PRODUCT DATA SHEET

2200

REMOTE CONTROL AND MAINTENANCE SYSTEM

The Wang 2200 Remote Control and Maintenance (RCM) system allows an RCM-equipped 2200 Series computer to perform extensive diagnostic and program functions on one or more remote 2200 systems. With a Wang RCM system, a central control operator can use a 2200 Series computer to monitor and regulate a network of remote 2200 Series systems by inspecting each system, checking for errors, loading software, and running tests or diagnostic procedures.

A Wang 2200 Remote Control and Maintenance system consists of the following components.

- The Remote Control and Maintenance software
  — Terminal Emulator Program (TEP)
  — File Transfer Program (FTP)

- A Wang communications controller that supports asynchronous transmission (at the control system)

- One asynchronous modem at the control system

- One asynchronous modem at each remote system

- A 2236LRS Switch Box for each 2200SVP remote system (to allow modem connection)

For a local connection (not exceeding 50 feet or 15.2 meters) between the central control system and another 2200 system at the same site, one Wang 2227N Null Modem can be used instead of the two asynchronous modems.

In conjunction with the asynchronous communications components, the Wang Remote Control and Maintenance software (consisting of the Terminal Emulator Program and the File Transfer Program) allows a 2200 Series computer to establish control of a remote 2200 system partition. The software permits an RCM-equipped central processor to emulate a 2236DE Interactive Terminal, and access a partition on the remote system. An RCM operator can thus act as a central control operator, accessing and

- **Remote diagnostic capability**

- **Central control and monitoring capability**

- **Network maintenance capability**

- **File transfer capability**

CONTROL SYSTEM REQUIREMENTS

Central Processor	Communications Controller
2200MVP or LVP 2200SVP	2227B, 2228B, or 2228C Option 27B, 28B, or 28C

REMOTE SYSTEM REQUIREMENTS

Central Processor	Interface
2200MVP or LVP 2200SVP	2236MXD 2236LRS

executing the programs and diagnostics available on the remote 2200 system as if using one of the remote system's own terminals. In addition, the RCM operator can execute file transfer operations, performing file or program movement to or from the remote system.

TERMINAL EMULATOR PROGRAM

The Terminal Emulator Program (TEP) permits the RCM operator's terminal to access a remote 2200 system by emulating one of the remote system's 2236DE terminals. TEP tests for modem readiness, and displays a prompt to signal either a "Modem Not Ready" condition (allowing operator corrections to the modem or line) or "Emulator Active".

When the emulator is active, TEP connects the RCM operator's terminal to the remote system's central processor on operator command. The RCM operator's terminal displays the "Ready Basic" message and the partition number assigned to the terminal by the remote system's central processor. The RCM operator can then load and execute any available diagnostics and programs. In addition, the RCM operator can direct a printer data stream to either a local printer or to disk storage on the control system.

TEP has a File Transfer Mode that interacts with the File Transfer Program, providing RCM operator control of file transfer operations. The TEP's File Transfer Mode displays a menu of File Send and File Receive operations, as well as a Command Menu.

FILE TRANSFER PROGRAM

If a remote system is to support file transfer operations, the File Transfer Program (FTP) must be stored on the remote system and accessible to the RCM operator's partition on the remote system. FTP is activated when the RCM operator loads it into the RCM-controlled partition, and signals the TEP to enter File Transfer Mode.

While running the FTP in File Transfer Mode, the RCM operator can control both local and remote operations with the Special Function keys. Optionally, the RCM operator can execute a file transfer as a background job (useful for transferring large files). During file transfer, the RCM operator can also alternate between background and foreground processing to check job status.

COMMUNICATION LINKS

The Wang asynchronous communications controller and the two modems, used with a dial-up or leased line, provide a communications connection between the RCM central processor and a remote 2200 system. For any additional remote 2200 systems, a modem is required at each remote site.

To implement a Wang RCM system, the 2200 central control system should have a 2236D or 2236DE terminal. Each remote 2200 system must have a spare 2236MXD port, except a remote 2200SVP system. If the remote system is a 2200SVP, a 2236LRS Switch Box is needed to attach the modem to the terminal port.

The Remote Control and Maintenance system is intended for use over dial-up lines, but leased line or local connection is also feasible. At the control site, an RS-232-C/CCITT V.24 cable connects the local modem to the Wang asynchronous communications controller. At the remote site, an RS-232-C/CCITT V.24 cable connects the modem to a spare terminal port on the remote system's 2236MXD Terminal Multiplexer, or to a 2236LRS Switch Box for connection to a 2200SVP.

2236LRS SWITCH BOX

The Wang 2236LRS Switch Box permits a remote 2200SVP system to be accessed by a Wang RCM central control system. The 2236LRS Switch Box, when connected to an SVP central processor and an appropriate modem, offers two choices: standard operation of a local terminal or remote connection to a Remote Control and Maintenance system over communications lines.

