LocalNet 20/100™ P02 Option

Dual Port Synchronous Packet Communication Unit

Overview

The LocalNet 20/100 with P02 option Packet Communication Unit (PCU) is a microprocessor-based, packet-mode network interface unit that provides distributed intelligence via a synchronous connection between the user device (terminals, hosts, printers, etc.) and a CATV-based local area network.

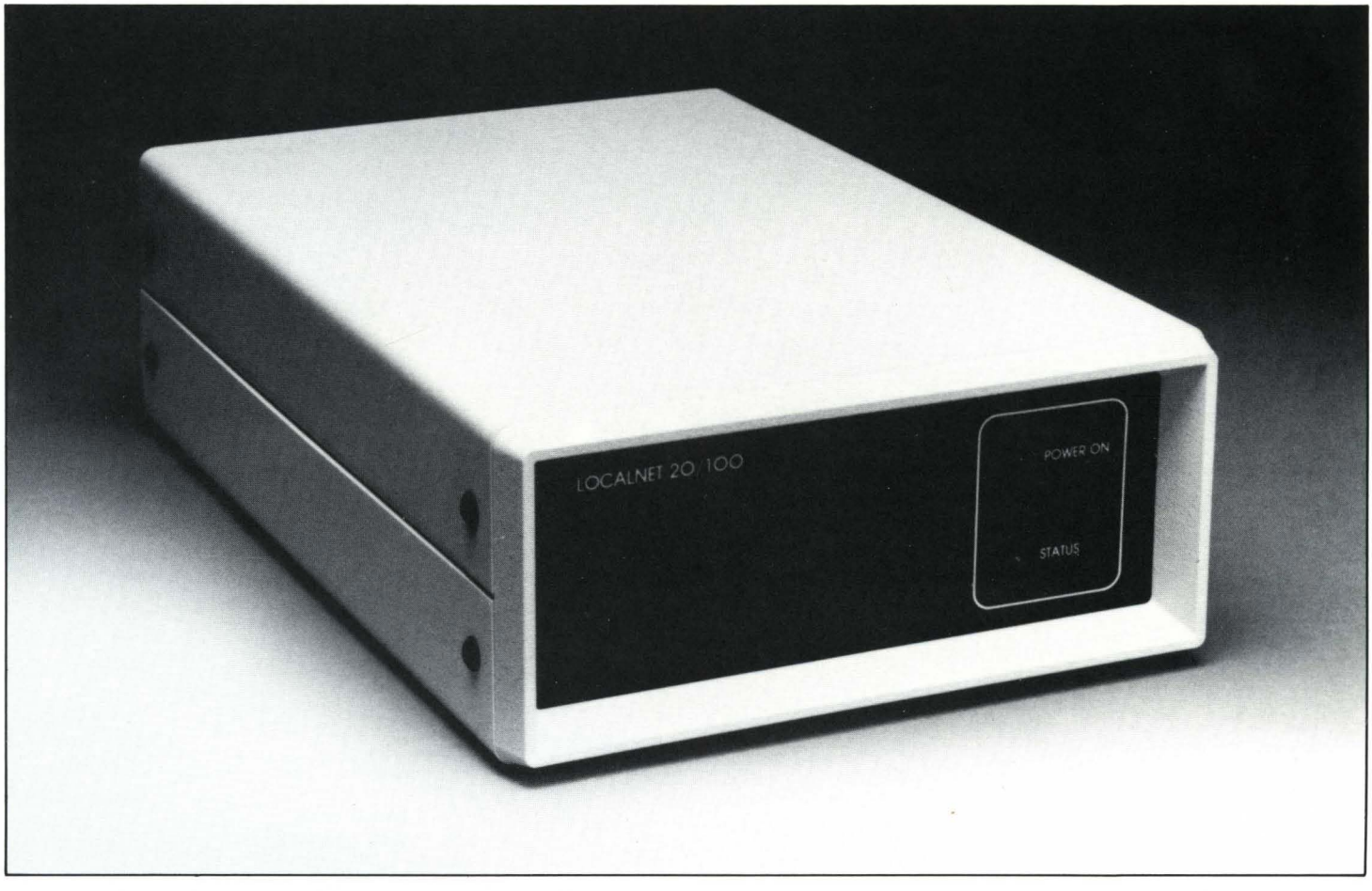
Features

- Offers multiple synchronous protocol support, including 2780, 3780, 327X, and HASP Multileaving workstation protocols.
- Provides an error rate of less than 1 in 10^9 bits for virtually error free data transmission.
- Operates with standard CATV cable (or other 75 ohm coaxial cable), allowing installation by local contractors with no special electronics experience.
- Compatible with midsplit, subsplit, and dual cable installations for easy implementation on existing networks.
- Uses branching tree cable topology, so that failure of a single node or cable branch has no effect on the rest of the network.
- Is frequency agile; allows any of a pre-selected set of 15 or 20 frequency channels to be digitally tuned.
- Provides virtual connection support and value added services.
- Minimizes multisession communications.

