SOFTWARE DATA SHEET

2200

TELETEX TERMINAL FACILITY

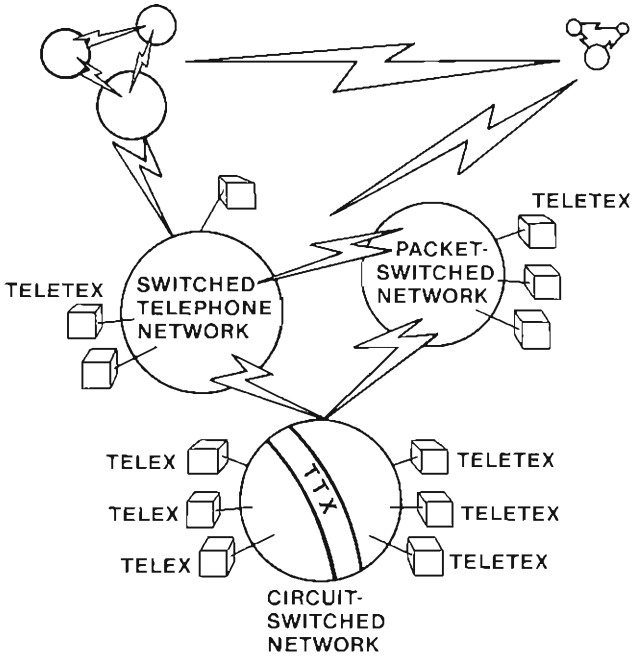
The Wang Teletex Terminal Facility provides a gateway to the International Teletex Service for users of Wang 2200LVP or MVP systems that have an appropriate communications controller (Model 2228D-4X).

International Teletex is a layered network architecture created by the Consultative Committee for International Telephone and Telegraph (CCITT) as the eventual replacement for worldwide Telex® service. Teletex permits faster (2400-bps, rather than 50-bps Telex), non-interactive, memory-to-memory, page-oriented communication between Teletex-compatible computers, word processors, and intelligent terminals.

Wang Teletex Terminal Facility software enables batch file and Word Processing (WP) document transport through a switched network, from one 2200 system to another. As systems fully compatible with CCITT recommendations for basic Teletex service become more common, 2200 systems may exchange page-oriented data with Teletex-compatible systems manufactured by other vendors as well.

Creation of documents or files prior to transmission, and the printout of such data after receipt, are totally under the control of the Wang 2200 system user. Utilities are provided for queuing files/documents to be transmitted and for printing received messages.

- **Teletex-to-Teletex communication**
- **Teletex-to-Telex communication**
- **Memory-to-memory transfer**
- **Page-oriented**
- **File/document transfer**
- **2400-bps data transmission**
- **Attended/unattended operation**
- **User-programming capabilities**



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WANG
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TELETEX-TO-TELETEX COMMUNICATION

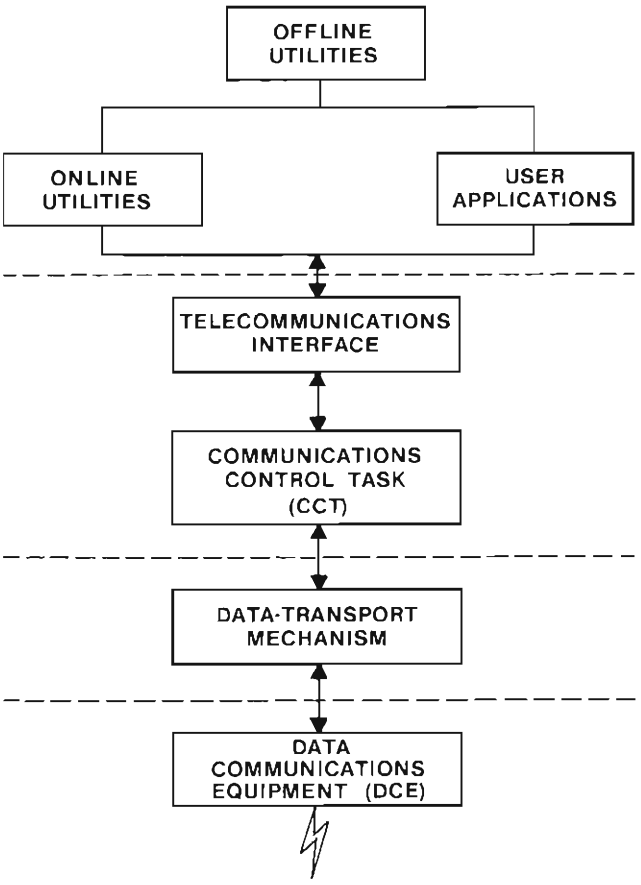
CCITT recommendations specify Teletex services to be network-independent and capable of interworking with certain network types. Accordingly, the Public Switched Telephone Networks (PSTNs), Packet-Switched Data Networks (PSDNs), and Circuit-Switched Data Networks (CSDNs) should all eventually host the International Teletex Service. Teletex-to-Teletex communication will be possible within the boundaries of a given PSTN, CSDN, or PSDN; across boundaries of similar networks (CSDN-to-CSDN, PSDN-to-PSDN, etc.); and across boundaries of dissimilar networks (PSDN-to-CSDN, CSDN-to-PSTN, etc.).

