURES:

- 50, 100, 125, or 200 W saturated output power
- 70 dB gain
- Built-in monitor and control
- Temperature-compensated gain from -40 to +50°C
- Serial interface (RS-232/-422/-485) standard
- Output isolator for high load VSWR protection
- 20 dB range digital gain adjustment
- RF output sample port (-40 dBc)
- Output power monitor
- Extremely light weight, nominally 36 lb (16 kg)
- Mounts on small antennas

### OPTIONS:

- Redundant systems (1:1, 1:2)
- Integrated block upconverter with L-band input

### Outline Drawing, SSPA




M&C (J3) Pinout

| | |
|---|---|
| Serial I/O Tx + | A |
| Serial I/O Tx - | B |
| Serial I/O Rx - | C |
| Serial I/O Rx + | D |
| Serial I/O Rx Termination | J |
| Ground | E |
| Service Request (Form 'C' Output) | F - Closed on Svc Req<br>G - Common<br>H - Open on Svc Req |
| No connection/Ext. Fault (Opt.) | K |

NOTES:

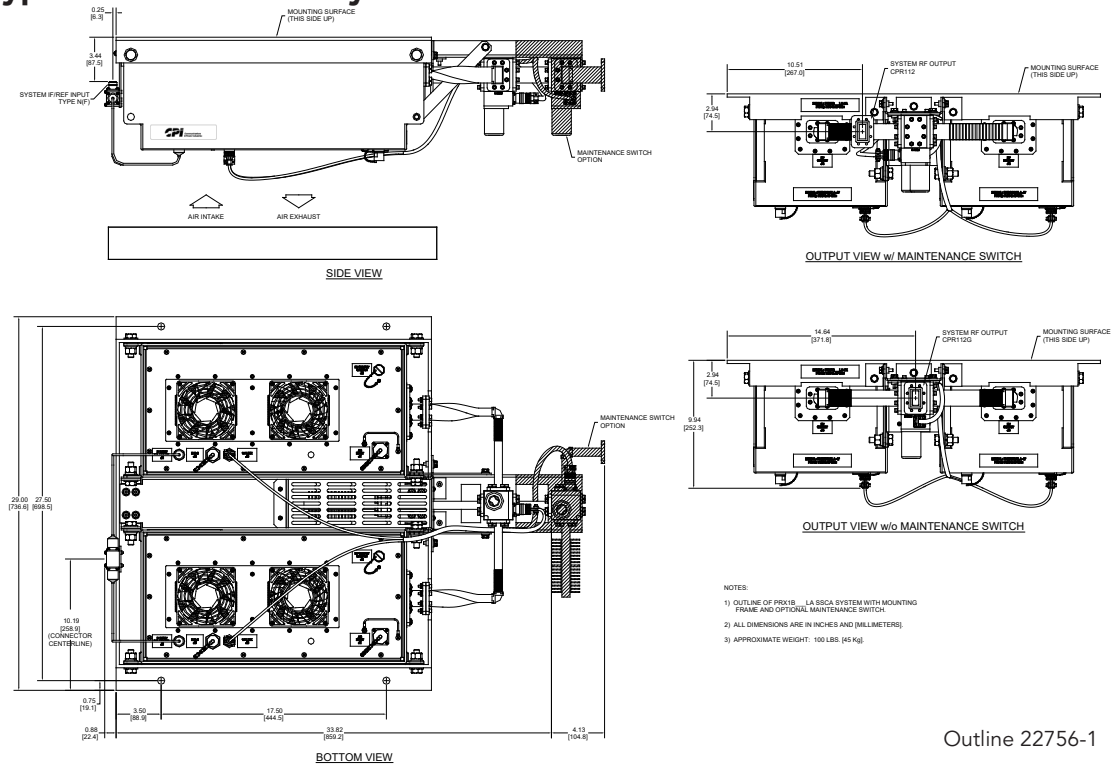
1. DIMENSIONS ARE IN INCHES [MM].
2. AIR INTAKE AND EXHAUST MUST NOT BE OBSTRUCTED.
3. APPROXIMATE WEIGHT IS 30 LB. (13 KG).

