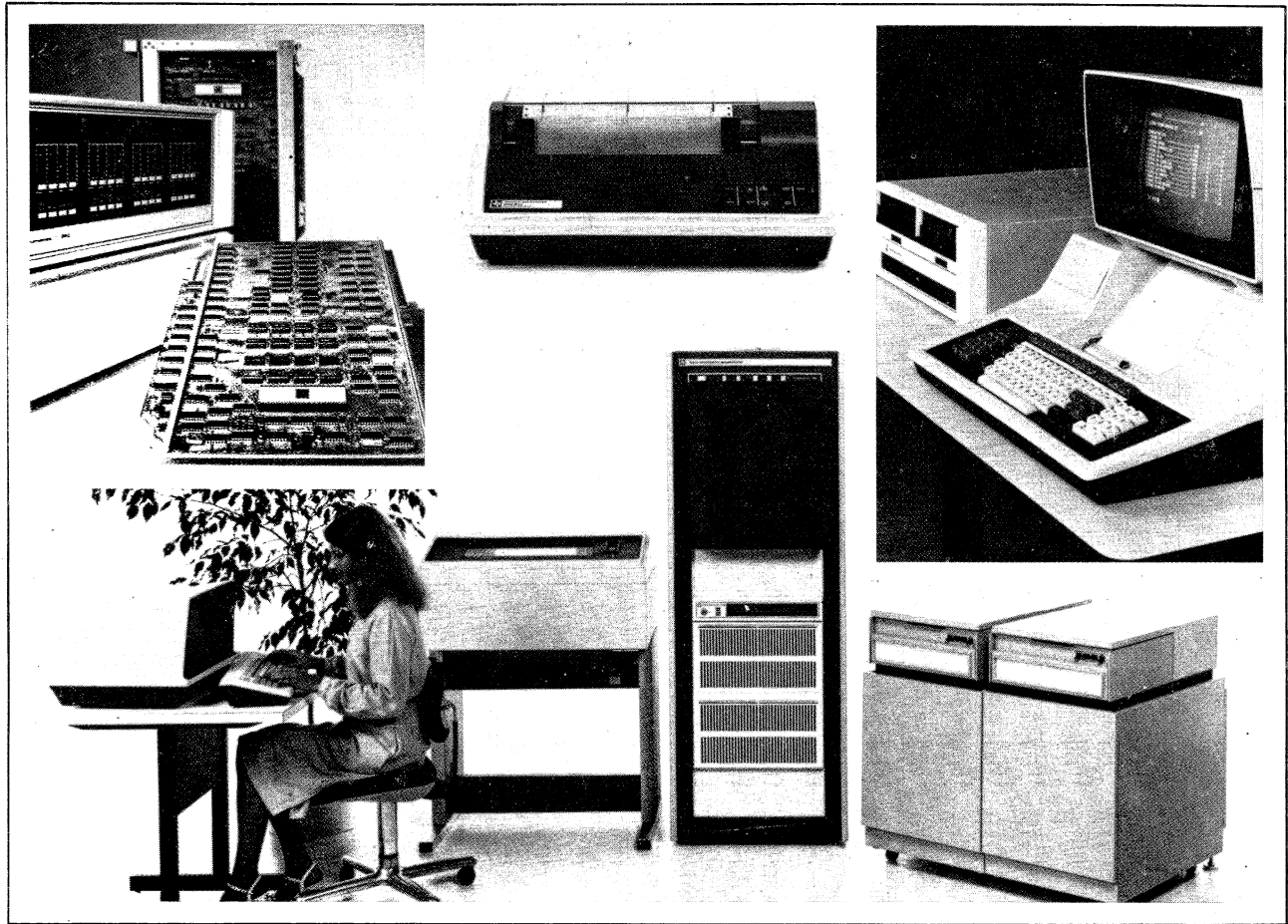

Series 700
Intelligent Terminal Systems
Communications Verification Test Procedure
for Models 770, 771, and DS990 Model 1



Part No. 2262571-9701 *B
1 May 1980



TEXAS INSTRUMENTS

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Preface

The communications verification test procedure for the Series 700 Model 770, 771, and DS990 Model 1 terminals is a quickly-executed method for establishing the condition of a terminal's communications hardware (either the interface boards or modems) with a single test.

The information contained in this manual is directed specifically toward TI customer representatives (CRs) with working knowledge of Series 700 terminals, and TPL 700 software and communications emulators. Additional information is contained in the following documents:

HARDWARE MANUALS

Title	Part Number
<i>Series 700 Intelligent Terminal Systems Programmer's Guide for Model 771</i>	2262561-9701
<i>Series 700 Intelligent Terminal Systems Programmer's Guide for Model 770</i>	0993026-9701
<i>Model 704/1 Terminal Polling System Operator Instruction Manual</i>	0999659-9701
<i>Series 700 Intelligent Terminal System 770 Field Maintenance Test Operating Procedures</i>	0946441-9701
<i>Series 700 Intelligent Terminal System 771 Field Maintenance Test Operating Procedures</i>	0946442-9701
<i>DS990 System Model 1 Field Maintenance Test Operating Procedures</i>	2262570-9701
<i>Maintenance Manual for Model 770 Intelligent Data Terminal</i>	0993024-9701
<i>DS990 System Model 1 Maintenance Supplement</i>	0993024-9704
<i>Series 700 Intelligent Terminal System 771 Site Preparation Installation Manual</i>	2262558-9701
<i>DS990 System Model 1 Site Preparation and Installation Manual</i>	2262325-9701

