Description
The Model GS7000 4-Port Node is Scientific-Atlanta's latest generation 1 GHz optical node platform and utilizes a completely new housing designed for optimal heat dissipation. This platform allows independent segmentation and redundancy for both the forward and reverse paths in a reliable, cost-effective package.

The forward path of the Model GS7000 Node can be deployed with a single broadcast 1310/1550 nm optical receiver distributing common services to either four output ports (all high level) or six output ports (two high level and four lower level). The forward path can also be segmented by using two independent optical receivers that each feed half of the node's output ports (left/right segmentation). Forward path optical redundancy is supported via the use of optional redundant optical receivers. The type of forward path segmentation and/or redundancy is determined by the type of Forward Configuration Module installed in the node.

The Model GS7000 Node's reverse path is equally flexible. Reverse traffic can be segmented or combined and routed to a maximum of 4 FP, DFB, or CWDM reverse optical transmitters, or to advanced Baseband Digital Reverse optical transmitters as part of Scientific-Atlanta's bdr™ system. Reverse path optical redundancy is supported via the use of optional redundant optical transmitters. The type of reverse path segmentation and/or redundancy is determined by the type of Reverse Configuration Module installed in the node. A Reverse Input Port is also provided for high frequency (5 – 210 MHz) reverse signal injection.

All optical transmitters and optical receivers used in the GS7000 have new high profile module covers that include both a self-contained fiber pigtail storage area and an integrated pull ring for easier module installation and removal. Additionally, the GS7000 optical receiver is a new low-current design that dissipates less power and incorporates a two state interstage RF attenuator switch for performance optimization.

Features
- Six port 1 GHz RF platform
- Uses GainMaker type GaAs FET gain stages
- Uses standard GainMaker style accessories (i.e., attenuator pads, equalizers, diplexers and crowbar)
- Field accessible plug-in Forward Interstage Linear Equalizers, Forward / Reverse Configuration Modules, and Signal Directors
- 3-state reverse switch (on/off/-6 dB) allows each reverse input to be isolated for noise and ingress troubleshooting (status monitoring or local control module required)
- Auxiliary reverse injection (5 - 210 MHz) configurable on up to 2 ports
- Positions for up to 4 optical receivers and 4 optical transmitters in housing lid
- Optional low-cost Local Control Module may be installed in conjunction with a Redundant Forward Configuration Module to allow optical path redundancy when no status monitor is required
- Optional Status Monitoring available (TNCS or other compatible element management system required)
- Fiber entry ports on both ends of housing lid
- Fiber management tray and track provides easy access to fiber connections
- Primary and redundant Power Supplies with passive load sharing
- Spring loaded seizure assemblies allow coax connectors to be installed or removed without removing amplifier chassis or spring loaded mechanism from the rear of the housing base
- Dual/Split AC powering
Model GS7000 Node with 40/52 MHz Split

Block Diagram – Node with bdr reverse and 6-position Optical Interface Board

- Power Supply #1
- Power Supply #2
- Fiber Tray

3 Optional Receivers

- 1x2 Forward Configuration Module
- 4x4 Reverse Configuration Module

- AC Bypass
- Power Director
- Thermal Pad
- RS = reverse switch
- RCVR Photo Diode

- 5-210 MHz Reverse Injection Option
- Aux. Reverse Injection Director

- EQ
- AC Bypass

- External -20dB T.P.
- Power Director
- Crowbar

- Status Monitor Transponder
- Forward Configuration Module
- Reverse Configuration Module

- 3x1 Processor Module
- 4x4 Processor Module

- Node Signal Director
- Pad
- Pad
- Pad
- Pad

- Forward TP
- Reverse TP
- -20 dB

- Equipped"
Model GS7000 Node with 40/52 MHz Split

Block Diagrams – Configuration Modules

1X2 Forward Configuration Module

1X2 Redundant Forward Configuration Module

2X2 Forward Configuration Module

2X2 Redundant Forward Configuration Module

4X1 Reverse Configuration Module

4X1 Redundant Reverse Configuration Module

4X2 Reverse Configuration Modules

4X2 Redundant Reverse Configuration Module

4X4 Reverse Configuration Module

(For 6-port OIB)

