

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 out-bound (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) 216.25 MHz (subsplit)	
Reverse (input) frequency range:	40 to 106 MHz (midsplit) 10 to 28 MHz (subsplit)	
Forward (output) frequency range:	196.25 to 262.25 MHz (midsplit) 226.25 to 244.25 MHz (subsplit)	
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	LocalNet 20	LocalNet 40
18 MHz	- 4 dBmV	+ 8 dBmV
12 MHz	- 2 dBmV	+ 8 dBmV
6 MHz	0 dBmV	+ 8 dBmV
Minimum:	-20 dBmV	-12 dBmV
Output levels before forward attenuator:		
Maximum:		
Bandwidth	LocalNet 20	LocalNet 40
18 MHz	+46 dBmV	+58 dBmV
12 MHz	+48 dBmV	+58 dBmV
8 MHz	+50 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	

Environmental Specifications

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

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

Front panel connectors

Local oscillator monitor (156.25 or 216.25 MHz):	Female BNC coaxial fitting
Forward RF input monitor:	Female type F 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 $\pm 10\%$, 60 Hz $\pm 5\%$ 220 VAC $\pm 10\%$, 50 Hz $\pm 5\%$
Power Consumption:	50W
MTBF:	13.75 years.

LocalNet is a registered trademark of Sytek, Incorporated.

Sytek reserves the right to change any specifications without prior notice.

Ordering Information

Model	Description
50/50	Head-end Frequency Translator
50/55	Redundant Translator Auto Switch Unit
50/60	Redundant Translator Manual Switch Unit
50/70	RF System Tester
50/10	Test Bed Cable Kit

Option	Description
W00	115 VAC, 50-60 Hz AC Power
W01	220 VAC, 50-60 Hz AC Power

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.

Option	Filter Group
T01	A
T02	K
T03	K, A
T04	J, K, A
T05	K, A, B
T06	A, B
T07	J, K
T08	A, B, C
T09	I, J, K
T10	D
T11	H
T12	D, E
T13	G, H
T14	D, E, F
T15	L
T16	L, M
T17	L, M, N

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

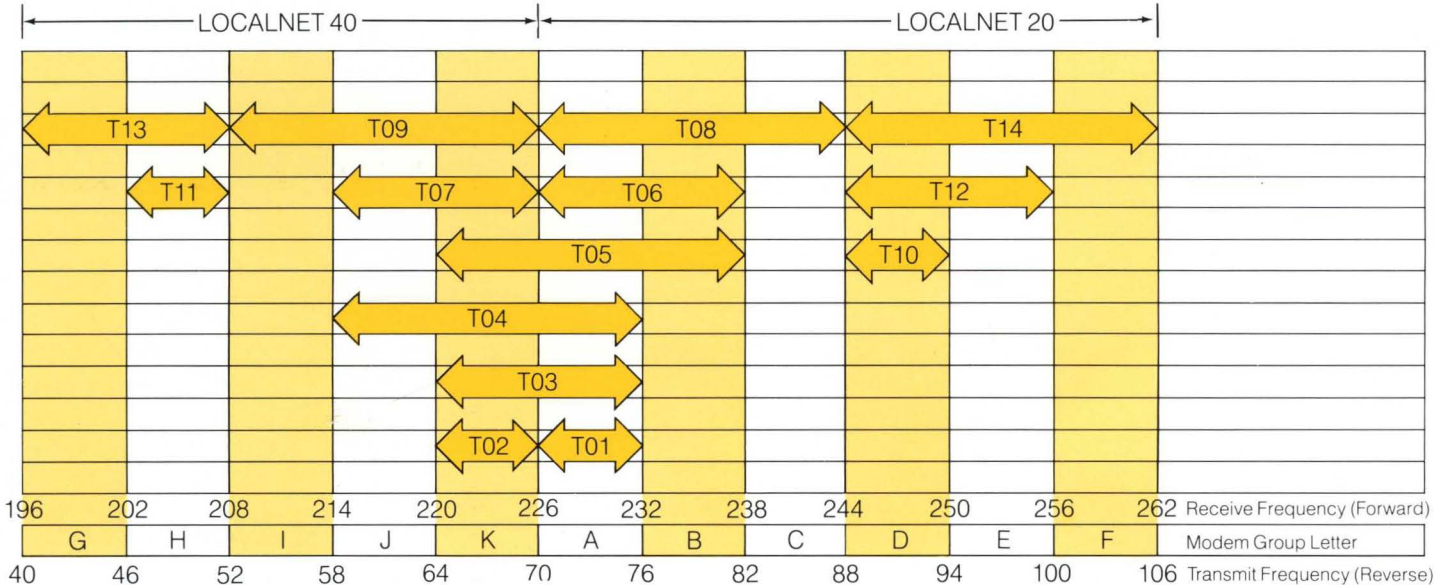
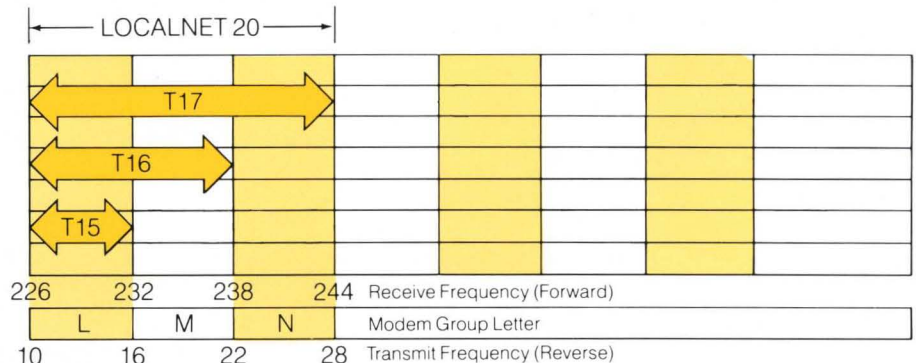


Figure 2. LocalNet 50/50 subsplit (216.25 MHz delta) filter and frequency assignments.





Sytek, Incorporated
1225 Charleston Road
Mountain View, California 94043
Telephone (415) 966-7300