**What is Firewire?**

Firewire is an emerging high speed communication interconnect standard defined by IEEE-1394. It was originally developed to connect PCs to other PCs or to peripherals such as digital cameras, camcorders, scanners, etc. Current applications include automotive, telecom, data acquisition, aerospace and a host of others. An attractive advantage is devices are hot pluggable meaning live connection/disconnection without data loss or interruption.

### Connectors

- **Type 1 (6 position)** connectors are typically located on computers and hubs.
- **Type 2 (4 position)** connectors are commonly found on peripheral devices.
- **Type B (9 position)** connectors are commonly found on computers and hubs.

### Topology

Firewire is a serial, bi-directional bus that can be daisy chained or star shaped with the use of a hub. Firewire does not require terminators or manual addressing.

#### Star Topology

- Digital Camera
- Scanner
- Hub
- Camcorder
- Printer
- PC

#### Daisy Chain Topology

- Node 1
- Node 2
- Node 3
- Node 4
- Node <16

### Technical Data: Firewire Limitations

<table>
<thead>
<tr>
<th>Maximum:</th>
<th>Transmission Rate</th>
<th>Cable Length/Node</th>
<th># Nodes/Chain</th>
<th>End to End Distance/Chain</th>
<th>Nodes w/Bus Bridge</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 Mbps</td>
<td>4.5 meters</td>
<td>16</td>
<td>72 meters</td>
<td>Approx. 2³²</td>
<td></td>
</tr>
<tr>
<td>(800 Mbps Type B-B only)</td>
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</tbody>
</table>

### Firewire Cable Construction

Type 1 to Type 1 cables utilize all six cable conductors (4 data and 2 power). Type 1 to Type 2 cables utilize only the data conductors.