Series 700 Intelligent Terminal Systems Communications User's Guide 2780/3780 Emulation for Models 770 and 771

2262573-9701

Series 700 Intelligent Terminal Systems Communications User's Guide 742 Emulation for Models 770 and 771

0993090-9701

The software necessary to perform the communications verification test procedure is found on the following media:

Title	Part Number
<i>770 Communication Verification Test Cartridge</i>	0946317-1401
<i>771 Communication Verification Test Diskette</i>	2262485-1601
<i>DS990 Model 1 Communications Verification Test Diskette</i>	2262553-1601

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Introduction

1.1 GENERAL

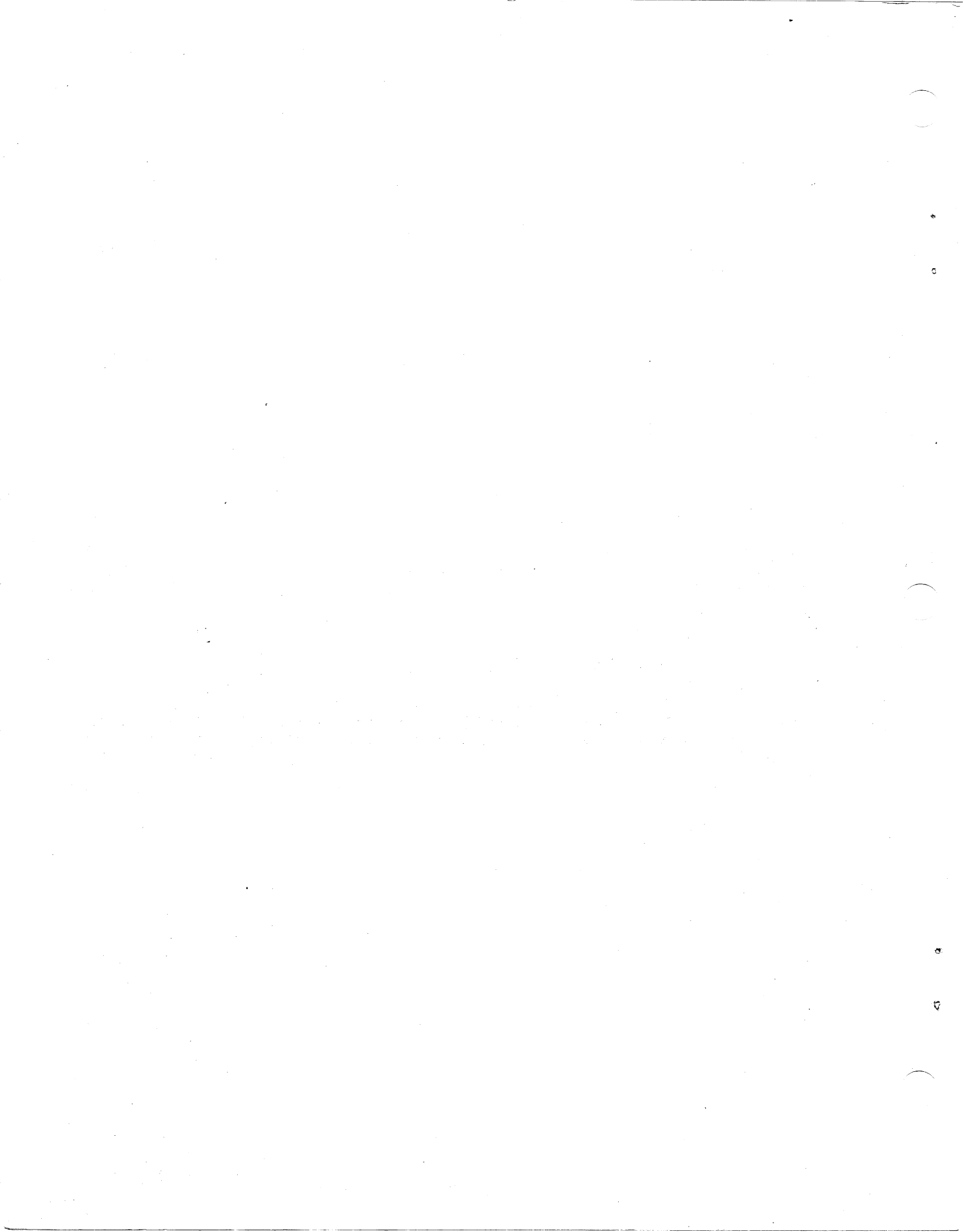
The communication verification test procedure establishes that Model 770, 771, or DS990 Model 1 terminal communications hardware is fully functional. This manual describes the procedures for both synchronous and asynchronous communications testing. Both synchronous and asynchronous testing require a remote terminal and a base station; throughout this text the term *remote* is used in referring to the terminal under test, *base* is used to refer to the central test facility.

1.2 SYNCHRONOUS TESTING

Tests of synchronous transmissions are performed with a remote 770, 771, or DS990 Model 1 terminal and a base 770, 771, or DS990 Model 1 terminal operating under a 3780 emulator. The 3780 emulator is configured and operating at the base station, and requires no configuration input from the remote station.

1.3 ASYNCHRONOUS TESTING

Tests of asynchronous transmissions are performed with a remote 770, 771, or DS990 Model 1 terminal and a 704/1 terminal polling system (TPS) at the base station. The 742 emulator is configured and operating at the base station, and requires no configuration input from the remote station.



