North Hills 75 ohm to 100 ohm video balun transformers provide an easy and straightforward means of connecting a 100 ohm balanced circuit to a 75 ohm coaxial cable. They are primarily designed for use in SMPTE 292M video networks.

The baluns match impedance in either direction and are precision-engineered for low insertion and excellent return loss and have a wide bandwidth extending from 1 MHz to 1.5 GHz.

*North Hills Application Note 151 - “Wideband Transformers” provides further information on the subject of balun transformers.

**Features:**
- Ideal for SMPTE 292M video data networks
- Insertion Loss 1.2 dB typical
- Return Loss >10dB from 5MHz to 1.2 GHz
- Rise and Fall Times less than 200 ps
- Low Deterministic and Peak-to-Peak Jitter
- Bi-directional signal path

**Benefits:**
- Easily connects twinax or quadrax cable to coaxial cable
- Small size for use in tight spaces
- Lightweight, ideal for weight sensitive applications
- Operating Temperature: -55°C to +125°C

### Specifications

#### Electrical @ 25°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Impedance</th>
<th>Insertion Loss</th>
<th>Return Loss @ 1.0 GHz</th>
<th>Bandwidth (3dB)</th>
<th>Rise/Fall Time (20%-80%)</th>
<th>Deterministic Jitter (p-p)</th>
<th>Peak-to-Peak Jitter</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTD1485VB7510XX-1</td>
<td>75Ω</td>
<td>1.2dB typ. 2dB max.</td>
<td>10dB min.</td>
<td>1MHz-1.5GHz</td>
<td>120ps typ. 160ps max.</td>
<td>30 ps max.</td>
<td>50 ps max.</td>
</tr>
<tr>
<td>BTD1485VB7510XX-2</td>
<td>75Ω</td>
<td>1.2dB typ. 2dB max.</td>
<td>10dB min.</td>
<td>1MHz-1.5GHz</td>
<td>180 ps typ. 200 ps max.</td>
<td>40 ps max.</td>
<td>60 ps max.</td>
</tr>
<tr>
<td>BTD1485VB7510XX-3</td>
<td>75Ω</td>
<td>1.2dB typ. 2dB max.</td>
<td>10dB min.</td>
<td>1MHz-1.5GHz</td>
<td>120 ps typ. 60 ps max.</td>
<td>30 ps max.</td>
<td>50 ps max.</td>
</tr>
<tr>
<td>BTD1485VB7510XX-4</td>
<td>75Ω</td>
<td>1.2dB typ. 2dB max.</td>
<td>10dB min.</td>
<td>1MHz-1.5GHz</td>
<td>180 ps typ. 200 ps max.</td>
<td>40 ps max.</td>
<td>60 ps max.</td>
</tr>
</tbody>
</table>

XX NOTE: Add suffix “FL” to part number to indicate Flange Mounted Case

#### Mechanical:

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Case/Cover</th>
<th>Finish</th>
<th>Weight</th>
<th>Input Connector</th>
<th>Output Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTD1485VB7510XX-1/-3</td>
<td>Cold Rolled Steel, Hot Solder Dipped</td>
<td>Blue, Semi-Gloss Enamel per TT-E-529</td>
<td>30 grams max</td>
<td>BNC, Jack 75Ω</td>
<td>Micro Twinax, 100Ω Sabritec 014117-5000 mates with Sabritec 014034-20xx</td>
</tr>
<tr>
<td>BTD1485VB7510XX-2/-4</td>
<td>Cold Rolled Steel, Hot Solder Dipped</td>
<td>Blue, Semi-Gloss Enamel per TT-E-529</td>
<td>30 grams max</td>
<td>BNC, Jack 75Ω</td>
<td>Quadrax 100Ω Sabritec 012817-5002 mates with Sabritec 012735-20xx</td>
</tr>
</tbody>
</table>

XX NOTE: Add suffix “FL” to part number to indicate Flange Mounted Case
Technical Drawings

Case Styles

Note 1 Connector, Output: Micro Twinax 100Ω Differential
Sabritec, 014117 5000, mates with P/N 014034-2000/-2008

Note 1 Connector, Output: Quadrax 100Ω Differential
Sabritec, 012817/-5002, mates with P/N 012735-2000

Schematics

BTD1485VB7510XX-1
BTD1485VB7510XX-2
BTD1485VB7510XX-3
BTD1485VB7510XX-4
Technical Drawings

Typical Eye Diagrams

1.485 Gbps Data Rate, PN7 Pattern

Ordering Information

<table>
<thead>
<tr>
<th>Model</th>
<th>Impedance</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Output</td>
<td>75Ω Unbalanced/100Ω Balanced</td>
<td>BTD1485VB7510-1</td>
</tr>
<tr>
<td>Single Output / Flange Mount</td>
<td>75Ω Unbalanced/100Ω Balanced</td>
<td>BTD1485VB7510FL-1</td>
</tr>
<tr>
<td>Dual Output</td>
<td>75Ω Unbalanced/100Ω Balanced</td>
<td>BTD1485VB7510-2</td>
</tr>
<tr>
<td>Dual Output / Flange Mount</td>
<td>75Ω Unbalanced/100Ω Balanced</td>
<td>BTD1485VB7510FL-2</td>
</tr>
<tr>
<td>Single Output / Isolated</td>
<td>75Ω Unbalanced/100Ω Balanced</td>
<td>BTD1485VB7510-3</td>
</tr>
<tr>
<td>Single Output / Flange Mount / Isolated</td>
<td>75Ω Unbalanced/100Ω Balanced</td>
<td>BTD1485VB7510FL-3</td>
</tr>
<tr>
<td>Dual Output / Isolated</td>
<td>75Ω Unbalanced/100Ω Balanced</td>
<td>BTD1485VB7510-4</td>
</tr>
</tbody>
</table>

For ordering assistance and technical support,
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