RF Over Fiber Systems
IF 70/140MHz fibre optic link

• Low noise
• Wide dynamic range
• Transmits all video, data and audio modulation formats
• Transmission distances of >50km
• SNMP interface for remote monitoring, system programming and control
• Multiple carrier transmission

ADVANCED SATCOM TECHNOLOGY

The ViaLiteHD range of fibre optic links connect antennas with control rooms, network operation centres or broadcast headends. ViaLiteHD links offer more than an alternative to coaxial cabling in teleport earth stations. They have been designed to provide a cost effective, technically superior installation:

• very low carrier-to-noise ratio
• extremely linear performance
• wide dynamic range

Ultra wide dynamic range and a choice of manual, soft or automatic gain control settings address the challenges of varying signal intensity caused by meteorological conditions.

A range of electrical connector options is available, including 75Ω or 50Ω impedance with BNC, SMA or MCX connectors. Optical connector options include FC/APC, E2000/APC and SC/APC.

ViaLiteHD fibre optic links are available as rack mounted cards, small form factor modules and Edge OEM modules.

A fully populated 19" 3U ViaLiteHD rack supports up to 26 channels and accepts 13 RF and accessory cards plus an SNMP or summary alarm card and dual power supply modules.
A 1U chassis accepts three RF cards or two RF cards plus an SNMP card.

Small form factor modules offer a compact, single link solution and Edge OEM modules allow system integrators and equipment manufacturers to build RF/optical interfaces into their own design.

A range of support modules and accessories including indoor rack equipment and weatherproof outdoor enclosures are also available.

MECHANICAL DIMENSIONS
RF Over Fiber Systems
IF 70/140MHz fibre optic link

### RF PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency range</td>
<td>10-200MHz</td>
</tr>
<tr>
<td>RF connector</td>
<td>50Ω : 50Ω SMA</td>
</tr>
<tr>
<td>VSWR</td>
<td>1.15 (typ)</td>
</tr>
<tr>
<td>Link gain (Tx/Rx)</td>
<td>50Ω : +9 (-11/+20)dB (nom) *</td>
</tr>
<tr>
<td>Flatness (full band)</td>
<td>50Ω : ±0.2dB (typ) **</td>
</tr>
<tr>
<td>Gain stability</td>
<td>0.25 @ 24hrs dB (typ)</td>
</tr>
<tr>
<td>PdB input</td>
<td>-1dBm (typ) **</td>
</tr>
<tr>
<td>IP3 input at default gain</td>
<td>11dBm (typ) **</td>
</tr>
<tr>
<td>Noise figure at default gain</td>
<td>19dB (typ) **</td>
</tr>
<tr>
<td>SFDR</td>
<td>110dB/Hz2 3 (typ) *</td>
</tr>
<tr>
<td>Maximum input power</td>
<td>15dBm (min)</td>
</tr>
</tbody>
</table>

* nominal input power @ 0dB optical loss  
** default gain setting  
† measured @ 500MHz

### OPTICAL PERFORMANCE CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser Type</td>
<td>DFB</td>
</tr>
<tr>
<td>Optical Wavelength</td>
<td>1310nm ± 20nm (1550nm/CWDM options)</td>
</tr>
<tr>
<td>Optical Power Output</td>
<td>4.5dBm (typ)</td>
</tr>
</tbody>
</table>

### TEMPERATURE CHARACTERISTICS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>-20°C to +50°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40°C to +70°C</td>
</tr>
</tbody>
</table>

### PART NUMBERS AND OPTIONS

```
H R T – B 1 – 6 R – 0 3 – S 1310
```

**Module type**
- R: receiver
- D: dual receiver
- T: transmitter
- U: dual transmitter
- X: transceiver

**Electrical connector**
- B1: 50Ω SMA
- B2: 75Ω BNC
- B5: 50Ω MUX
- B6: 75Ω MUX

**Optical connector**
- 6: FC/APC
- 7: E2000/APC
- 8: SC/APC
- 9: LC/APC

**Module Package**
- R: rack card
- D: rack card blind mate
- M: small form factor module
- N: CEM Edge module
- *: 50Ω SMA or 75Ω BNC and optical
- **: SC/APC only

**Options**
- 0: Rx standard
- 3: LNB/BUC connection
- 4: 20kb/s serial link
- 5: LNB control 13/18v/22kHz tone
- *: Tx-RF card only

**Nominal gain**
- 3: 50Ω standard 9dB (Tx: -11dB, Rx: 20dB)
- 8: 75Ω standard 3dB (Tx: -11dB, Rx: 14dB)

Note: Further gain adjustments via MEC, 50Ω or AUC.
For more gain options consult ViaLite.