Synchronous Communication Verification

2.1 GENERAL

This section describes the procedure for verifying synchronous communications hardware. The test is performed using the 3780 emulation software and test files found on the cartridge or diskette labeled "Communications Verification Tests". Program loading procedures are the same as those described in the field maintenance test operation procedures manuals (see Preface). A list of 3780 error codes is provided in Appendix A.

2.2 CARD SLOT ALLOCATION

The test procedure requires the use of either a synchronous controller card (part number 0993076) and an external synchronous C modem, or a synchronous controller card and an internal 201 modem card (part number 0993088). If an external modem is used, care must be taken to ensure that the modem at the base station is fully compatible with that at the remote station. The synchronous controller card must be in card slot A10 (tenth slot from the front of the terminal) so that it is connected to the EIA port. The 201 modem card must be in card slot A11. Information on card slot and cable connections can be found in the *Maintenance Manual for Model 770 Intelligent Data Terminal* (see Preface).

2.3 BASE STATION PREPARATION

NOTE

This procedure is to be used only for setting up the central base station. Units under test are to be set up as a remote station as described in paragraph 2.4.

1. Load program CONTROL. When loaded, the screen appears as in figure 2-1. (The communication verification test cartridge must be in drive 1 for 770 terminals.)
2. Load the program COM278. When it is loaded, the screen appears as in figure 2-2.

2.4 REMOTE STATION PREPARATION

1. Load program CONTROL. When loaded, the screen appears as in figure 2-1. (The communication verification test cartridge should be in drive 2 for the 770 terminals.)
2. Load the program COM378. When it is loaded, the screen appears as in figure 2-2.

2780/3780 CONTROL TASK

MAKE SELECTION: _

1 : NEW READER	4 : COMM STATUS	7 : ABORT MESSAGE
2 : NEW PRINTER	5 : SEND MESSAGE	8 : STOP COMM
3 : NEW PUNCH	6 : MESSAGE STATUS	9 : QUIT

Figure 2-1. Program CONTROL Loaded

2780/3780 CONTROL TASK

MAKE SELECTION: _

1 : NEW READER	4 : COMM STATUS	7 : ABORT MESSAGE
2 : NEW PRINTER	5 : SEND MESSAGE	8 : STOP COMM
3 : NEW PUNCH	6 : MESSAGE STATUS	9 : QUIT

IDLE
COM378 READY

Figure 2-2. Program COM 378 (or COM 278) Loaded

2.5 SYNCHRONOUS TEST SEQUENCE

1. Dial the base terminal at the Austin, Texas site (1-512-250-6173). The base terminal answers the telephone and puts an answer-back tone on the line. At this time, hang up the telephone. Both terminals go into the COMM state, and the base terminal transmits its playback file to the remote terminal. This file appears on the screen of the remote terminal as it is transmitted.
2. When the base terminal has completed transmitting the file, the screen appears as in figure 2-3.
3. Enter a 4 in the MAKE SELECTION: field; then press the SKIP/TAB key to show communication link status. The screen appears as shown in figure 2-4. If there are differences between the screen and the example, see step 4. If there are no differences, proceed to step 5. (If the base station is a 771, then the number of blocks received will be 44 instead of 36.)
4. If the display generated in step 3 is different from that shown in figure 2-4, there could be possible errors in the communications link. As shown in figure 2-4, there should be 17 blocks transmitted on a successful communication link. The retry counts for both the base and remote terminals have been set unusually high to facilitate communication on the worst of lines. The higher the negative acknowledgment (NAK) counts generated in step 3, the poorer the communication channel quality. If more than ten NAKs are received or transmitted, terminate the connection as described in steps 4 through 8 and try again. The link is terminated so that a different path through the telephone network is obtained.

An inactivity time-out of two minutes is set for both the base and remote terminals.

If problems persist, call the TI Customer Support Line at 1-512-250-7407. This line is staffed from 7:30 A.M. to 6:30 P.M. (Central Time Zone) Monday through Friday.

5. Enter a 5 in the MAKE SELECTION: field and press SKIP/TAB key to send a message.
6. In the message field, enter the customer name, terminal serial number, your TI CR number, the terminal's location, the number of blocks transmitted, the number of blocks received, the number of NAKs transmitted, the number of NAKs received, and the number of time-outs. Terminate the message by pressing the SKIP/TAB key. The last five values are obtained from the status display generated in step 4. Figure 2-5 shows an example of this screen.
7. This message is then transmitted to the base terminal and printed out.
8. Enter a 6 in the MAKE SELECTION: field and press SKIP/TAB key to check on message status. *Do not* proceed to step 8 until the message is transmitted. Figure 2-6 shows the display that appears when the message has successfully been transmitted. If there are differences between the screen and the example, return to step 4.

2780/3780 CONTROL TASK

MAKE SELECTION: _

- | | | |
|-----------------|--------------------|-------------------|
| 1 : NEW READER | 4 : COMM STATUS | 7 : ABORT MESSAGE |
| 2 : NEW PRINTER | 5 : SEND MESSAGE | 8 : STOP COMM |
| 3 : NEW PUNCH | 6 : MESSAGE STATUS | 9 : QUIT |

```

yz{}~ !"#%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefg hij
z{}~ !"#%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefg hij
{}~ !"#%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefg hijk
{}~ !"#%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefg hijkl
~ !"#%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefg hijklm
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!"#%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefg hijklmnop
"#%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefg hijklmnopq
"#%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefg hijklmnopqr
%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ[\]^_`abcdefg hijklmnopqrs
    
```

