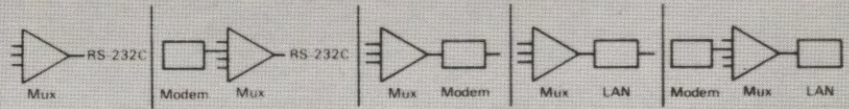StationMate

XLAN Micro Communications System

COMPLEXX

StationMate

COMPLEXX
Complexx Systems, Inc.

Description

StationMate™ is a unique communications system which integrates the discrete functions of a statistical multiplexer, an intelligent modem with automatic dialer, and a local area network (LAN) interface device. The fully-integrated design of the hardware and firmware result in a system which offers independent use of any of the three basic functions while allowing these to be used together in various configurations to accomplish networking functions. StationMate is the only element needed to create sophisticated networks for micro and mini computers. This system is also very cost effective in creating a single remote workstation. StationMate is designed to implement various levels of networking for the purpose of maximizing computer utilization, while minimizing data communications costs.

General Features

☐ All configuration set-up is entered via a user terminal and is stored in non-volatile RAM (NV-RAM) ☐ Remote configuration set-up (down-line loading) ☐ Password security for network management commands ☐ User interface for set-up, diagnostics, etc., is made via descriptive menus and utilities ☐ Automatic detection and retransmission for transmission media errors ☐ Local and remote loop tests ☐ End-to-end test message transmission ☐ Any port can operate in any of three modes — data, monitor and command ☐ Statistical system data provided on error rates, link utilization, etc. ☐ Call logging provides a record of caller ID, time of connect and time of disconnect ☐ Extremely easy to install, set up and use ☐ Uses ComplexX.25™ communication protocol (X.25 as adapted for multipoint applications).

Multiplexer Features

☐ Three channel (or two plus auxiliary) statistical multiplexer ☐ Modem may be used as a forth remote user input ☐ Compatible with all popular RS-232-C interface ASCII peripheral devices ☐ Large (16K byte) buffer ☐ Composite or link output speed programmable up to 9600 bps ☐ Segmented buffer allows user definition of allowable buffer space by port ☐ Auto-baud and other port interface features permit easy interface to user devices.
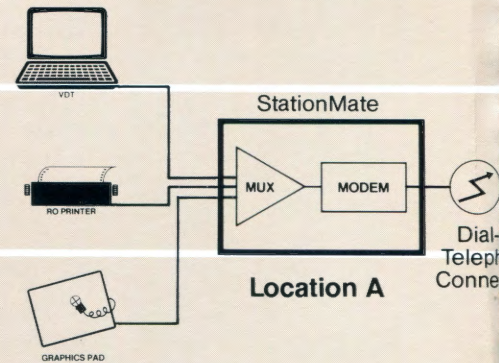
Modem and Dialer Features

☐ Bell 103J-compatible, 300 bps, full duplex operation ☐ Connects to standard telephone socket ☐ Automatic originate-answer switching ☐ Dialer programmable for up to 20 characters and pauses per call command ☐ Four call commands stored (plus last call command) ☐ Modem and dialer controlled from user terminal ☐ Call progress messages are provided ☐ Can be used independently of the multiplexer ☐ FCC registered for direct connection to the public telephone network.
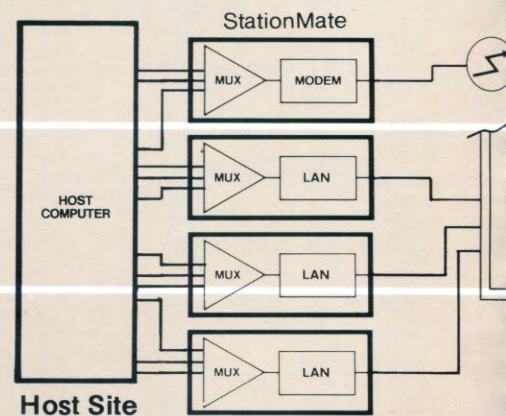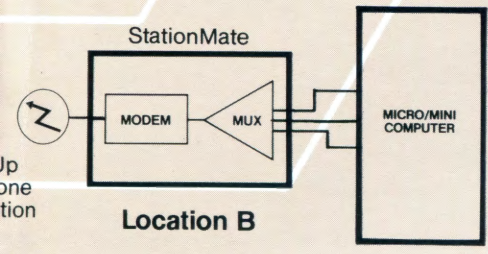
LAN Features

