The SpacePath Communications Intelligent Frequency Converters (IFC™) shape the next-generation satellite transmission with its breakthrough leading edge technology, state of the art design, and unprecedented reliability with 3 years warrant for this product line!

Features patent pending hot-swappable power supply and converter module shelf redundancy with embedded switch controller, embedded input and output switches and extensive monitor & control via front panel, serial ports E1A232/E1A485 and Ethernet.

Features Best in Class RF characteristics, Flexible reference with autosensing can lock to external 5/10 MHz reference or utilize built-in high stability reference oscillator.

Options
- RF and L-Band monitoring
- 48VDC isolated power supply

Features
- Superior RF performance:
  - Phase noise 8dB better than IESS308/309
  - In Band Spurious below –60dBc
  - Superior Gain flatness
- Available in all C-Band options—standard, extended, Palapa and Insat
- 5 / 10 MHz external reference Autosense
- 1:1 Redundant patent pending real hot swappable in 1RU chassis with no need for additional external 1RU switch controller and external input / output switches
- User Friendly front panel with menu driven display
- Full featured M&C Interface via RS-232 serial console, packet protocol RS-485 and user friendly HTTP based GUI and SNMP:
  - 20dB Gain Control
  - Input and output power detectors
  - Automated level control (ALC) mode optional
- External Redundant Interface for higher level redundancy capability

US Patent Pending # 61,777,082
### IFC™ Series C-Band Up/Down Converter 1:1 Redundancy Rack Mount System Specification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Up-Converter</th>
<th>Down-Converter</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RF Performance</strong></td>
<td>Standard C/Extended C</td>
<td>Palapa/Insat</td>
</tr>
<tr>
<td>RF Frequency Range-Available in / switched</td>
<td>5.85-6.425GHz</td>
<td>6.425-7.025GHz</td>
</tr>
<tr>
<td>IF Frequency Range</td>
<td>950-1825MHz</td>
<td>950-1550MHz</td>
</tr>
<tr>
<td>LO Frequency</td>
<td>4.9GHz</td>
<td>5.475GHz</td>
</tr>
<tr>
<td>Input Return Loss</td>
<td>16dB</td>
<td></td>
</tr>
<tr>
<td>Output Return Loss</td>
<td>16dB</td>
<td></td>
</tr>
<tr>
<td>Noise Figure</td>
<td>5dB Max</td>
<td></td>
</tr>
<tr>
<td>Conversion</td>
<td>Single Conversion; non-inverting</td>
<td></td>
</tr>
<tr>
<td>Output Power at 1dB compression point</td>
<td>10dBm min</td>
<td></td>
</tr>
<tr>
<td>Conversion Gain</td>
<td>35dB</td>
<td></td>
</tr>
<tr>
<td>Gain Flatness</td>
<td>+/- 1dB typ.,+/- 1.5dB max over full band; +/- 0.5dB max over any 40MHz</td>
<td></td>
</tr>
<tr>
<td>Gain Stability</td>
<td>+/- 1.5dB over full temperature range</td>
<td></td>
</tr>
<tr>
<td>Gain Control</td>
<td>20dB min</td>
<td></td>
</tr>
<tr>
<td>External Reference Frequency</td>
<td>10MHz</td>
<td></td>
</tr>
<tr>
<td>External Reference Required Phase Noise</td>
<td>-130dBc/Hz @ 100Hz; -140dBc/Hz @ 1kHz; -150dBc/Hz @ 10kHz; -155dBc/Hz @ 100kHz</td>
<td></td>
</tr>
<tr>
<td>Phase Noise</td>
<td>-70dBc/Hz @ 100Hz; -90dBc/Hz @ 1kHz; -90dBc/Hz @ 10kHz; -95dBc/Hz @ 100kHz; -115dBc/Hz @ 1MHz</td>
<td></td>
</tr>
<tr>
<td>Spurious:</td>
<td>Signal Related*</td>
<td></td>
</tr>
<tr>
<td>Non-Signal Related</td>
<td>-60dBc</td>
<td></td>
</tr>
</tbody>
</table>

*For Up Extended C-Band signal related Spurious is ~50dBc

### Monitor & Control Features

**Interfaces:**
- Serial – EIA485: DB9 Connector rear panel
- Serial – EIA232: RJ45 or DB9 Connector rear panel
- 10/100 base-T Ethernet: RJ45 Connector rear panel
- Alarm and Control: DB9 Connector rear panel
- Redundant protection interface: HD15 Connector rear panel

**Controls:**
- Gain Control: via Serial, Ethernet, Front Panel
- LO Select – Standard/Extended C-Band Toggle: via Serial, Ethernet, Front Panel
- Mute Control: via Serial, Ethernet, Front Panel, Redundancy Interface
- Local / Remote Toggle: via Serial, Ethernet, Front Panel
- Clear Alarm: Via Serial, Ethernet, Front Panel
- Indicators:
  - Lock Status: Via Serial, Ethernet, Front Panel
  - Gain Status: Via Serial, Ethernet, Front Panel
  - IF & RF Power Detect: Via Serial, Ethernet, Front Panel
  - Temperature: Via Serial, Ethernet, Front Panel
- Summary Alarm Status: Via Serial, Ethernet, Front Panel, Redundancy Interface
- Mute Status: Via Serial, Ethernet, Front Panel, Redundancy Interface

### Power Supply

**Input Voltage:** 90-265VAC 50/60Hz PFC
**Environmental**
- Height: 1RU
- Depth: 20"
- Operating Temperature: 0 to 60 deg. C
- Storage Temperature: -40 to +85 deg. C

**IF/RF Connectors**
- IF: N-type (other options available)
- RF: N-type (other options available)
- 10MHz Ref In / Out: BNC (other options available)