

Using technology developed for ModuMAX™ amplifiers, these outdoor SSPAs feature a modular architecture with field-replaceable RF assemblies and offer output powers of up to 200 Watts accross the standard 7.90 - 8.40 GHz satellite uplink band.

Housed in a weatherproof NEMA 4X 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. Built for reliable, trouble-free service, the amplifiers incorporate a microprocessor-based monitor and control system.

#### FEATURES:

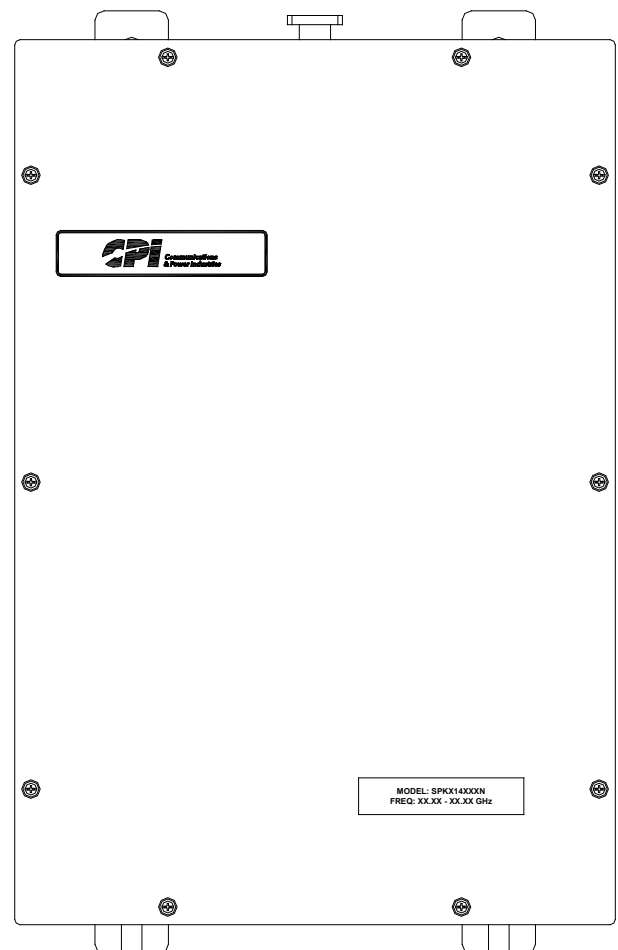
- Field replaceable RF assembly
- 50/100/125/200 W saturated output power
- Microprocessor based monitor and control
- Serial interface (RS-232/-422/-485)
- Output isolator for high load VSWR protection
- 20 dB range digital gain adjustment
- RF output sample port
- Reflected power monitoring