☐ XLAN™ is a carrier-sense-multiple-access local area network system which supports a one megabit bus rate ☐ Operating medium is an inexpensive, easy-to-install, 2-wire cable (twisted, shielded wire pair) ☐ Bus length can be up to 10,000 ft. long (without repeaters) and XLAN can support up to 64 network nodes (or interface units) with up to four ports per node ☐ System protocol supports logical circuit connection and one-way messages (datagrams) ☐ Port classing and class addressing capabilities ☐ Symbolic addresses can be assigned to ports.
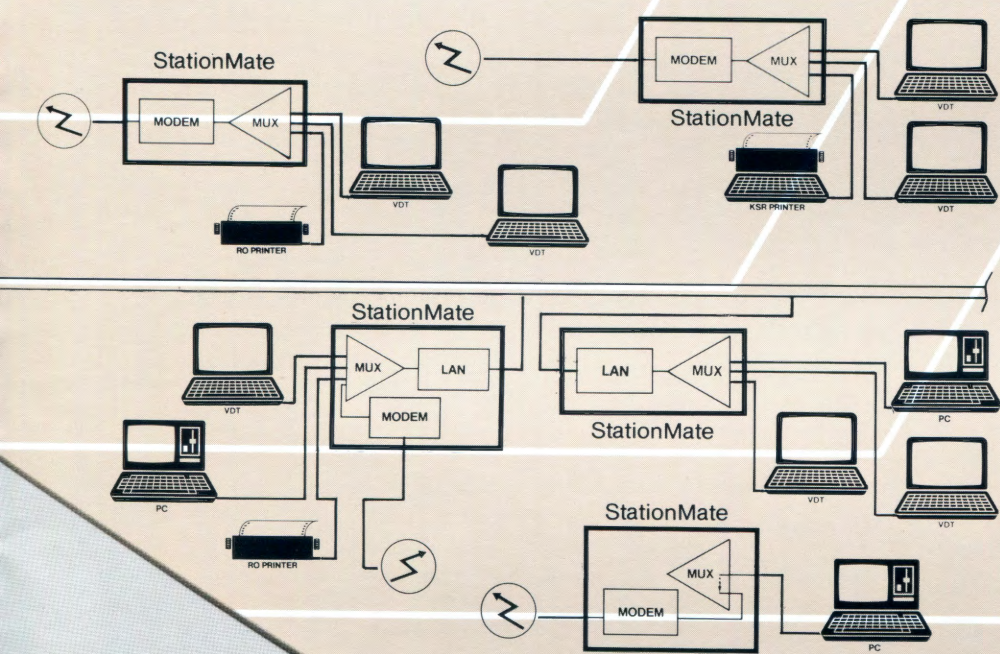
Teleprocessing

Location A

Local Networking

Host Site

StationMate

Location B

StationMate is the ideal communications set for creating a remote workstation via teleprocessing (TP). Without StationMate you would need a pair of modems for each terminal device you wish to use with the remote computer facility, and the most common need for a workstation is for a video display terminal (VDT) and printer combination. For part-time use a direct dial-up call is probably best, and this would require that you have two telephone outlets at each location and that you establish (dial and con-

nect) two calls. In a business application the cost for these lines could be $50 per month each, or more. With StationMate only one telephone connection is needed and the call may be initiated from a terminal keyboard. Possibly an equally important feature of StationMate for this application is the automatic detection and retransmission when line transmission errors occur. This prevents program and text errors caused by occasional telephone network interference.