IDLE
COM378 READY

Figure 2-3. Base Terminal File Transmission Complete

2780/3780 CONTROL TASK

MAKE SELECTION: _

- | | | |
|-----------------|--------------------|-------------------|
| 1 : NEW READER | 4 : COMM STATUS | 7 : ABORT MESSAGE |
| 2 : NEW PRINTER | 5 : SEND MESSAGE | 8 : STOP COMM |
| 3 : NEW PUNCH | 6 : MESSAGE STATUS | 9 : QUIT |

```

** COMM STATUS **
RDR RECNUM= 0          PTR DEVICE= E          PUN DEVICE= E
RDR STATUS= 1         PTR STATUS= 0         PUN STATUS= 0
RDR PTHNAM=          PTR PTHNAM=          PUN PTHNAM=
BLKS XMITD= 0         NAKS XMITD= 0         TIMEOUTS= 0
BLKS RECVD= 17        NAKS RECVD= 0         LINE STAT= 1
    
```

IDLE

Figure 2-4. Communication Link Status

2780/3780 CONTROL TASK

MAKE SELECTION: 5

1 : NEW READER	4 : COMM STATUS	7 : ABORT MESSAGE
2 : NEW PRINTER	5 : SEND MESSAGE	8 : STOP COMM
3 : NEW PUNCH	6 : MESSAGE STATUS	9 : QUIT

** SEND MESSAGE **

J C PENNEY,0123456789,123456,AUSTIN,0,36,1,0,0

IDLE

Figure 2-5. ID and Status Message

2780/3780 CONTROL TASK

MAKE SELECTION: _

1 : NEW READER	4 : COMM STATUS	7 : ABORT MESSAGE
2 : NEW PRINTER	5 : SEND MESSAGE	8 : STOP COMM
3 : NEW PUNCH	6 : MESSAGE STATUS	9 : QUIT

** MESSAGE STATUS **

STATUS= -1
ERROR CODE= 0000

IDLE

Figure 2-6. Successful Message Transmission

9. Enter an 8 in the MAKE SELECTION: field and press SKIP/TAB key to terminate communications. In response to the WHEN = prompt, enter a 5 for immediate termination. Figure 2-7 shows the display after this step is completed.

This completes the synchronous communications verification test.

2780/3780 CONTROL TASK

MAKE SELECTION: _

1 : NEW READER	4 : COMM STATUS	7 : ABORT MESSAGE
2 : NEW PRINTER	5 : SEND MESSAGE	8 : STOP COMM
3 : NEW PUNCH	6 : MESSAGE STATUS	9 : QUIT

** STOP COMMUNICATIONS **

WHEN= 5

1 : AFTER NEXT ETX SENT
2 : AFTER NEXT EOT SENT
3 : AFTER NEXT ETX RCVD
4 : AFTER NEXT EOT RCVD
5 : NOW !!

STATUS= 0

OPERATOR DISC

05C6

COMM STOPPED

Figure 2-7. Terminate Communications Message

Asynchronous Communication Verification

3.1 GENERAL

This section describes the procedure for verifying asynchronous communications hardware. The test is performed using the 742 emulation software and test files found on the cartridge or diskette labeled "Communication Verification Tests". Program loading procedures are the same as those described in the field maintenance test operation procedures manuals (see Preface). A list of 742 error codes is provided in Appendix B.

3.2 CARD SLOT ALLOCATION

The test procedure requires the use of either an asynchronous controller card (part number 0993059) and an external 202C modem, or an asynchronous controller card and an internal 202 modem card (part number 0993086). The asynchronous controller card must be in card slot A10 (tenth slot from the front of the terminal) so that it is connected to the EIA port. The 202 modem card must be in card slot A11. Information on card slot and cable connections can be found in the *Maintenance Manual for Model 770 Intelligent Data Terminal* (see Preface).

3.3 REMOTE STATION PREPARATION

1. Load the program COMVER into the remote terminal.
2. Prompts are then displayed requesting the customer's name, equipment serial number, CE number and the terminal location. When this information has been filled in, respond to the OK? prompt with a Y and press the SKIP/TAB.

3.4 ASYNCHRONOUS TEST SEQUENCE

1. The 742 communications emulator is auto-loaded and the terminal prepared for communication. When the terminal is ready, the display appears as in figure 3-1. (For the purpose of this example, dummy information was entered into the ID information fields.)
2. Now call the TPS at the Austin, Texas site (1-512-258-9966).
3. The TPS answers the call and acknowledges the connection with an answer-back tone. At this point hang up the telephone.
4. The 770/771 COMM LED indicator lights when connection is made. A message is then displayed on the VDT giving the date and time of connection.

5. At this point, data is transmitted to the TI test facility. Upon successful completion of the test, a message is displayed on the VDT with the date, time, and number of characters transmitted. Examples of the CONNECTED and SUCCESSFUL message formats are shown in figure 3-2. (The 771 version of the emulator displays on the VDT the last line of information sent to the printer, and transmits 11317 characters).
6. A NORMAL DISC message and code 'F8DD' also are briefly displayed upon the completion of the test.
7. If an error is encountered during the test, repeat steps 4 through 8. If three attempts are made without success, then call the TI Customer Support Line at 1-512-250-7407 to resolve the problem. This line is staffed from 7:30 A.M. to 6:30 P.M. (Central Time Zone) Monday through Friday.

```
IDENTIFICATION INFO
CUSTOMER   J C PENNEY
SERIAL NO  1234567890
CE'S NO    123456
LOCATION     AUSTIN__

                OK? Y

PLAYBACK: OPEN   RECORD: REDY   HARDCOPY: OFF   V2.0
                COMM RDY
                COMTST READY
```

Figure 3-1. Terminal Ready

```
09/06/78 04:31:30  CONNECTED
09/06/78 04:33:46  SUCCESSFUL  # CHARS = 0000011344
```

Figure 3-2. Successful Connection Message Format

Appendix A

3780 Emulator Error and Status Messages

A.1 GENERAL

Messages will be displayed on the screen if this option was selected during the configuration utility. Two types of messages are displayed: error messages and status messages.