The 2236LRS Switch Box has three RS-232-C/CCITT V.24 connectors and a three-position switch. One RS-232-C/CCITT V.24 cable leads from the 2236LRS to the SVP central processor. A second RS-232-C/CCITT V.24 cable attaches the 2236LRS to the local terminal. A third RS-232-C/CCITT V.24 cable attaches the 2236LRS to the modem that is used to establish the link to the Remote Control and Maintenance system. The three-position switch offers a choice between Local (19.2K bps), 300 bps (remote), or 1200 bps (remote).
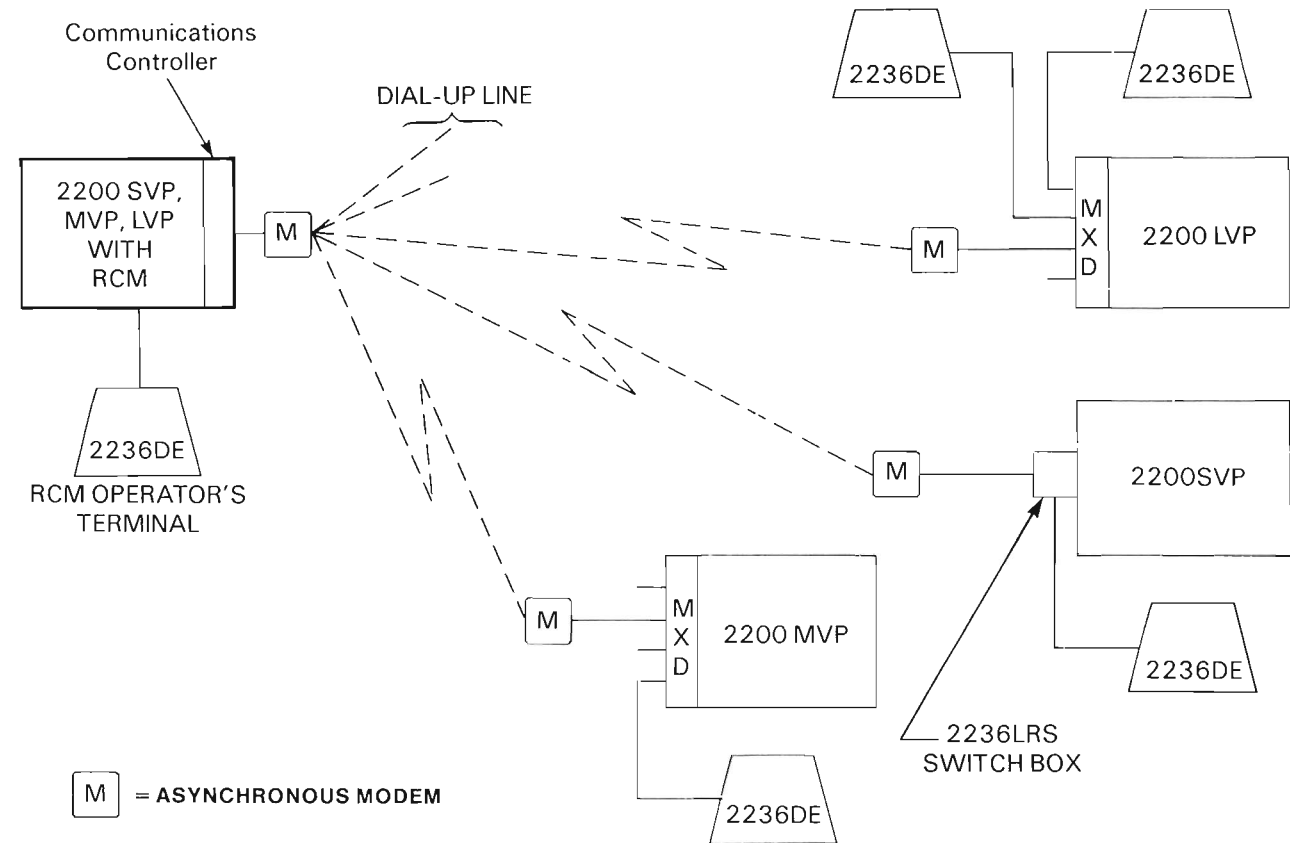
CONTROL SYSTEM

2200 Series Computer
   (LVP, MVP, or SVP)
2236D or 2236DE Interactive Terminal
Terminal Emulation Program
2227B, 2228B, or 2228C
   Communications Controller
   for 2200LVP and MVP;
   Option 27B, 28B, or 28C for 2200SVP)
Asynchronous Modem

LINE

Dial-up or Leased line

EACH REMOTE SYSTEM

2200 Series Computer
   (LVP, MVP, or SVP)
File Transfer Program
2236MXD Port for 2200LVP
   and MVP (2236LRS
   Switch Box for SVP)
Asynchronous Modem

WANG REMOTE CONTROL AND MAINTENANCE SYSTEM CONFIGURATION

PRODUCT CHARACTERISTICS

REMOTE CONTROL AND MAINTENANCE SOFTWARE

Model Numbers
22TC-RCM Remote Control and Maintenance Software
22TC-RCM/D (for double-sided, dual-density diskette)

Package Numbers
195-2168-3
195-2168-5 (for double-sided, dual-density diskette)

Line Discipline
Full-duplex asynchronous serial transmission

Line Speed
Up to 1200 bps

Operation Modes
- File Transfer (send and receive)
- Emulator Status
- TC File Print (to CRT or printer)
- Spool to disk
- Background processing

Required Memory
Terminal Emulator Program — 15.5K partition on the control system (17K to store terminal printer output on disk).

File Transfer Program — 6K partition on the remote system.

Disk File Format
Wang's TC file format supporting variable length records is used for spool to disk operation or TC file printer stream.

2236LRS SWITCH BOX

Model Number
2236LRS SVP Local/Remote Switch

Switch Settings
Local, 300 bps (remote), and 1200 bps (remote)

Electrical Connections
Three RS-232-C/CCITT V.24 compatible 25-pin female plugs

Power Supply
Provided by the 2200SVP central processor

MODEM INFORMATION

Wang communications controllers provide an RS-232-C/CCITT V.24 compatible DTE (Data Terminal Equipment) interface. The asynchronous modems at both ends of the communications link must be RS-232-C/CCITT V.24 compatible and also compatible with each other. Furthermore, the modems must be capable of transmitting data with 11 bits per character (1 start bit, 8 data bits, 1 parity bit, and 1 stop bit).

Standard Warranty Applies