Description

The 20/100 with P02 option PCU uses a sophisticated RF transceiver. It performs digital/analog (device to cable) and analog/digital (cable to device) conversion, plus all of the following tasks:

- Establishes, maintains, and disconnects virtual connections, referred to as sessions, between nodes.
- Formats and addresses user data packets to their destinations, using internal LocalNet™ data communication protocols.
- Controls the allocations of the channel bandwidth using CSMA/CD (Carrier Sense Multiple Access with Collision Detection) mechanisms.
- Controls the flow of data over the channels and supports virtual connections to prevent congestion and data loss—both local (at the terminal or host port) and global (aggregate traffic on the backbone channel).



- Detects errors through use of CRC (Cyclic Redundancy Checks), and correcting error through retransmission of lost or damaged packets.
- Analyzes synchronous data communications to maximize throughput and insure data frame integrity.

The 20/100 with P02 option PCU contains a frequency synthesized, full-duplex, Frequency Shift Keyed (FSK), RF modem. This modem uses fixed offset spacing between the transmit and receive frequencies. Each PCU in the network is frequency agile. It can operate on any or all of 15 or 20 selected frequencies. Many PCUs can share the frequency, using the CSMA/CD mechanism.

User Interface Specifications

Type:	Interface to LocalNet is provided via a CCITT X.28-like interface specifically designed to support local area networks.
Protocols:	Virtual connection, higher level protocol which provides end-to-end data integrity.
Capacity:	Up to eight concurrent virtual connections supported per 20/100 P02 option PCU.

Host/Terminal Interface Specifications

Number of DTE Interfaces:	Two
Type:	EIA RS-232C
Speeds:	1200 bps to 19.2 kbps (19.2 kbs support limited to single port)
Modem control:	Full duplex, Half duplex, Half duplex with a 50 ms delay and Tail Circuits
Protocols	
ACSII:	ISO 1745-1975(E) and ANSI X.3.28-1976
EBCDIC:	2780, 3780, 327X, and Multileaving

Control Terminal Interface Specification

Number:	One
Speed:	300 bps
Protocol:	ASCII

User commands

User commands can be executed by entering the entire command (e.g., "help"), or by utilizing the command completion feature and enter only those uniquely identifying characters (e.g., "h") to initiate the command.

b[AUD]	specifies the port baud rate.
c[ALL]	request to establish a synchronous virtual connection.
ch[ANSP]	set channel frequency spacing.
dc[D]	controls the RS-232C Carrier Detect signal.
di[SABLE]	disables a command.
do[NE]	terminates a virtual connection.
dt[R]	controls the Data Terminal Ready signal.
e[NABLE]	enables a command.
g[ROUP]	specifies the PCU modem channel group.
h[ELP]	displays the command list.
i[SYNC]	specifies the number of sync characters transmitted at the beginning of a data frame.
lc[ODE]	specifies the type of character code.
li[STEN]	specifies that port will listen for incoming call request packets.
lo[CATION]	specifies channel and link address.
ma[XSESSION]	specifies the number of sessions allowed on the port.
md[M]	specifies the type of user port connection.
pc[ALL]	specifies if automatic call is to be initiated.
pm[N]	specifies the minimum number of data characters transmitted in a packet.
pu[NIT]	specifies unit to [pcALL].
st[ATUS]	displays the command status of the port.
su[SPEND]	suspends data transfer on the specified session.
sw[ITCH]	switches the active synchronous session to another synchronous session.
sy[NC]	defines the sync characters.
u[NIT]	specifies the identification number of the 20/100 P02 option PCU port.

Ordering Information

Model	Option	Description
20/100		Dual Port PCU
	P02	Synchronous
	U00	RS-232C user device physical interface
	W00	115 VAC, 60 Hz AC Power
	W01	220 VAC, 50 Hz AC Power

Sytek, Inc.
an affiliate of General Instrument

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