IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

DC power can be supplied via IFL coax or separate DC connector for 4 W through 16 W models.

All models available with integral AC power supply or separate DC power supply.

Internal 10MHz reference option automatically switches to internal reference when external reference is not available.

Guaranteed rated output power across the entire operating temperature range and frequency band.

Low phase noise exceeds IESS308/309 requirements by a minimum of 5 dB.

Embedded Web pages provide management for small networks using any Web browser.

AGC or ALC circuits hold gain or output level constant.

16 dB User-adjustable gain in 0.1 dB steps preserves modem dynamic range.

Advanced user interfaces:
- TCP/IP HTTP with embedded Web pages
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable
- RS232/485 serial port
- Hand-held terminal

The revolutionary IBUC has advanced features to take your network to new heights.

IBUC offers significant benefits:
- Low terminal cost
- Simple design and installation
- Superior RF performance
- Simplified 1+1 configuration

New interfaces connect you to the IBUC’s extensive M&C facilities for network management or local access. This powerful new M&C enables:
- Trouble-free commissioning with easy, point-and-click installation/configuration
- Continuous verification of performance with time-stamped alarm history
- Simplified troubleshooting of terminal faults

The IBUC comes with a complete set of diagnostic tools including:
- 10 MHz input detector
- Input voltage and current monitoring
- Transmit L-band input level detector
- Transmit RF output level detector
- User configurable thresholds and alarms

Unique to the IBUC are internal AGC and ALC functions that satisfy demanding applications with stringent specifications.
**Ku-Band IBUC Block Upconverter**

<table>
<thead>
<tr>
<th>Frequency range</th>
<th>RF</th>
<th>IF</th>
<th>SSB Phase Noise</th>
<th>External reference</th>
<th>IBUC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Band 1 Std Ku</td>
<td>14.00 to 14.50 GHz</td>
<td>950 to 1450 MHz</td>
<td>10 Hz</td>
<td>-120 dBC/Hz</td>
<td>-35 dBC/Hz</td>
</tr>
<tr>
<td>Band 2 Full Ku</td>
<td>13.75 to 14.50 GHz</td>
<td>950 to 1700 MHz</td>
<td>100 Hz</td>
<td>-130 dBC/Hz</td>
<td>-65 dBC/Hz</td>
</tr>
<tr>
<td>Band 3 Low Ku</td>
<td>12.75 to 13.25 GHz</td>
<td>950 to 1450 MHz</td>
<td>1 kHz</td>
<td>-143 dBC/Hz</td>
<td>-75 dBC/Hz</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10 kHz</td>
<td>-152 dBC/Hz</td>
<td>-85 dBC/Hz</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100 kHz</td>
<td>-155 dBC/Hz</td>
<td>-95 dBC/Hz</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 MHz</td>
<td>-155 dBC/Hz</td>
<td>-110 dBC/Hz</td>
</tr>
</tbody>
</table>

**Gain**

- **Small Signal Gain (L-band to RF)** with attenuator set to 0 dB
  - 4 W: 67 dB min
  - 8 W: 70 dB min
  - 12 W: 72 dB min
  - 16 W: 73 dB min
  - 20 W: 74 dB min
  - 25 W: 75 dB min
  - 30 W: 76 dB min
  - 40 W: 77 dB min
  - 50 W: 78 dB min

- **Attenuator range**: 16 dB variable in 0.1 dB steps

**RF Output**

- **Interface**: WR75 UG cover with groove
- **VSWR**: 1.5:1 max
- **Rated output power (P1dB)**:
  - 4 W: +36 dBm min
  - 8 W: +39 dBm min
  - 12 W: +40.8 dBm min
  - 16 W: +42 dBm min
  - 20 W: +43 dBm min
  - 25 W: +44 dBm min
  - 30 W: +44.8 dBm min
  - 40 W: +46 dBm min
  - 50 W: +47 dBm min

