LocalNet 50/50™
Central Retransmission Unit

Overview
The LocalNet 50/50™ is a frequency converter and central retransmission unit located at the head end of the LocalNet local area network. It receives inbound (reverse) lowband signals (10 to 106 MHz) from Packet Communication Units on the network; converts these signals to highband signals (196 to 262 MHz); and then retransmits them in an outbound (forward) direction. The 50/50 allows LocalNet to fully utilize the directional aspect of any cable television (CATV) network to connect all LocalNet nodes.

Features
- Up to 60 LocalNet 20 FDM channels of 300 KHz width each (out of a universe of 120 channels) supported by a single LocalNet 50/50.

- Up to 3 LocalNet 40 FDM channels of 6 MHz width each (out of a universe of 5 channels) supported by a single LocalNet 50/50.
- Channel assignment and bandwidth selection available as an order option or factory upgrade.
- Compatible with midsplit, subsplit, and dual cable CATV installations for easy implementation on existing cable.
- Uses branching tree cable topology, so that failure of a single node has no effect on the rest of the network.
- Designed to be extremely reliable; can be made redundant by using the LocalNet 50/55 or 50/60 Translator Switch Unit.
- 3 Bandwidth capacities are available: 6, 12, and 18 MHz.
RF Characteristics

Bandwidth: 6, 12, or 18 MHz
Reverse/forward frequency shift: 156.25 MHz (midsplit)
Reverse (input) frequency range: 40 to 106 MHz (midsplit)
Forward (output) frequency range: 196.25 to 262.25 MHz (midsplit)

Gain: 50 dB
Noise figure: Less than 5 dB
Spurious signals: Less than +10 dBmV in passband
Undesirable mixer products: Down 30 dB in passband; down 60 dB at twice the output filter bandwidth

Input levels after reverse attenuator:
Maximum:
Bandwidth 18 MHz 12 MHz 6 MHz
LocalNet 20 −4 dBmV −2 dBmV 0 dBmV
LocalNet 40 +8 dBmV +8 dBmV +8 dBmV
Minimum:
−20 dBmV −12 dBmV

Output levels before forward attenuator:
Maximum:
Bandwidth 18 MHz 12 MHz 8 MHz
LocalNet 20 +46 dBmV +48 dBmV +50 dBmV
LocalNet 40 +58 dBmV +58 dBmV +58 dBmV
Minimum:
+30 dBmV +38 dBmV

Frequency accuracy: Better than ±1.6 KHz
Third order IM distortion: Less than −50 dB at +42 dBmV output

Physical and Mechanical Specifications

Rear panel connectors
Reverse RF input: Female type F coaxial fitting
Forward RF output: Female type F coaxial fitting
Pilot tone input: Female type F coaxial fitting
Pilot tone output: Female type F coaxial fitting
Power: Recessed male RFI-filtered, fused AC connector

Front panel controls
Forward RF attenuation: 0 to 50 dB rotary RF attenuator
Reverse RF attenuation: 0 to 50 dB rotary RF attenuator
Front panel indicator: Red LED indicates power on

Front panel connectors
Local oscillator monitor (156.25 or 216.25 MHz):
Forward RF input monitor: Female BNC coaxial fitting
Reverse RF output monitor: Female type F coaxial fitting

Size: 5.25" high by 16.75" wide by 14.875" long
Weight: 18 lbs. (approximate)

Power requirements:
Voltage/frequency: 115 VAC ± 10%, 60 Hz ± 5%
220 VAC ± 10%, 50 Hz ± 5%
Power Consumption: 50W
MTBF: 13.75 years.

Environmental Specifications

Operating temperature: 0 to +50°C
Relative humidity: To 95% (non-condensing)

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## Ordering Information

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
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<tbody>
<tr>
<td>50/50</td>
<td>Head-end Frequency Translator</td>
</tr>
<tr>
<td>50/55</td>
<td>Redundant Translator Auto Switch Unit</td>
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<tr>
<td>50/60</td>
<td>Redundant Translator Manual Switch Unit</td>
</tr>
<tr>
<td>50/70</td>
<td>RF System Tester</td>
</tr>
<tr>
<td>50/10</td>
<td>Test Bed Cable Kit</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Option</th>
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</thead>
<tbody>
<tr>
<td>W00</td>
<td>115 VAC, 50-60 Hz AC Power</td>
</tr>
<tr>
<td>W01</td>
<td>220 VAC, 50-60 Hz AC Power</td>
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</tbody>
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Order one of the following filter groups to specify the operating frequency range. For an explanation of the filter group designations, see the chart below.

### Figure 1. LocalNet 50/50 midsplit (156.25 MHz delta) filter and frequency assignments.

### Figure 2. LocalNet 50/50 subsplit (216.25 MHz delta) filter and frequency assignments.