(For 8-port OIB)
### Optical Section - Forward Receiver Module

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Units</th>
<th>GS7000 Low Current RX</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wavelength</td>
<td>nm</td>
<td>1310 and 1550</td>
<td></td>
</tr>
<tr>
<td>Optical Input Range</td>
<td>mW</td>
<td>0.5 to 2.0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>dBm</td>
<td>-3 to +3</td>
<td></td>
</tr>
<tr>
<td>Pass Band</td>
<td>MHz</td>
<td>52-1002</td>
<td></td>
</tr>
<tr>
<td>Frequency Response</td>
<td>dB</td>
<td>± 0.5</td>
<td>2</td>
</tr>
<tr>
<td>Tilt (± 1.0 dB)</td>
<td>dB</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Optical Input Test Point (± 10%)</td>
<td>V DC</td>
<td>1V/mW</td>
<td></td>
</tr>
<tr>
<td>Redundant Optical Rx switching threshold (± 1.0 dB)</td>
<td>dBm</td>
<td>-6</td>
<td></td>
</tr>
<tr>
<td>Rx RF Output Level at 0 dBm Optical Rx Power</td>
<td>dBmV</td>
<td>Refer to charts (below)</td>
<td>3</td>
</tr>
<tr>
<td>Rx RF Output Test Point (± 1.0 dB)</td>
<td>dB</td>
<td>-20</td>
<td></td>
</tr>
</tbody>
</table>

#### Receiver RF Output Level Vs Transmitter OMI – Rx switch in -5 dB setting

![Graph showing RF output level vs. Transmitter OMI with 1310 nm and 1550 nm wavelengths.](image)

#### Receiver RF Output Level Vs Transmitter OMI – Rx switch in 0 dB setting

![Graph showing RF output level vs. Transmitter OMI with 1310 nm and 1550 nm wavelengths.](image)

### Notes for Optical Section Specifications:

1. Receiver (Rx) has a 2 position RF attenuator switch (-5 dB and 0 dB). The -5 dB setting is used for 0 to + 3 dBm optical Rx power, the 0 dB setting is used for -3 to 0 dBm Rx power.
2. For forward receiver module only. Does not include frequency response contributions from forward optical transmitter.
3. Minimum receiver RF output level for the stated transmitter percent OMI/Ch. (Optical Modulation Index per channel), with receiver optical input power of 0 dBm, and specified Rx attenuator setting. To determine RF output levels at other optical input power, add (or subtract) 2 dB in RF level for each 1 dB increase (or decrease) in receiver optical input power.

For reverse optical transmitter and link performance, see the “Analog Reverse Optical Transmitters for Model 6940/6944 and GainMaker Optoelectronic Stations” data sheet.

Unless otherwise noted, specifications reflect typical performance and are referenced to 68°F (20°C). Specifications are based upon measurements made in accordance with SCTE/ANSI standards (where applicable), using standard frequency assignments.
## RF Section Specifications

### General Station Performance

<table>
<thead>
<tr>
<th>Units</th>
<th>Forward</th>
<th>Reverse</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>pass band</td>
<td>MHz</td>
<td>52-1002</td>
<td>5-40</td>
</tr>
<tr>
<td>input/output port return loss</td>
<td>dB</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>Hum modulation @ 12 A</td>
<td>dB</td>
<td>70 (52-870 MHz), 60 (871-1002 MHz)</td>
<td>60 (5-10 MHz), 70 (11-40 MHz)</td>
</tr>
<tr>
<td>Hum modulation @ 15 A</td>
<td>dB</td>
<td>65 (52-870 MHz), 60 (871-1002 MHz)</td>
<td>60 (5-10 MHz), 65 (11-40 MHz)</td>
</tr>
<tr>
<td>test points (±0.5 dB)</td>
<td>dB</td>
<td>-20</td>
<td>-20</td>
</tr>
</tbody>
</table>