A.2 ERROR MESSAGES

Error messages are displayed on row 23, columns 1-40. Each message consists of a brief explanation and a four digit error code. The first two digits indicate the source of the error while the second two digits indicate the specific error encountered. The possible values for digits 1 and 2 are:

Code	Source
00	Hard copy device on auxiliary (AUX) port
01	Hard copy device on primary (EIA) port
02	Communication on AUX port
03	Thermal printer
05	Communication on EIA port
C3	Printer file
C4	Punch file
C5	Reader file
DC	3780 program

The possible values for digits 3 and 4 are listed in tables A-1 or A-2. Some errors are designated as FATAL. The 3780 emulator will not attempt to restart after encountering a fatal error even if auto-restart was selected during configuration. Error messages are displayed in order of their occurrence; i.e., there is no priority system.

A.3 STATUS MESSAGES

Status messages are displayed on row 23, columns 41-80. The messages and their meanings are as follows.

READER ACTIVE — Data is being transmitted from the reader file to the communication line.

IDLE — No devices active. Waiting for new reader file to send or for the remove device to transmit data.

PRINTER ACTIVE — Data is being received from the communication line for output to the printer device or file.

PUNCH ACTIVE — Data is being received from the communication line for output to the punch device or file.

COMM SETUP — The reader, printer, and/or punch devices and files are being opened or closed as part of the startup or shutdown logic. If the automatic restart option was selected during the configuration utility, an eight second time delay occurs after the devices and files are closed and before they are reopened.

COMM RDY — The reader, printer, and/or punch devices and files are ready. The 3780 emulator is waiting for a connection (opening of communications) to be established.

SESSION COMPLETE — Session has completed and the automatic restart option was not selected during the configuration utility. The program is in an inactive status.

COMM STOPPED — Session has completed because of a fatal error. Automatic restart will not be done. The program is in an inactive status.

Table A-1. Error Messages for Model 770

Message Displayed	Error Code	Fatal	Description
ABNORMAL DISC	D2	No	Unexpected EOT received. Indicates that remote system has not accepted data, either because of an error on the receiving device or because the device selected was unavailable.
	D3	No	ENQ response count exceeded
	D8	No	Useful activity time-out expired
	D9	No	Bid retry count exceeded
	DA	No	NAK count exceeded
NORMAL DISC	DD	No	Disconnect sequence received from line
OPERATOR DISC	C6	Yes	Operator initiated disconnect received via OFF378 utility or a TPL control program
CONNECT ERROR	C1	No	Communications line failed to connect (open) before the establish connection time-out expired
CTG ERROR	57	No	Read/Write retry error on cartridge
	77	No	Short record on cartridge
	87	No	Record position error on cartridge
	97	No	Write error on cartridge

Table A-1. Error Messages for Model 770 (Continued)

Message Displayed	Error Code	Fatal	Description
WRITE PROTECT ENABLED	67	No	Attempt to write on protected cartridge
CTG NOT IN PLACE	17	No	Cartridge not inserted fully in drive
	27	No	Cartridge removed during operation
FILE OVRFLO	73	No	Attempt to write past end of media (EOM) of specified printer or punch file
DO DELTE	FA	Yes	3780 emulator was stopped using command mode and then restarted. Emulator has detected an abnormal termination and should be deleted from memory.
NO ETX XMITTED	CB	No	ETB and continue subfile separator was followed by a device select sequence. No ETX was sent for preceding data. Line is dropped and reader file will continue with device select after rebidding for line.
ERROR	01	No	Undefined file or device; file not opened before read or write
	03	No	Undefined file or device; file not opened before read or write
	13	No	Device in use on open
	16	No	Cartridge timing error on open, read, write, or close
	23	No	Invalid device or cartridge on open
	37	No	End of tape detected
	43	No	Maximum number of open devices exceeded
	53	No	File undefined on open
	63	No	Reader size exceeds 256 characters per record
	83	No	Attempt to access past EOF of reader file
	BF	No	Configuration utility error. Error has occurred during the building of the output program; usually indicates a bad copy of OB2780 or OB3780 is being used.

Table A-1. Error Messages for Model 770 (Continued)

Message Displayed	Error Code	Fatal	Description
	C1	No	Operation time-out on open or write to communications line or to external printer. Usually occurs when Establish Connection time-out expires.
	C2	No	Duplicate open
	C3	No	Line disconnect on external printer
	C5	No	A bad set of parameters has been entered during the configuration utility (internal error)
	D4	Yes	Bid buffer DSR error (internal error)
	D5	Yes	Reply buffer DSR error (internal error)
	D6	Yes	Response buffer DSR error (internal error)
	DB	No	Reader data check. Error indicates that illegal data has been detected in the reader file while transmitting. These characters are illegal: SOH, STX, ETB, ETX, NAK, EOT, SYN, ENQ, ITB, and DLE.
	DE	No	Output device error has been detected. An EOT response will be transmitted to abort the receive operation.
	F1	No	Configuration utility error. The output file specified has a record length other than 256 characters per record.
	F6	Yes	Device no longer available
	F7	No	Program terminated while sending or receiving data
	F9	No	Synchronous communications board not detected for I/O port selected at configuration time.
	XX	No	For any error not appearing in this table, the user should refer to the <i>TPL 700 Programming Manual for Model 770 Intelligent Data Terminal</i> for a complete list of run-time errors.