Outline 16015

| Parameter | Notes | Specification |
|---|---|---|
| **Frequency Range** | | 7.90 to 8.40 GHz |
| **Input Frequency Range** | With Option 7, Internal BUC | 950 MHz min., 1450 MHz max. |
| **Gain, at Maximum Setting** | | 70 dB min. |
| **Gain Adjustment Range** | | 20 dB min. |
| **Gain Flatness** | | ±1.0 dB over the full band, standard; ±1.5 dB full band, with Option 7<br>±0.3 dB per 40 MHz, standard, ±0.5 dB per 40 MHz, with Option 7 |
| **Gain Stability vs. Temperature** | -40 to +50°C, standard<br>-40 to +50°C, with Option 7 | ±1.0 dB typical, ±1.5 dB max.<br>±2.0 dB typical, ±2.5 dB max. |
| **Saturated Power Output** | 50 W<br>100 W<br>125 W<br>200 W | +47 dBm typ. (50 W)<br>+50 dBm typ. (100 W)<br>+51 dBm typ. (125 W)<br>+53 dBm typ. (200 W) |
| **Power Output at 1dB compression ($P_{1\,dB}$)** | 50 W<br>100 W<br>125 W<br>200 W | +46.5 dBm min. (45 W)<br>+49.0 dBm min. (80 W)<br>+50.0 dBm min. (100 W)<br>+52.0 dBm min. (158 W) |
| **Two Tone Intermodulation** | | -25 dBc max.,-30 dBc typical at 3 dB total backoff from 1dB compression point |
| **Group Delay** | Linear<br>Parabolic<br>Ripple | 0.03 ns/MHz<br>0.003 ns/MHz$^2$<br>1.0 ns peak to peak |
| **AM/PM Conversion** | | 2.5°/dB typical, 3.5°/dB max. at ($P_{1\,dB}$) |
| **Noise Figure** | | 8 dB typical at maximum gain, standard<br>15 dB typical at maximum gain, with Option 7 |
| **VSWR** | Input<br>Input, with Option 7<br>Output | 1.20:1 typical, 1.30:1 max.<br>1.35:1 typical, 1.50:1 max.<br>1.20:1 typical, 1.30:1 max. |
| **Output Sample Port** | | -40 dBc typical |
| **Connectors** | Input<br>Output<br>Sample Port<br>I/O<br>Power | Type N Female<br>CPR112G Waveguide<br>Type N Female<br>10-pin MS, mate supplied<br>3-pin MS, mate supplied |
| **Power Requirements** | Voltage, 50/100 W<br>Voltage, 125/200 W<br>Frequency<br>Power, 50 W<br>Power, 100 W<br>Power, 125 W<br>Power 200 W<br>Power factor corrected | 100 to 242 VAC<br>180 to 242 VAC<br>63 Hz max., 47 Hz min.<br>375 W typical, 500 W max.<br>600 W typical, 800 W max. (1)<br>750 W typical, 1000 W max. (1)<br>850 W typical, 1200 W max. (1)<br>.99 typical |
| **Cooling System** | | Forced Air |
| **Operating Temperature Range** | Ambient air temperature | -40°C to +50°C |
| **Dimensions** | See outline drawing | 8.25" H x 23.32" W x 10.36" D; 210 mm H x 592 mm W x 263 mm D |
| **Weight** | | 36 lb, 16 kg) |

(1) Cold start, at -40 °C and $P_{OUT}$ in saturation.

## Outline Drawing, Typical 1:1 Redundant System




Outline 22756-1

## Part Number Ordering Information

**SSPA:**

**Part/Model No. PXB8S□□LA-XX**

7.90–8.40 GHz = B

50 Watts = 050
100 Watts = 100
125 Watts = 125
200 Watts = 200

**Options:**

**1:1 Redundancy.....4**
**Redundant Capability**
**(required for units in 1:1 systems)**
**Block Upconverter.....7**
**L-Band IF Input**

**1:1 Redundant System*: (Consists of 1:1 switching assembly, two SSPAs, and interconnecting cables)**

**Part/Model No. PRX1B□□LA-XX**

7.90–8.40 GHz = B

50 Watts = 050
100 Watts = 100
125 Watts = 125
200 Watts = 200

**Options:**

**Block Upconverter.....7**
**L-Band IF Input**
**Maintenance Switch.....A**
Selects antenna or dummy load at system output

*Performance specifications of a redundant system depend on the installed configuration and optional accessories. Contact the factory for more information and for 1:2 system capabilities.

## 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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For more detailed information, please refer to the corresponding CPI technical description if one has been published, or contact CPI. Specifications may change without notice as a result of additional data or product refinement. Please contact CPI before using this information for system design.