### Forward Station Performance

<table>
<thead>
<tr>
<th>Units</th>
<th>7.5 dB I/S EQ w/3 dB I/S Pad</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amplifier type</td>
<td>- GaAs FET</td>
<td></td>
</tr>
<tr>
<td>operational gain (minimum)</td>
<td>dB</td>
<td>32</td>
</tr>
<tr>
<td>frequency response</td>
<td>dB</td>
<td>± 0.5</td>
</tr>
<tr>
<td>internal tilt (±1 dB)</td>
<td>dB</td>
<td>14.5</td>
</tr>
<tr>
<td>port to port isolation</td>
<td>dB</td>
<td>65 (52-750 MHz), 55 (751-1002 MHz)</td>
</tr>
<tr>
<td>Noise figure @ 54 MHz</td>
<td>dB</td>
<td>14.0</td>
</tr>
<tr>
<td>Reference output levels @ 1002 MHz</td>
<td>dBmV</td>
<td>49.5</td>
</tr>
<tr>
<td>Reference output tilt (55-1002 MHz)</td>
<td>dB</td>
<td>14.5</td>
</tr>
</tbody>
</table>

### Reverse Station Performance

<table>
<thead>
<tr>
<th>Units</th>
<th>Reverse</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amplifier type</td>
<td>- GaAs FET</td>
<td></td>
</tr>
<tr>
<td>operational gain (minimum)</td>
<td>dB</td>
<td>-2</td>
</tr>
<tr>
<td>frequency response</td>
<td>dB</td>
<td>± 0.5</td>
</tr>
<tr>
<td>internal tilt (+/- 1 dB)</td>
<td>dB</td>
<td>0</td>
</tr>
<tr>
<td>path to path isolation</td>
<td>dB</td>
<td>55</td>
</tr>
<tr>
<td>noise figure</td>
<td>dB</td>
<td>13.5</td>
</tr>
</tbody>
</table>

### Station Delay Characteristics

#### 40 / 52 Split

<table>
<thead>
<tr>
<th>Forward (Chrominance to Luminance Delay)</th>
<th>Delay (nS)</th>
<th>Reverse (Group Delay in 1.5 MHz BW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency (MHz)</td>
<td></td>
<td>Frequency (MHz)</td>
</tr>
<tr>
<td>55.25 - 58.83</td>
<td>16</td>
<td>5.0 - 6.5</td>
</tr>
<tr>
<td>61.25 - 64.83</td>
<td>8</td>
<td>6.5 - 8.0</td>
</tr>
<tr>
<td>67.25 - 70.83</td>
<td>5</td>
<td>8.0 - 9.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>35.5 - 37.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>37.0 - 38.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>38.5 - 40.0</td>
</tr>
</tbody>
</table>

Unless otherwise noted, specifications reflect typical performance and are referenced to 68°F (20°C). Specifications are based upon measurements made in accordance with SCTE/ANSI standards (where applicable), using standard frequency assignments.
Models GS7000 Node with 40/52 MHz Split