Table A-2. Error Messages for Model 771

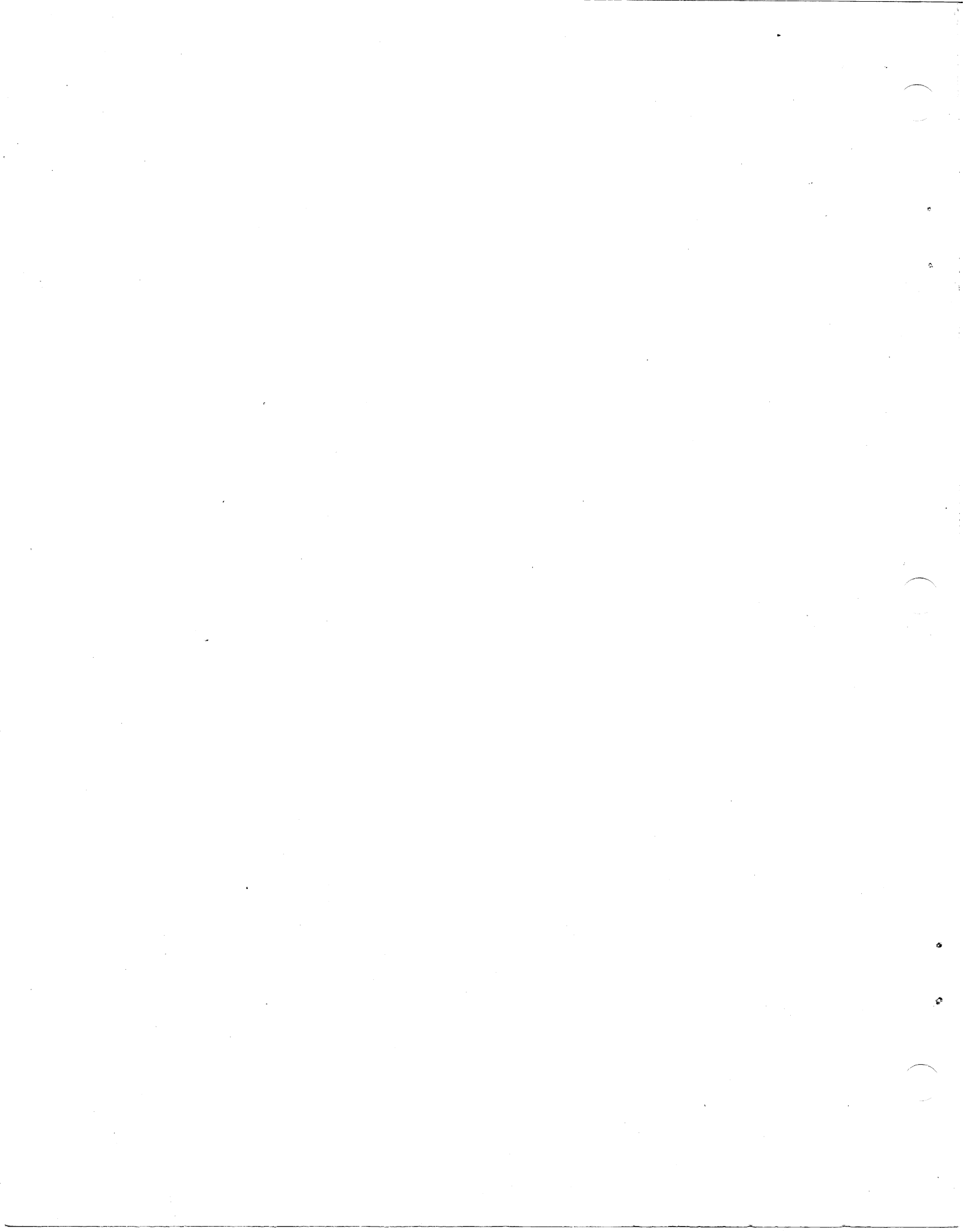
Message Displayed	Error Code	Fatal	Description
ABNORMAL DISC	D2	No	Unexpected EOT received. This indicates that remote system has not accepted data, either because of an error on the receiving device or because device selected was unavailable.
	D3	No	ENQ response count exceeded
	D8	No	Useful activity time-out expired
	D9	No	Bid retry count exceeded
	DA	No	NAK count exceeded
	DC	No	Line disconnect received
NORMAL DISC	DD	No	Disconnect sequence received from line
OPERATOR DISC	C6	Yes	Operator initiated disconnect via terminal command mode or a TPL control program
CONNECT ERROR	C1	No	Communications line failed to connect (open) before the establish connection time-out expired
DISK ERROR	15	No	Data transfer error
	1D	No	Disk address error
	25	No	Disk is full
	30	No	Record nonexistent
	3F	No	Disk catalog is full
WRITE PROTECT ENABLED	1A	No	Attempt to write on protected volume
	2D	No	Attempt to write on protected file
DISK NOT RDY	19	No	Disk not in place; drive door open
NO ETX XMITTED	CB	No	ETB and continue subfile separator was followed by a device select sequence. No ETX was sent for preceding data. Line is dropped and reader file will continue with device select after rebidding for line.
ERROR	01	No	Undefined file or device; file not opened before read or write.