- **IMD3 (2 carriers, 3 dB TOBO)**: -25 dBc max
- **Level stability with ALC**: ±0.5 dB
- **Output power detector range**: Rated power to -20 dB
- **Power reading accuracy**: ±1.0 dB max.
- **Spurious**:
  - In Band: -65 dBc
  - Out of Band: Complies with EN 301 428 and MIL-STD 188-164
- **Harmonics**: -50 dBc max.
- **Output Noise Power Density**:
  - TX: < -82 dBm/Hz
  - RX: < -145 dBm/Hz

**External Reference** (multiplexed on TX IFL)

- **Frequency**: 10 MHz
- **Level**: -12 to +5 dBm

**Local Oscillator Frequency**

- **Band 1**: 13050 MHz
- **Band 2**: 12800 MHz
- **Band 3**: 11800 MHz
- **Sense**: Non-Inverting

**IBUC Power Supply**

- **DC**: 48 ± 11 VDC
- **AC**: 100 to 240 VAC

<table>
<thead>
<tr>
<th>Power Consumption</th>
<th>DC Voltage</th>
<th>AC Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 W</td>
<td>77 W</td>
<td>85 VA</td>
</tr>
<tr>
<td>8 W</td>
<td>110 W</td>
<td>132 VA</td>
</tr>
<tr>
<td>12 W</td>
<td>144 W</td>
<td>158 VA</td>
</tr>
<tr>
<td>16 W</td>
<td>168 W</td>
<td>200 VA</td>
</tr>
<tr>
<td>20 W</td>
<td>220 W</td>
<td>250 VA</td>
</tr>
<tr>
<td>25 W</td>
<td>270 W</td>
<td>297 VA</td>
</tr>
<tr>
<td>30 W</td>
<td>380 W</td>
<td>440 VA</td>
</tr>
<tr>
<td>40 W</td>
<td>400 W</td>
<td>456 VA</td>
</tr>
<tr>
<td>50 W</td>
<td>550 W</td>
<td>600 VA</td>
</tr>
</tbody>
</table>

**Monitor and Control**

- **FSK** (multiplexed on TX IFL), **RS232/485**

**Hand-held Terminal, TCP / IP (HTTP, Telnet, SNMP)**

<table>
<thead>
<tr>
<th>Environmental</th>
<th>4 W to 25 W</th>
<th>30 W to 50 W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature</td>
<td>-40°C to +60°C</td>
<td>-40°C to +55°C</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>100% condensing</td>
<td></td>
</tr>
<tr>
<td>Altitude</td>
<td>10,000 ft., (3,000 m) ASL</td>
<td></td>
</tr>
</tbody>
</table>

**Mechanical**

- **DC powered**
- **AC powered**

<table>
<thead>
<tr>
<th>Mechanical</th>
<th>4 W - 8 W</th>
<th>12 W - 25 W</th>
<th>30 W - 50 W</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 W - 8 W</td>
<td>12.2x7.2x4.2 in.</td>
<td>12.2x7.2x4.5 in.</td>
<td>12.2x7.2x7.0 in.</td>
</tr>
<tr>
<td>13 lbs</td>
<td>14 lbs</td>
<td>18 lbs</td>
<td>19 lbs</td>
</tr>
<tr>
<td>12 W - 25 W</td>
<td>12.2x7.2x6.2 in.</td>
<td>12.2x7.2x6.5 in.</td>
<td>12.2x7.2x7.0 in.</td>
</tr>
<tr>
<td>18 lbs</td>
<td>19 lbs</td>
<td>20 lbs</td>
<td>21 lbs</td>
</tr>
<tr>
<td>30 W - 50 W</td>
<td>12.2x7.2x6.7 in.</td>
<td>12.2x7.2x7.0 in.</td>
<td>12.2x7.2x7.0 in.</td>
</tr>
<tr>
<td>18.5 lbs</td>
<td>19.5 lbs</td>
<td>19.5 lbs</td>
<td>19.5 lbs</td>
</tr>
</tbody>
</table>

Specifications are subject to change without notice.