**RF Section Specifications, continued**

<table>
<thead>
<tr>
<th>Notes for RF Section Specifications:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Forward operational gain is for station from output of optical Rx to node RF output port, with 0 dB pad in optical interface board (OIB), any forward configuration module, 3 dB interstage (I/S) pad, 7.5 dB linear I/S EQ, factory select output pad. Includes OIB losses.</td>
</tr>
<tr>
<td>2. Reference output tilt and internal tilt are both “Linear” tilt.</td>
</tr>
<tr>
<td>3. Forward noise figure at input of OIB (Rx output), with 0 dB OIB pad, any forward configuration module, 3 dB I/S pad, 7.5 dB linear I/S EQ, factory select output pad.</td>
</tr>
<tr>
<td>4. Forward internal tilt specified is primarily due to an on-board fixed equalizer and a factory configured 7.5 dB linear I/S EQ.</td>
</tr>
<tr>
<td>5. The forward reference output tilt specified is achieved via field installation of appropriate linear I/S EQ, in conjunction with the internal tilt of the launch amplifier and the tilt associated with the optical link (transmitter/receiver combination).</td>
</tr>
<tr>
<td>6. Stated distortion performance is for launch amplifier section operated at reference output levels and tilts. Full station performance can be determined by combining optic performance and launch amplifier performance.</td>
</tr>
<tr>
<td>7. Reverse operational gain from the node’s input port(s) to reverse transmitter input, with 0 dB reverse input pad, any reverse configuration module, 0 dB OIB pad. Includes OIB losses.</td>
</tr>
<tr>
<td>8. “Digital” refers to 550 - 1002 MHz loading with QAM carriers at -6 dB relative to analog video carrier levels.</td>
</tr>
<tr>
<td>9. Reverse noise figure at reverse input port, with 0 dB reverse input pad, any reverse configuration module, 0 dB OIB pad.</td>
</tr>
<tr>
<td>10. X-mod (@ 15.75 kHz) specified using 100% synchronous modulation and frequency selective measurement device.</td>
</tr>
<tr>
<td>11. “Digital” refers to 650 - 1002 MHz loading with QAM carriers at -6 dB relative to analog video carrier levels.</td>
</tr>
</tbody>
</table>

Unless otherwise noted, specifications reflect typical performance and are referenced to 68°F (20°C). Specifications are based upon measurements made in accordance with SCTE/ANSI standards (where applicable), using standard frequency assignments.
### Electrical

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. AC Through Current (continuous)</td>
<td>Amps</td>
<td>15</td>
</tr>
<tr>
<td>Max. AC Through Current (surge)</td>
<td>Amps</td>
<td>25</td>
</tr>
</tbody>
</table>

#### Component DC Power Consumption (typical)

<table>
<thead>
<tr>
<th>Component</th>
<th>DC Power Consumption (typical)</th>
<th>@+24 VDC</th>
<th>@+8 VDC</th>
<th>@+5 VDC</th>
<th>@-6 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch Amplifier (includes reverse amp)</td>
<td>Amps</td>
<td>2.7</td>
<td>-</td>
<td>0.5</td>
<td>-</td>
</tr>
<tr>
<td>Status Monitoring Transponder</td>
<td>Amps</td>
<td>0.01</td>
<td>-</td>
<td>0.2</td>
<td>-</td>
</tr>
<tr>
<td>GS7000 Low Current Optical Receiver</td>
<td>Amps</td>
<td>0.12</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Reverse Transmitter – High Gain FP</td>
<td>Amps</td>
<td>0.09</td>
<td>-</td>
<td>-</td>
<td>0.07</td>
</tr>
<tr>
<td>Reverse Transmitter – High Gain DFB</td>
<td>Amps</td>
<td>0.09</td>
<td>-</td>
<td>-</td>
<td>0.09</td>
</tr>
</tbody>
</table>

#### Power Supply DC Current Rating

<table>
<thead>
<tr>
<th>Current Rating (Amps)</th>
<th>@+24 VDC</th>
<th>@+8 VDC</th>
<th>@+5 VDC</th>
<th>@-6 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch Amplifier (includes reverse amp)</td>
<td>Amps</td>
<td>2.7</td>
<td>-</td>
<td>0.5</td>
</tr>
<tr>
<td>Status Monitoring Transponder</td>
<td>Amps</td>
<td>0.01</td>
<td>-</td>
<td>0.2</td>
</tr>
<tr>
<td>GS7000 Low Current Optical Receiver</td>
<td>Amps</td>
<td>0.12</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Reverse Transmitter – High Gain FP</td>
<td>Amps</td>
<td>0.09</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Reverse Transmitter – High Gain DFB</td>
<td>Amps</td>
<td>0.09</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Station Powering Data