#### APPLICATIONS:

- Stand-alone SSPA
- 1:1 and 1:2 redundant systems

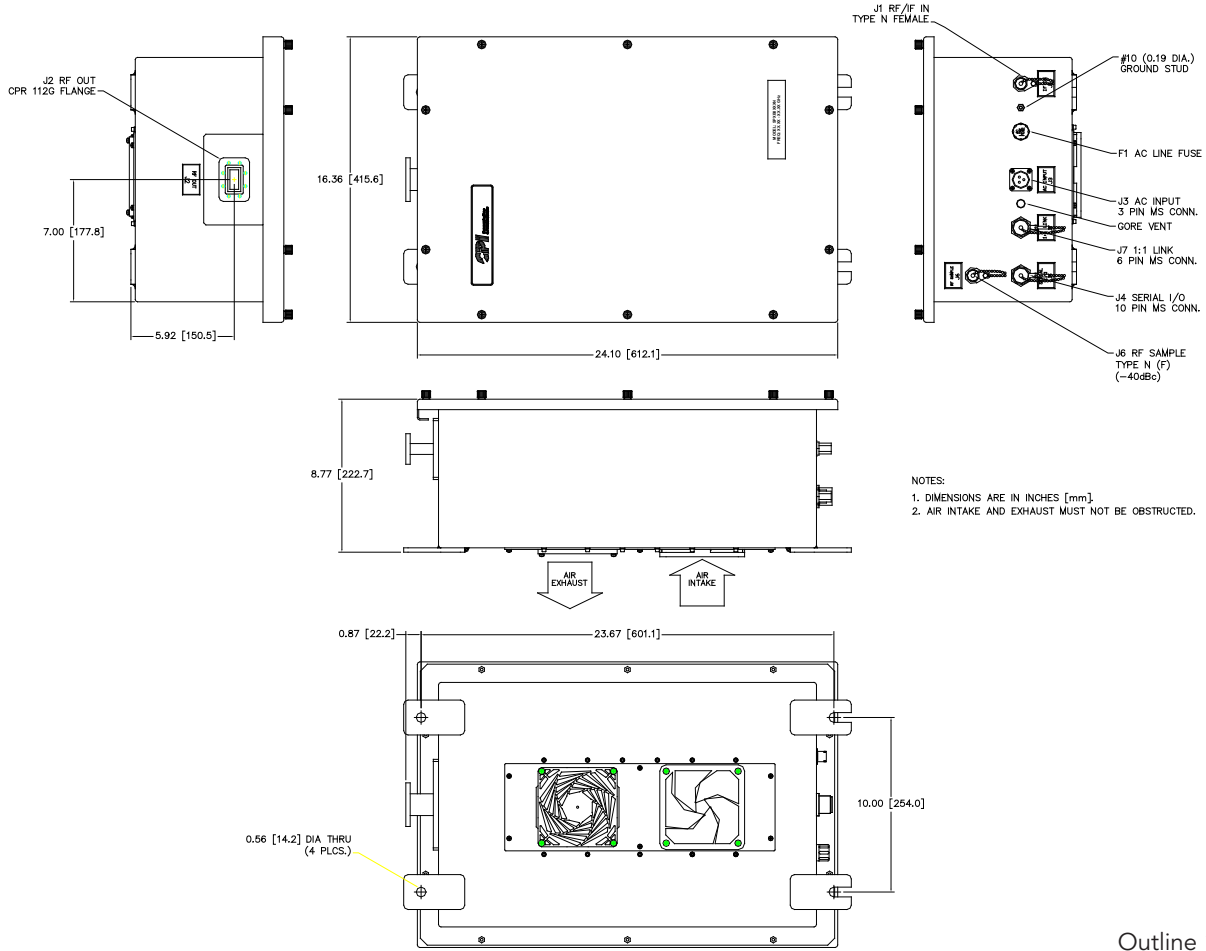
#### OPTIONS:

