Reliable, Flexible, Durable
The CPI UB61050 is designed for indoor or outdoor environments. Its exceptional design and performance has been undertaken with emphasis on facilitating issue-free WGS terminal certification while providing a cost-competitive solution with a history of field-proven reliability. Specifications included here are for standard product. Please contact CPI for custom or specific performance needs.

Reference Documents
- LMI Drawing 11495
- Operation Manual, 11496 MAN
- Outline Drawings 11128, 11229, 11374

Worldwide Support
Backed by over 35 years of satellite communications experience, and CPI’s worldwide 24-hour customer support network that includes more than 20 regional factory service centers.

OPTIONS
- AC power
- CPR112G flange
- 70 dB gain

UB-61050 Series
100 watt BUC for indoor, outdoor or hubmount satellite uplink applications

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### Specifications

**100 W GaAs X-Band Block Upconverter**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Power (Psat)</td>
<td>50.5 dBm (112 W)</td>
</tr>
<tr>
<td>Output Power (P1dB)</td>
<td>50 dB (100 W) typ, 49.5 dB (89 W) min.</td>
</tr>
<tr>
<td>Linear Output Power (Plin)</td>
<td>47.5 dBm typ. (56 W) --- Measurement per WGS X-Band and Ka-Band Terminal Performance Certification Test Procedures, Version 1.01, 09 April 2008, Para. 5.6.2.1</td>
</tr>
<tr>
<td>Input Frequency</td>
<td>950 to 1450 MHz</td>
</tr>
<tr>
<td>Output Frequency</td>
<td>7.9 to 8.4 GHz (6.95 GHz LO)</td>
</tr>
<tr>
<td>External Reference Frequency</td>
<td>10 MHz @ 0 dBm ±5 dB</td>
</tr>
<tr>
<td>Phase Noise (SSB)</td>
<td>-72 dBc/Hz max. @ 1 kHz offset</td>
</tr>
<tr>
<td></td>
<td>-83 dBc/Hz max. @ 10 kHz offset</td>
</tr>
<tr>
<td></td>
<td>-93 dBc/Hz max. @ 100 kHz offset</td>
</tr>
<tr>
<td>Gain</td>
<td>60 dB min, 64 dB typ.</td>
</tr>
<tr>
<td>Gain Flatness</td>
<td>±1.25 dB max, per full band</td>
</tr>
<tr>
<td>Gain Slope</td>
<td>±0.4 dB max. per 40 MHz</td>
</tr>
<tr>
<td>Gain Stability Over Temperature</td>
<td>±2.0 dB</td>
</tr>
<tr>
<td>Gain Adjustment Range</td>
<td>31.5 dB, in 0.5 dB steps</td>
</tr>
<tr>
<td>Third Order Intermodulation Distortion</td>
<td>-25 dBc @ 3 dB backoff from P1dB</td>
</tr>
<tr>
<td>Spurious, Signal Related</td>
<td>-60 dBc max. at rated P1dB</td>
</tr>
<tr>
<td>Spurious, Signal Independent</td>
<td>-60 dBc max. outside of band at rated P1dB</td>
</tr>
<tr>
<td>AM-PM Conversion</td>
<td>2˚/dB max, at rated linear output power</td>
</tr>
<tr>
<td>Input VSWR</td>
<td>2.0:1 max, 1.50:1 typ.</td>
</tr>
<tr>
<td>Output VSWR</td>
<td>1.30:1 max./1.25:1 typ. (output isolator included)</td>
</tr>
<tr>
<td>Overdrive</td>
<td>+0 dBm max, non-damaging</td>
</tr>
<tr>
<td>Power Requirement</td>
<td>DC operation: +40 min. to +56 VDC at 460 W nom, small signal; AC operation (optional): 90 to 264 VAC, 47 to 63 Hz, small signal</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40˚C to +60˚C</td>
</tr>
<tr>
<td>Humidity</td>
<td>100% condensing</td>
</tr>
<tr>
<td>M&amp;C Function</td>
<td>Mute, Temperature Monitor, Fault, Gain Adjust, with RS-232 or RS-422/485 serial interface</td>
</tr>
<tr>
<td>Size (see outline drawing 11151)</td>
<td>14.5 L x 7.5 W x 7.5 H inches (369 x 191 x 191 mm)</td>
</tr>
<tr>
<td>Weight</td>
<td>21 lbs. (9.5 kg) nom.</td>
</tr>
<tr>
<td>Finish</td>
<td>Epoxy paint, white standard (NATO green or desert tan available)</td>
</tr>
<tr>
<td>IF/External Reference Connector</td>
<td>Type N Female</td>
</tr>
<tr>
<td>RF Output Connector</td>
<td>UG-138/U flange (CPR112G optional)</td>
</tr>
<tr>
<td>Mains Power Connector</td>
<td>CD16 20C003-100-12</td>
</tr>
<tr>
<td>M&amp;C Connector</td>
<td>MS3112E12-14P</td>
</tr>
</tbody>
</table>

Note: Mating Connectors available as option.
Note: This product's outline can change based on the number of connectors required for any given configuration, and may not be representative of your desired configuration. Please contact CPI before using this drawing for system design.
Construct Model Number

<table>
<thead>
<tr>
<th>Base No.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>UB 6 1</td>
<td>x</td>
<td>50</td>
<td>-</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>-</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

1. **Package Type**
   - 0 = Standard
   - 1 = Lightweight

2. **Output Power (dBm)**
   - 50 = 100 W

3. **Gain**
   - 0 = 60 dB
   - 1 = 70 dB

4. **Voltage**
   - 0 = 48 V DC
   - 1 = AC

5. **Output**
   - 0 = UG-138/U
   - 1 = CPR112G

6. **Input Panel**
   - 1 = 1 Connector (DC Only)
   - 2 = 2 Connector (AC Only)
   - 3 = 3 Connector (AC or DC)

7. **Comms Type**
   - 0 = RS-232
   - 1 = RS-422/485
   - 2 = Ethernet

8. **Accessories**
   - 0 = No Mating Connectors
   - 1 = Mating Connectors

9. **Finish Color (FED-STD)**
   - 0 = White (37925)
   - 1 = Dark Green (34094)
   - 2 = Desert Tan (33446)
   - 3 = Beige (37722)
   - 4 = Sand (33303)
   - 5 = Forest Green (34083)
   - 6 = Metalast

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.