<table>
<thead>
<tr>
<th>GS7000 Node</th>
<th>I DC (Amps at 24 VDC)</th>
<th>AC Voltage (Watts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>with: 1 forward Rx, 1x2 forward config module, 1 reverse Tx, 4x1 reverse config module</td>
<td>2.93</td>
<td>94.0 93.9 93.6 93.5 93.4 93.3 93.4 93.5 94.0</td>
</tr>
<tr>
<td>with: 2 forward Rx’s, 2x2 forward config module, 4 reverse Tx’s, 4x4 reverse config module</td>
<td>3.30</td>
<td>108.4 108.1 108.0 107.7 107.6 107.6 107.6 107.6 108.7</td>
</tr>
</tbody>
</table>

Data is based on stations configured with status monitoring transponder. AC currents specified are based on measurements made with typical CATV type ferro-resonant AC power supply (quasi-square wave).

DC supply has a fixed under-voltage lockout of 33 V AC.

### Environmental

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature Range</td>
<td>degrees</td>
</tr>
<tr>
<td>Relative Humidity Range</td>
<td>percent</td>
</tr>
</tbody>
</table>

### Mechanical

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Dimensions</td>
<td>Weight</td>
</tr>
<tr>
<td>21.3 in. L x 11.6 in. H x 11.1 in. D (541 mm x 295 mm x 282 mm)</td>
<td>Station with 4 RX, 4 TX, 2 power supplies: 50.0 lbs. (22.7 Kg)</td>
</tr>
</tbody>
</table>

Unless otherwise noted, specifications reflect typical performance and are referenced to 68°F (20°C). Specifications are based upon measurements made in accordance with SCTE/ANSI standards (where applicable), using standard frequency assignments.
Ordering Information

The GS7000 Node is available in a wide variety of configurations. The GS7000 Ordering Matrix provides ordering information for configured node stations. This page contains ordering information for required and optional accessories. Please consult with your Account Representative, Customer Service Representative, or Applications Engineer to determine the best configuration for your particular application.

<table>
<thead>
<tr>
<th>Required Accessories</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug-in Pads (attenuators) – Available in 0.5 dB steps from 0 to 20 dB (for Optical Interface Board)</td>
<td></td>
</tr>
<tr>
<td>• 1 required for each Optical Receiver Module installed in the node</td>
<td>589693 (0 dB)</td>
</tr>
<tr>
<td>• 1 required for each Optical Transmitter Module installed in the node</td>
<td>589734 (20.5dB)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Optional Accessories</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plug-in Forward Linear Equalizers – Available in 1.5 dB steps from 0 to 15 dB 40 MHz.</td>
<td></td>
</tr>
<tr>
<td>• Node is shipped with a 7.5 dB Linear Equalizers (2)* installed for 14.5dB of tilt to 1002 MHz (*4008782)</td>
<td>4007228 (0 dB)</td>
</tr>
<tr>
<td>• Optional 2-Way Splitters are required to activate 5 or 6 RF output ports</td>
<td>4011907</td>
</tr>
</tbody>
</table>

Note: Configured nodes ship without reverse input pads and any of the pads on the OIB. All other standard accessories are shipped from the factory. Launch Amp attenuator pads, 2 X 7.5dB linear EQs and 2 signal director jumpers are shipped with every configured node.