- Block upconverter



| Parameter                                                     | Notes                                                                                                        | Specification                                                                                                                                                                                                     |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Frequency Range</b>                                        |                                                                                                              | 7.90 to 8.40 GHz                                                                                                                                                                                                  |
| <b>Input Frequency Range with Option 7, Block Upconverter</b> |                                                                                                              | 950 MHz min., 1450 MHz max.                                                                                                                                                                                       |
| <b>Gain, at Maximum Setting</b>                               |                                                                                                              | 70 dB min.                                                                                                                                                                                                        |
| <b>Gain Adjustment Range</b>                                  |                                                                                                              | 20 dB min.                                                                                                                                                                                                        |
| <b>Gain Flatness</b>                                          |                                                                                                              | ±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                                                                         |
| <b>Gain Stability vs. Temperature</b>                         | -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.                                                                                                                                                    |
| <b>Saturated Power Output</b>                                 | 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)                                                                                                                       |
| <b>Power Output at 1dB compression (P<sub>1dB</sub>)</b>      | 50 W<br>100 W<br>125 W<br>200 W                                                                              | +46.5 dBm min. (45 W)<br>+49.4 dBm min. (88 W)<br>+50.0 dBm min. (100 W)<br>+52.0 dBm min. (158 W)                                                                                                                |
| <b>Two Tone Intermodulation</b>                               |                                                                                                              | -25 dBc max., -30 dBc typical at 3 dB total backoff from 1dB compression point                                                                                                                                    |
| <b>Group Delay</b>                                            | Linear<br>Parabolic<br>Ripple                                                                                | 0.03 ns/MHz<br>0.003 ns/MHz <sup>2</sup><br>1.0 ns peak to peak                                                                                                                                                   |
| <b>AM/PM Conversion</b>                                       |                                                                                                              | 2.5°/dB typical, 3.5°/dB max. at (P <sub>1dB</sub> )                                                                                                                                                              |
| <b>Noise Figure</b>                                           |                                                                                                              | 8 dB typical at maximum gain, standard<br>15 dB typical at maximum gain, with Option 7                                                                                                                            |
| <b>VSWR</b>                                                   | Input, Standard<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.                                                                                                                         |
| <b>Output Sample Port</b>                                     |                                                                                                              | -40 dBc typical                                                                                                                                                                                                   |
| <b>Connectors</b>                                             | Input<br>Output<br>Sample Port<br>Serial I/O<br>1:1 Link<br>Power                                            | Type N Female<br>CPR112G Waveguide<br>Type N Female<br>10-pos MS, mate supplied<br>6-pos MS, mate supplied<br>3-pos MS, mate supplied                                                                             |
| <b>Power Requirements</b>                                     | Voltage<br>Frequency<br>Power, 50 W<br>Power, 100 W<br>Power, 125 W<br>Power 200 W<br>Power factor corrected | 90 to 135 VAC or 180 to 265 VAC<br>47 Hz min., 63 Hz max.<br>375 W typical, 500 W max. (1)<br>600 W typical, 900 W max. (1)<br>1000 W typical, 1300 W max. (1)<br>1000 W typical, 1500 W max. (1)<br>0.97 typical |
| <b>Cooling System</b>                                         |                                                                                                              | Forced Air                                                                                                                                                                                                        |
| <b>Operating Temperature Range</b>                            | Ambient air temperature                                                                                      | -40°C to +50°C                                                                                                                                                                                                    |
| <b>Dimensions</b>                                             | See outline drawing                                                                                          | 25.67" H x 16.36" W x 9.52" D; 651.9 mm H x 415.6 mm W x 241.8 mm D                                                                                                                                               |
| <b>Weight</b>                                                 |                                                                                                              | 53 lb, 24 kg)                                                                                                                                                                                                     |
| (1) Cold start at -40 °C and P <sub>OUT</sub> in saturation   |                                                                                                              |                                                                                                                                                                                                                   |

