

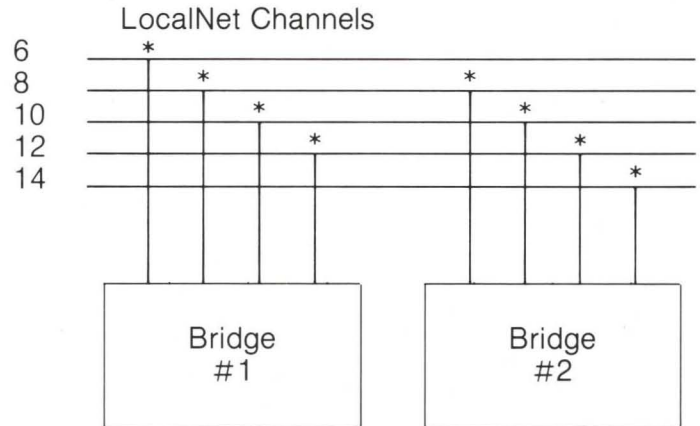
LocalNet 50/201™

Interchannel Bridge

Overview

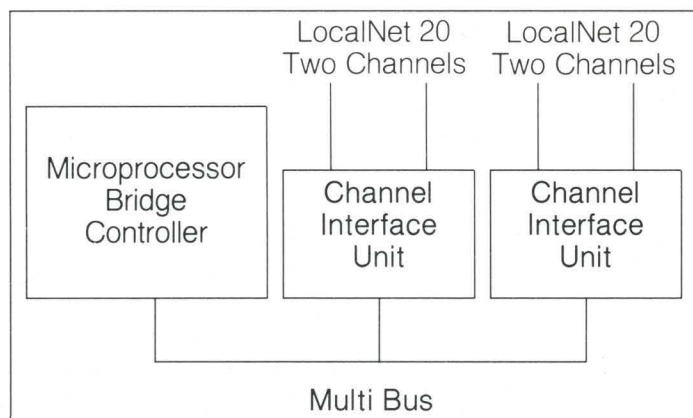
The LocalNet 50/201 Bridge interconnects packet communication units (PCUs) on different frequency channels within a LocalNet™ network so that all PCUs in the network can communicate as if they were logically on a single channel.

As shown in the LocalNet Channels diagram, 50/201 Bridge units can interconnect multiple LocalNet channels up to a maximum of 8 channels per bridge. Bridge #1 interconnects channels 6,8,10,12. Bridge #2 interconnects channels 8,10,12,14.



Features

- Provides full connectivity between all "bridged" channels.
- Implements link layer and network (PTP) layer protocols, providing transparent inter-channel connections within LocalNet.
- Routing is automatically determined by the bridge at each session initiation; no special configuration is required at the time of installation.
- Up to eight LocalNet 20™ channels (in pairs) can be interconnected using a single bridge unit.
- Bridge channel connection is field configurable, through the use of LocalNet frequency agile RF modems.
- Bridges can be configured in parallel between channels providing redundant routes and load sharing.
- Each bridge can handle up to 2000 active sessions.
- Automatically restarts when power is restored in the event of a power outage.



Description

The LocalNet 50/201 bridge implements the network PTP protocol layer transparently allowing all PCUs to communicate as if they were on the same channel. The bridge performs the following tasks:

- Enables a PCU to "discover" a communication path to another PCU connected to a different frequency channel by returning its own Link Access Protocol (LAP) to the caller for use in routing packets during the current session.
- Provides packet transportation between PCUs on different channels.
- Interconnects up to eight channels located on one cable system.
- Routes up to 800 packets/second between channels.

Analog Specifications

Transmitter

Transmit channel frequency range:	70.3 MHz to 76.00 MHz (for Group A)
Transmitter power output:	+46 dBmV at modem output +34 dBmV at unit output
Output linearity:	±2dB
Modulation technique:	FSK
Frequency deviation:	60 KHz ± 4 KHz

Frequency stability:	±.01%
Frequency agility:	Fully Agile Over Group Range
Channel spacing:	300 KHz
Number of channels supported:	20 (for Group A)
Carrier on/off ratio:	60 dB minimum
Carrier harmonic content:	-50 dB minimum
Output Impedance:	75 ohms

Receiver

Receive channel frequency range:	226.55 to 232.25 (for Group A)
Input power level:	-2 dBmV nominal at modem input +10 dBmV nominal at unit input
Receiver sensitivity: (at modem input)	-22 dBmV min. for 20 dB quieting
Receiver stability:	±.01%
Input impedance:	75 ohms

Status Interface Specifications

Type:	EIA RS-232C (DCE)
Data rate:	up to 9600 baud
Flow control:	EIA
Number of stop characters:	1

The status interface allows an operator to query the bridge for status and configuration information (the bridge is not configured via this interface; configuration is done via DIP switches on the digital cards). Bridge status commands allow the operator to do the following:

1. Examine the routing directory.
2. Print statistics on Bridge performance.
3. Display the configuration of the Bridge, and also a history log of errors that have occurred.

Technical Specifications

Capacity

Sessions: up to 2000

Error rate: less than 1 in 10⁹ bits

Network type: midsplit, subsplit, (single or dual), broadband CATV system

Compatibility Medium: 6 MHz channel

Cable type: 75 ohm coaxial cable or standard CATV cable.

Cable topology: Branching tree
Access method: Carrier Sense Multiple Access with Collision Detection (CSMA/CD)

Line protocol: HDLC derivative, designed for local network use.

Environmental Specifications

Operating temperature:	+10 to +40° C
Storage temperature:	-40 to +70° C
Relative humidity:	To 95% (non-condensing)

Physical and Mechanical Specifications

Rear panel connectors

Console: RS-232C (DCE)
RF: Industry standard type "F" connectors (2), (Female Fittings)
Power: Recessed male RFI-filtered fused AC connector

Front panel indicators

On/Off Keyswitch and reset keyswitch: On/off and momentary reset
Power on: Red/green LED indicates power on condition
Channel Status: Red/green LEDs indicate packet receipt or transmission for each bridged channel. Red-packet received, Green-packet transmitted.

Size: Rack-mountable cabinet, 19" W, 10 $\frac{1}{4}$ " H x 23 $\frac{3}{4}$ " D
Weight: 80 lbs.

Power requirements:
Voltage/Frequency: 115 VAC \pm 10%, 60 Hz \pm 5%
220 VAC \pm 10%, 50 Hz \pm 5%

Power Consumption: 440 watts max

MTBF: 6000 hours

Processor
1. Motorola 68000 control processor
2. Z80 for each channel interface unit

Memory (RAM)
1. 128 K bytes on 68000
2. 16 K bytes on each Z80

Ordering Information

Model	Option	Description
50/201		LocalNet 20 Bridge
50/210		Modem Interface Kit
		Supports 2
		LocalNet 20 channels*
	W00	115 VAC, 60 Hz AC Power
	W01	220 VAC, 50 Hz AC Power

*NOTE: May order 1 to 4 modem interface kits per bridge.

SYTEK DISTRICT SALES OFFICES

NORTHWESTERN DISTRICT

1225 Charleston Rd.
Mountain View, CA 94043
(415) 966-7330

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Sytek, Inc.

an affiliate of General Instrument

1225 Charleston Road
Mountain View, CA 94043
Telephone (415) 966-7330