<table>
<thead>
<tr>
<th>GS7000 Forward Launch Amplifiers</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Node Launch Amplifier, 2-way forward segmentation, 40/52 MHz split</td>
<td>4011887</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GS7000 Forward Configuration Modules</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Configuration Module, 1x2</td>
<td>4011900</td>
</tr>
<tr>
<td>Forward Configuration Module, 1x2 Redundant</td>
<td>4011901</td>
</tr>
<tr>
<td>Forward Configuration Module, 2x2</td>
<td>4011902</td>
</tr>
<tr>
<td>Forward Configuration Module, 2x2 Redundant</td>
<td>4011903</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Forward Linear Equalizers</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 dB 1GHz Forward Linear EQ</td>
<td>4007228</td>
</tr>
<tr>
<td>1.5 dB 1GHz Forward Linear EQ</td>
<td>4008778</td>
</tr>
<tr>
<td>3.0 dB 1GHz Forward Linear EQ</td>
<td>4008779</td>
</tr>
<tr>
<td>4.5 dB 1GHz Forward Linear EQ</td>
<td>4008780</td>
</tr>
<tr>
<td>6.0 dB 1GHz Forward Linear EQ</td>
<td>4008781</td>
</tr>
<tr>
<td>7.5 dB 1GHz Forward Linear EQ</td>
<td>4008782</td>
</tr>
<tr>
<td>9.0 dB 1GHz Forward Linear EQ</td>
<td>4008783</td>
</tr>
<tr>
<td>10.5 dB 1GHz Forward Linear EQ</td>
<td>4008784</td>
</tr>
<tr>
<td>12.0 dB 1GHz Forward Linear EQ</td>
<td>4008785</td>
</tr>
<tr>
<td>13.5 dB 1GHz Forward Linear EQ</td>
<td>4008786</td>
</tr>
<tr>
<td>15.0 dB 1GHz Forward Linear EQ</td>
<td>4008787</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GS7000 Forward Low Current Optical Receivers</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical Receiver, SCA connector</td>
<td>4013593</td>
</tr>
<tr>
<td>Optical Receiver, SCU connector</td>
<td>4013594</td>
</tr>
<tr>
<td>Optical Receiver, FCA connector</td>
<td>4013595</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GS 7000 Reverse Amplifiers</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse Amplifier, 5-40 MHZ</td>
<td>4011912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GS7000 Reverse Configuration Modules</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse Configuration Module, 4x1</td>
<td>4011918</td>
</tr>
<tr>
<td>Reverse Configuration Module, 4x1 Redundant</td>
<td>4011919</td>
</tr>
<tr>
<td>Reverse Configuration Module, 4x2 (for use with 6-position OIB)</td>
<td>4011920</td>
</tr>
<tr>
<td>Reverse Configuration Module, 4x2 (for use with 8-position OIB)</td>
<td>4014300</td>
</tr>
<tr>
<td>Reverse Configuration Module, 4x2 Redundant</td>
<td>4011921</td>
</tr>
<tr>
<td>Reverse Configuration Module, 4x4</td>
<td>4011922</td>
</tr>
</tbody>
</table>
### GS7000 1310 nm Reverse Optical Transmitters

<table>
<thead>
<tr>
<th>Power</th>
<th>Type</th>
<th>Gain</th>
<th>Connector</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 dBm</td>
<td>DFB,</td>
<td>High</td>
<td>SC/APC</td>
<td>4011952</td>
</tr>
<tr>
<td>3 dBm</td>
<td>DFB,</td>
<td>High</td>
<td>SC/UPC</td>
<td>4011953</td>
</tr>
<tr>
<td>3 dBm</td>
<td>DFB,</td>
<td>High</td>
<td>FC/APC</td>
<td>4011954</td>
</tr>
<tr>
<td>2 dBm</td>
<td>FP,</td>
<td>High</td>
<td>SC/APC</td>
<td>4011958</td>
</tr>
<tr>
<td>2 dBm</td>
<td>FP,</td>
<td>High</td>
<td>SC/UPC</td>
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</tr>
<tr>
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### GS7000 CWDM Reverse Optical Transmitters