Outline Drawing SSPA



Outline 14925

Part Number Ordering Information

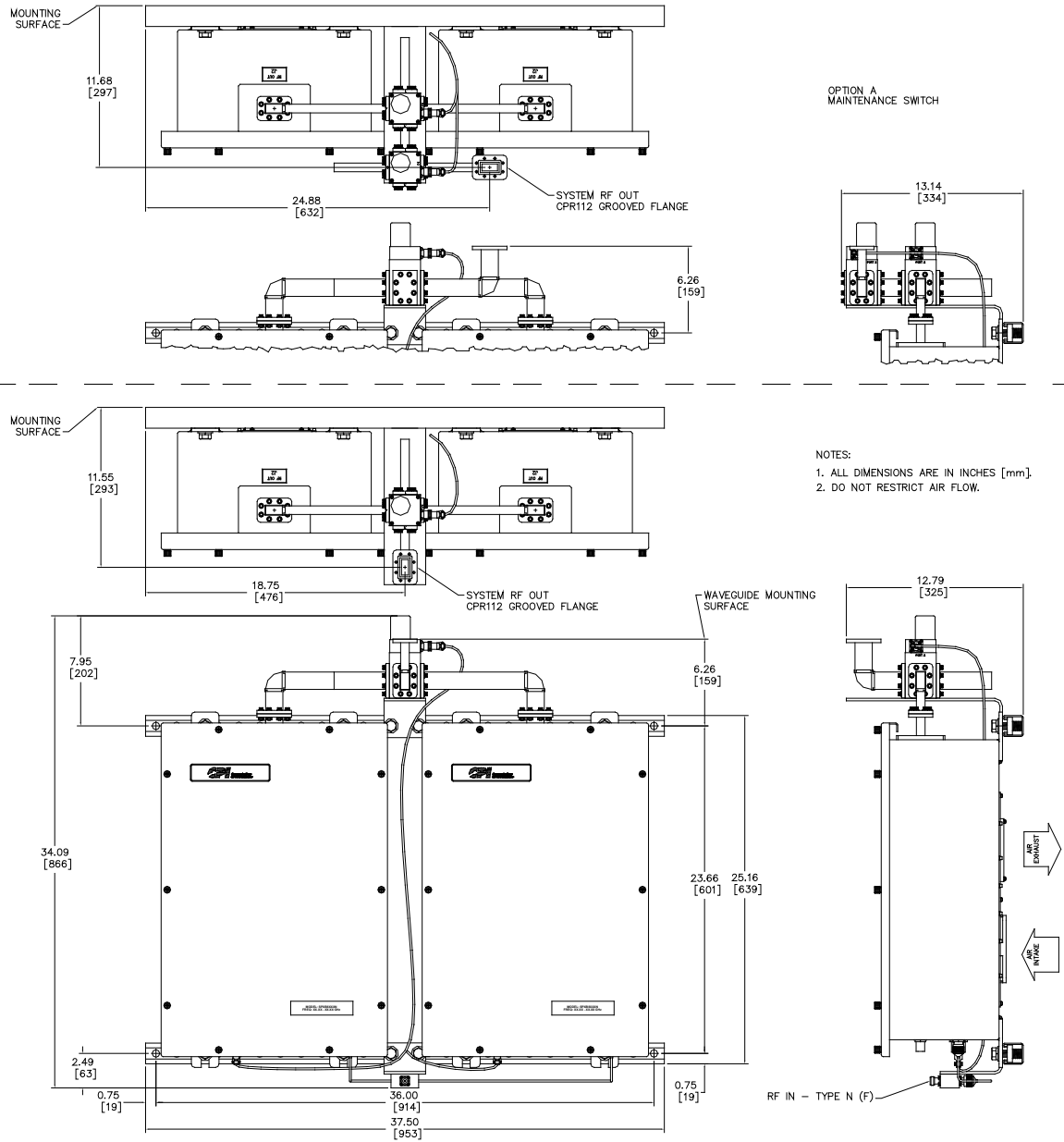
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>SSPA:</b><br/> <b>Part/Model No.      SPXB8 [ ] N-X</b><br/>                 7.90 – 8.40 GHz = B<br/>                 50 Watts = 050<br/>                 100 Watts = 100<br/>                 125 Watts = 125<br/>                 200 Watts = 200</p> <p><b>Options:</b><br/> <b>Block Upconverter.....7</b><br/> <b>L-Band IF Input</b></p> <p>*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.</p> | <p><b>Redundant Systems*:</b> Consists of 1:1 switching assembly, two SSPAs, and interconnecting cables<br/> <b>Part/Model No.      SPRX1B [ ] N-XX</b><br/>                 7.90 – 8.40 GHz = B<br/>                 50 Watts = 050<br/>                 100 Watts = 100<br/>                 125 Watts = 125<br/>                 200 Watts = 200</p> <p><b>Options:</b><br/> <b>Block Upconverter.....7</b><br/> <b>L-Band IF Input</b><br/> <b>Maintenance Switch.....A</b><br/>                 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.

Typical 1:1 System Outline Drawing



Connector Interface

Outline 18270

| Ref. Des. | Function      | Connector Type    | Mating Connector | Comment       |
|-----------|---------------|-------------------|------------------|---------------|
| J1        | RF/IF Input   | Type N Female     | Type N Male      |               |
| J2        | RF Output     | CPR112G Waveguide | CPR112 Flange    |               |
| J3        | AC In         | 3-pos MS, Male    | 3-pos MS, Female | Mate supplied |
| J4        | Serial I/O    | 10-pos MS, Female | 10-pos MS, Male  | Mate supplied |
| J6        | Output Sample | Type N Female     | Type N Male      |               |
| J7        | 1:1 Link      | 6-pos MS, Female  | 6-pos MS, Male   | Mate supplied |



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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.

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