Table A-2. Error Messages for Model 771 (Continued)

Message Displayed	Error Code	Fatal	Description
	03	No	Undefined file or device; file not opened before read or write.
	11	No	Device error
	21	No	Disk volume not found
	22	No	Invalid pathname
	27	No	Undefined file or device
	29	No	Maximum number of files or devices open
	2C	No	File close error
	63	No	Reader file record size larger than 256
	BF	No	Configuration utility error. An error has occurred during the building of the output program. This usually indicates a bad copy of OB2780 or OB3780 is being used.
	C1	No	Operation time-out on open or write to communications line or to external printer. Usually occurs when Establish Connection time-out expires.
	C2	No	Duplicate open
	C3	No	Line disconnect on printer
	C5	No	A bad set of parameters has been entered during the configuration utility (internal error)
	D4	Yes	Bid buffer DSR error (internal error)
	D5	Yes	Reply buffer DSR error (internal error)
	D6	Yes	Response buffer DSR error (internal error)
	DB	No	Reader data check. This error indicates that illegal data has been detected in the reader file while transmitting. These characters are illegal: SOH, STX, ETB, ETX, NAK, EOT, SYN, ENQ, ITB, and DLE.
	DE	No	Output device error detected. An EOT response will be transmitted to abort the receive operation.

Table A-2. Error Messages for Model 771 (Continued)

Message Displayed	Error Code	Fatal	Description
	F1	No	Configuration utility error. The output file specified has a record length other than 256 characters per record.
	F6	Yes	Device no longer available
	F9	Yes	Synchronous communications board not detected for I/O port selected at configuration time
	FB	Yes	The error reported to a TPL control task attempting to execute a control subroutine when the 3780 emulator is either not loaded or not active, or the program is not called COM378. It is fatal to the control task unless an ERRORS label is included in the main program.
	XX	No	For any error not appearing in this table, the user should refer to the 771 programmer's guide for a complete list of run-time errors.



Appendix B

742 Emulator Error and Status Messages

B.1 GENERAL

Messages will be displayed on the screen if this option was selected during configuration. Two types of messages are displayed: error messages and status messages.

B.2 ERROR MESSAGES

Error messages are displayed on row 23, columns 1-40. Each message consists of a brief explanation and a four digit error code. The first two digits indicate the source of the error while the second two digits indicate the specific error encountered. The possible values for the first two digits are:

Code	Source
00	Hard copy device on the AUX port
01	Hard copy device on the EIA port
02	Communication on the AUX port
03	Thermal printer
05	Communication on the EIA port
81	Data file 1
82	Data file 2
83	Data file 3
84	Data file 4
F8	742 communications program

The possible values for the second two digits are listed in tables B-1 and B-2. Some errors are designated as FATAL. The 742 program will not attempt to restart after encountering a fatal error even if auto-restart was selected during configuration. Error messages are displayed in order of their occurrence; i.e., there is no priority system.

B.3 STATUS MESSAGES

Status messages are displayed on row 23, columns 41-80. The messages and their meanings are described by the following:

COMM SETUP — The cartridge files are being opened or closed as part of the startup or shut-down logic. If the automatic restart option was selected during configuration, an eight second delay occurs after the devices and files are closed and before they are reopened.

COMM RDY — Open operations have been attempted on all specified cartridge files. The 742 program is waiting for a connection (opening of communications) to be established.

CALL COMP — The communications session has completed and either the automatic restart option was not selected during configuration, or the session terminated because of an operator initiated disconnect. The program is in an inactive status and may be deleted.

COMM STOPPED — The communications session has completed because of a fatal error. Automatic restart will not be performed. The program is in an inactive status.

Table B-1. Error Messages for Model 770

Message Displayed	Error Code	Fatal	Description
ABNORMAL DISC	30	No	Line disconnect received
	32	No	Useful activity time-out
NORMAL DISC	DD	No	Disconnect message received from line
COMM STOPPED	33	Yes	Operator initiated disconnect received via OFF742 utility
CTG ERR	57	No	Read/Write retry error on cartridge
	77	No	Short record on cartridge
	87	No	Record position error on cartridge
	97	No	Write error on cartridge
HARDCOPY OFFLINE	C1	No	Hard copy device offline
	C3	No	Hard copy device offline
WRITE PROTECT ENABLED	67	No	Attempt to write on protected cartridge
NO CTG	17	No	Cartridge ajar, or not inserted in drive
	27	No	Cartridge removed during operation
FILE OVRFLO	73	No	Attempt to write past end of media (EOM) of last record file
DO DELETE	F1	Yes	742 emulator was stopped using command mode and then restarted. Emulator has detected an abnormal termination and should be deleted from memory.
ERROR	01	No	Undefined file or device; file not opened before read or write
	02	No	Illegal I/O operation
	03	No	Undefined file or device; file not opened before read or write

Table B-1. Error Messages for Model 770 (Continued)