TELETEX-TO-TELEX COMMUNICATION

For Telex-to-Teletex or Teletex-to-Telex communication, conversion (TTX) devices should be installed by the common carriers at crossover points between Telex networks and established Teletex networks. With gradual implementation of TTX devices, any Wang 2200LVP or MVP system equipped with the Teletex Terminal Facility should be able to send messages to, and receive messages from, any one of more than 1.5 million Telex stations, worldwide. (By CCITT recommendation, Teletex implementation will not affect existing Telex-to-Telex message service.)

WANG TELETEX SOFTWARE

Wang Teletex software is multilevel, having several major elements: (1) a set of communication utilities customized for Teletex applications, (2) a Telecommunications Interface (TCI), which may be engaged by user-written online communication utilities as well as the Wang Teletex-application software, (3) a Communications Control Task (CCT) functioning as a user-transparent interface between the TCI and the data transport mechanism, and (4) the data transport mechanism, which is custom-assembled for certain network protocol-and-connection combinations.



Communication Utilities

Wang supplies Advanced Batch Communication utilities for the Teletex Terminal Facility. These are BASIC-language programs that enable users to prepare communication sessions offline and to have online access to 2228D communication facilities. Table 1 contains a description of each utility.

Users may create their own communication utilities/application programs to work in conjunction with the Telecommunications Interface and offline utilities of the Advanced Batch Communication software.

Table 1. Advanced Batch Communication Utilities

Utility	Purpose
Remote Definition	Enables the user to define a connection profile (i.e., parameters/characteristics of the link) for each remote system. Stores parameters on disk or diskette for subsequent automatic recall by the Communication Control Task (CCT).
Communications Queue	Defines jobs (sets of related files) and places them in a Job Queue for transmission. Also allows jobs to be displayed, modified, or deleted.
Communications Log	Allows inspection of the Communications Log file, which contains the activity record for a particular job.
Communications Print	Supports printing of received jobs.
Batch File Driver	Initiates connection sequence; sends transmission data from the central processor to the communications controller; accepts received data from the controller; stores data on disk for subsequent use/printout; and initiates a connection-clearing sequence. When executed in foreground, permits communication on user demand; executed in background, permits automatic transmission and reception of files/documents.

Telecommunications Interface

The Telecommunications Interface (TCI) is a set of communications-access subroutines that can be called by either Wang-written (Batch File Driver) or user-written online communication utilities. The TCI can initiate the opening of a session over a network connection, initiate the transfer of information from the 2200 central processor to the 2228D communications controller for transmission during a session, accept calls from remote Teletex devices, initiate transfer of received data from the communications controller to the central processor, read session status information, and initiate the termination of a session.

Communication Control Task

TCI subroutines engage the Teletex transport mechanism via the user-transparent Communication Control Task (CCT), located in the central processor. The CCT accepts information conveyed by TCI subroutines and retrieves stored remote-connection parameters, data-translation tables, and data records. The CCT passes connection/call parameters, translation tables, and data to the controller; connection procedures, line protocol exchanges, and actual data transmission are delegated to the Teletex transport mechanism. For incoming messages, the CCT accepts a call, engages the Batch File Driver (or equivalent), and passes to that utility all received data.

Teletex Data-Transport Mechanism

The Teletex data-transport mechanism is engaged/disengaged by the CCT whenever a session must be conducted. Translation tables and remote connection parameters, passed to the transport mechanism by the CCT, condition 2228D-4X microcode for the Teletex application and particular network protocol. Call/call-acceptance procedures and data transmission/reception are supervised by 2228D-4X microcode.

Depending on the specific network type (CSDN, PSDN, PSTN), variations in network architecture such as CCITT X.25 may be employed. Wang Laboratories provides most of the common protocol/connection combinations used in Western Europe. For example, in Germany, Teletex requires an HDLC/X.21 transport mechanism; in France, an X.25/HDLC/X.21 packet-net transport mechanism is needed.

PRODUCT CHARACTERISTICS

Package Number

195-2196-3 (single-sided single-density diskette)

195-2196-5 (double-sided dual-density diskette)

Message Delivery

Memory-to-memory (disk/diskette storage)

Character Repertoire

Alphanumerics/graphics: CCITT basic set
Control characters: CCITT basic set

Conversion

For transmission: Wang file/document to Teletex page

For reception: Teletex page to Wang file/document

Data Transfer Rate

2400 bps

Line Protocol

HDLC

Connection

X.21

Cable Requirement

An X.21-compatible cable is supplied with the 2228D-4X controller.

Modem Requirement

An X.21-compatible, synchronous DCE (Data Communication Equipment), capable of supporting 2400-bps operation is required.

Compatible Network Applications

(Pending certification for the particular network)
Public Switched Telephone Networks
Circuit-Switched Data Networks
Packet-Switched Data Networks

Memory Requirements

26K of central processor memory is needed for manual/attended, single-document/file transfer only; 56K is needed for queued/automatic, unattended batch document/file transfer, as well as manual/attended, single-document/file transfer; 5K is needed for universal global requirements.

Communications Controller

A 2228D-4X controller is required. The "-4" in the suffix of the model number signifies that the controller has 64K of Random Access Memory (RAM); the "X" signifies support of the CCITT X.21 connection standard.

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