StationMate can be used as a network interface processor (IP) for Complexx's XLAN local area network. Configuring a local area network with StationMate allows many users to share computers, printers and other user devices without having to disconnect–connect (or rewire) the devices. In addition, the distance between user devices and computers can be much greater than with RS-232-C cable interconnects, and the cost for cable and installation are greatly reduced since all communicate over the same
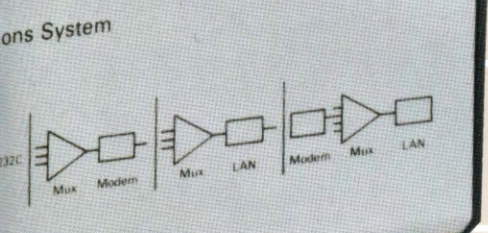
cable. Also, for part-time users, many can share a smaller number of computer ports, reducing computer hardware costs. For example, there may be two StationMates providing LAN interface for six computer ports, and perhaps five StationMates providing access for up to 15 user devices. Of course, only six active interconnects to the computer are possible at once. Especially helpful in addressing the host computer is the capability with the XLAN protocol to "class" ports. This allows a user to request a class of service and be connected with any available port with that class of service.
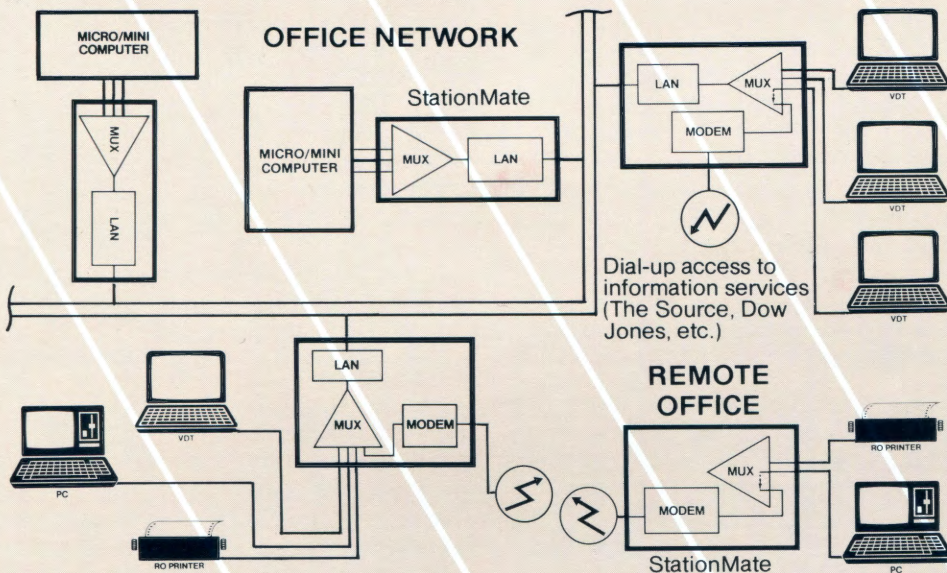
When used in LAN applications, StationMate can also provide communications for user-to-user messages (datagrams). The modem and dialer functions in each unit may be used by any user on the network to access remote devices or services which have standard Bell 103J modem interface, such as The Source Computing* or Dow Jones News/Retrieval† services.

Functional use of the networking elements in StationMate are arranged by user terminal command, provided the user has the proper password. This means that the modem can be connected to the telephone outlet and the LAN connector to the LAN cable, and the user may link the multiplexer to either output device. This permits communication with a remote StationMate workstation, or with the LAN resources on command.

COMPLEXX

Complexx Systems, Inc. ™

LAN/TP Gateway

OFFICE NETWORK

MICRO/MINI COMPUTER

MUX

LAN

StationMate

MICRO/MINI COMPUTER · MUX · LAN

LAN · MUX · MODEM

VDT

VDT

VDT

Dial-up access to information services (The Source, Dow Jones, etc.)