<table>
<thead>
<tr>
<th>Power</th>
<th>Type</th>
<th>Gain</th>
<th>Wavelength</th>
<th>Connector</th>
<th>Part Number</th>
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<tbody>
<tr>
<td>3 dBm</td>
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<td>1470 nm</td>
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<td>CWDM</td>
<td>High</td>
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<td>4011957</td>
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<tr>
<td>3 dBm</td>
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<td>4011961</td>
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<tr>
<td>3 dBm</td>
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<td>SC/APC</td>
<td>4011965</td>
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<td>FC/APC</td>
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### bdr Digital Laser Modules

<table>
<thead>
<tr>
<th>Power</th>
<th>Type</th>
<th>Wavelength</th>
<th>Connector</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 dBm</td>
<td>Digital Laser Module</td>
<td>1310 nm</td>
<td>DFB, SC/APC</td>
<td>4011905</td>
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<td>Digital Laser Module</td>
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<td>DFB, SC/UPC</td>
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<td>Digital Laser Module</td>
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<td>DFB, FC/APC</td>
<td>4011909</td>
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<td>Digital Laser Module</td>
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<td>DFB, SC/APC</td>
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<td>0 dBm</td>
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<td>DFB, FC/APC</td>
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### bdr Digital Processor Modules

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Part Number</th>
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</thead>
<tbody>
<tr>
<td>bdr 4:1</td>
<td>Digital Processor Module for GS7000 Node (5-40 MHz)</td>
<td>4013562</td>
</tr>
<tr>
<td>bdr 2:1</td>
<td>Digital Processor Module for GS7000 Node (5-42 MHz)</td>
<td>4013561</td>
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<tr>
<td>bdr 4:1</td>
<td>Digital Processor Module for GS7000 Node (7-42 MHz)</td>
<td>4013563</td>
</tr>
<tr>
<td>bdr 2:1</td>
<td>Digital Processor Module High Gain for GS7000 Node (5-42 MHz)</td>
<td>4013564</td>
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</table>
### ITU Grid Reverse Optical Transmitters

<table>
<thead>
<tr>
<th>Frequency</th>
<th>ITU Grid, CH.</th>
<th>Wavelength</th>
<th>Modulation</th>
<th>Connectors</th>
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</thead>
<tbody>
<tr>
<td>1567.13 nm</td>
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<td>7 dBm</td>
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<tr>
<td>1565.50 nm</td>
<td>15</td>
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<td>Digital</td>
<td>SC/APC</td>
</tr>
<tr>
<td>1563.86 nm</td>
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<td>SC/APC</td>
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<tr>
<td>1562.23 nm</td>
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<td>1558.98 nm</td>
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<tr>
<td>1557.36 nm</td>
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<td>1555.75 nm</td>
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<tr>
<td>1552.52 nm</td>
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<tr>
<td>1550.92 nm</td>
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<tr>
<td>1549.32 nm</td>
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<tr>
<td>1547.72 nm</td>
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<td>1546.12 nm</td>
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<td>1544.53 nm</td>
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<td>1542.94 nm</td>
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<td>1538.19 nm</td>
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<td>1536.61 nm</td>
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<td>1533.47 nm</td>
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<td>1531.90 nm</td>
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<td>SC/APC</td>
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### Optical Interface Board

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Description</th>
<th>Part Number</th>
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<tbody>
<tr>
<td>8-position</td>
<td>Optical Interface Board, 4Rx / 4Tx</td>
<td>4011927</td>
</tr>
<tr>
<td>6-position</td>
<td>Optical Interface Board, 4Rx / 2Tx / bdr</td>
<td>4011928</td>
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### Power Supply

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
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<tbody>
<tr>
<td>Node Power Supply</td>
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### Local Control Modules & Status Monitoring Module

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Control Module, with craft port</td>
<td>4011932</td>
</tr>
<tr>
<td>Local Control Module, with status monitor &amp; craft port</td>
<td>4011931</td>
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### Test Point Cable Kit

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Point Cable Kit, (includes the 6 cables required to enable GS7000 housing external test points)</td>
<td>4013568</td>
</tr>
</tbody>
</table>