LAN · MUX · MODEM

VDT

PC

RO PRINTER

REMOTE OFFICE

MUX · MODEM

StationMate

RO PRINTER
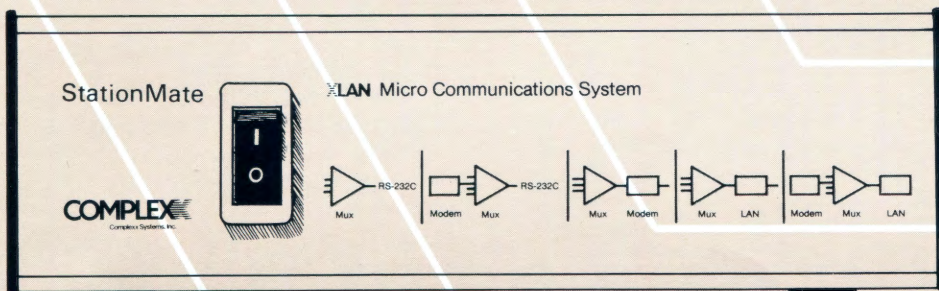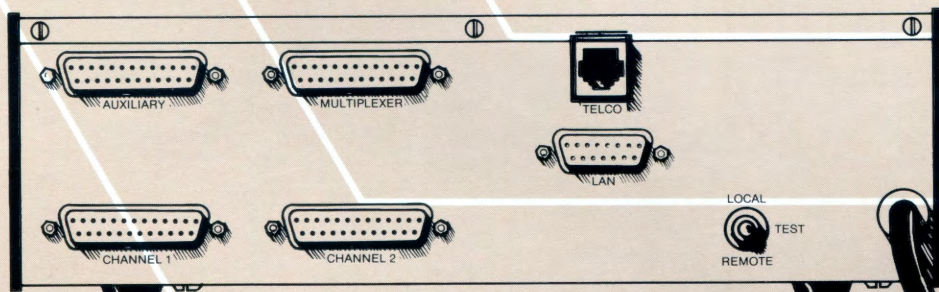
PC

Stationmate's integral modem can also be used as a fourth input (remote user) to the multiplexer. This permits remote access to the LAN computing resources via the telephone network. Additionally, the modem can be switched to a local port and used independently of the multiplexer allowing the remote StationMate to function as a single channel device. Another StationMate feature permits production of hard copy at the remote site. This feature is the "copy" command, which duplicates data destined for one user port at another port with proper end-to-end flow control and printer control.

Specifications

StationMate   **XLAN** Micro Communications System

COMPLEX
Complexx Systems, Inc.

RS-232C — Mux · Modem — Mux RS-232C · Mux — Modem · Mux — LAN · Modem — Mux — LAN

FRONT

AUXILIARY   MULTIPLEXER   TELCO

LAN

CHANNEL 1   CHANNEL 2

LOCAL
TEST
REMOTE

BACK

INPUT PORTS
- **Three asynchronous RS-232-C DCE ports**
- **Female connector**
- **Standard baud rate to 9600 bps**
- **Maximum aggregate rate: 28.8K bps**

COMPOSITE LINK OUTPUT
- **RS-232-C DTE port, female connector**
- **Synchronous internal or external clock rate selectable to 9600 bps**
- **Isochronous, 300 or 1200 bps**
- **ComplexX.25 ™ protocol (X.25 adapted for multipoint applications)**

MODEM AND DIALER
- **300 baud, full-duplex**
- **Bell 103J-compatible**
- **Automatic originate/answer switching**
- **FCC-registered for public phone network**
- **Dialer stores up to four call commands (up to 20 characters or pauses each), plus the last call command.**
- **Tone or pulse dialing**

LAN
- **Carrier-Sense-Multiple-Access (CSMA)**
- **1M bps data rate**
- **64 nodes maximum**
- **Media is shielded twisted-pair cable: for taps and trunks up to 3,000 ft., Belden 9271 or Alpha 9821; for trunks up to 10,000 ft., Belden 9860 or Alpha 9820**
- **Connector is 15-pin D-sub female**

PHYSICAL, ELECTRICAL AND ENVIRONMENTAL
- **Power requirements: 103 to 127 VAC, 60Hz, 25W**
- **Temperature: storage, -20° to 50°C; operating, 0° to 45°C**
- **Relative humidity to 95%, non-condensing**
- **Dimensions: 3.16"H x 10.34"W x 12.06"D**
- **Weight: 8 lbs.**

Complexx Systems, Inc., reserves the right to change specifications without notice.

COMPLEX ™
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