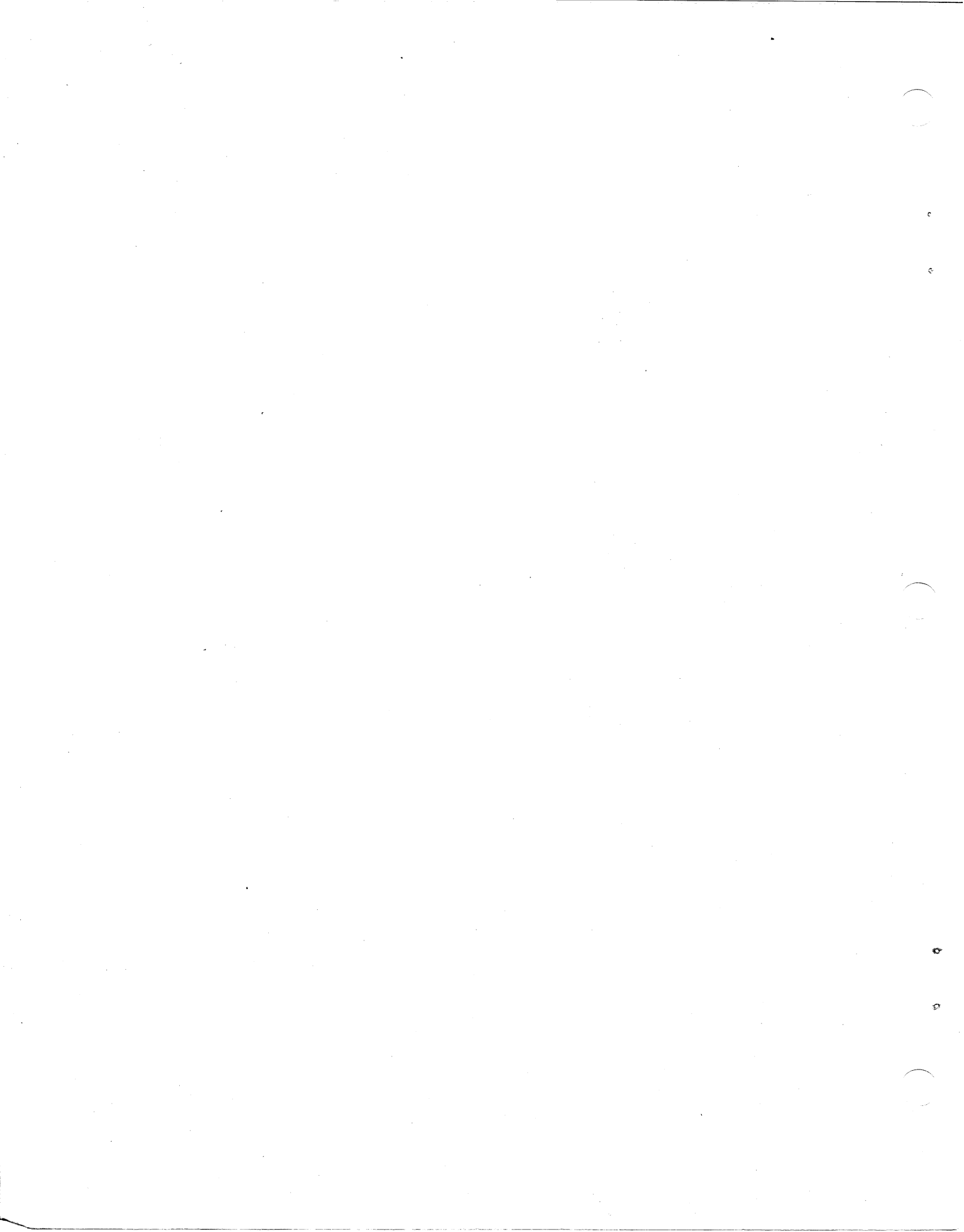
Message Displayed	Error Code	Fatal	Description
	12	No	Illegal cartridge command
	13	No	Device in use on open
	16	No	Cartridge timing error on open, read, write, or close
	23	No	Invalid device or cartridge on open
	31	No	Queue error (internal)
	37	No	End of tape detected
	43	No	Maximum number of open devices exceeded
	53	No	File undefined on open
	63	No	No memory available for file open
	83	No	Attempt to access past EOF or reader file
	C2	No	Duplicate open
	C3	No	Line disconnect on external printer
	C6	Yes	Operator initiated disconnect
	F1	Yes	No communications board installed
	F2	No	Bad set of parameters has been entered during the configuration utility (internal error)
	F4	No	Illegal control character received
	F5	No	Parity error on received character
	F7	No	Queue error (internal)
	XX	No	For any error not appearing in this table, the user should refer to the <i>TPL 700 Programming Manual for Model 770 Intelligent Data Terminal</i> for a complete list of runtime errors.

Table B-2. Error Messages for Model 771

Message Displayed	Error Code	Fatal	Description
ABNORMAL DISC	32	No	Useful activity time-out expired
	30	No	Line disconnect received
NORMAL DISC	DD	No	Disconnect message received from line
COMM STOPPED	33	Yes	Operator initiated disconnect via terminal command mode
DISK ERROR	15	No	Data transfer error
	ID	No	Disk address error
	25	No	Disk is full
	30	No	Record nonexistent
	3F	No	Disk catalog is full
WRITE PROTECT ENABLED	1A	No	Attempt to write on protected volume
	2D	No	Attempt to write on protected file
DISK NOT REDY	19	No	Disk not in place; drive door open
HARDCOPY OFFLINE	C1	No	Hard copy device off-line
	C3	No	Hard copy device off-line
ERROR	01	No	File or device not open
	03	No	File not open
	11	No	Device error
	21	No	Disk volume not found
	22	No	Invalid pathname
	27	No	Undefined file or device
	29	No	Maximum number of files or devices open
	2C	No	File close error
	C2	No	Duplicate open
C3	No	Line disconnect on printer	

Table B-2. Error Messages for Model 771 (Continued)

Message Displayed	Error Code	Fatal	Description
	F1	Yes	No communications board installed
	F2	No	Bad set of parameters has been entered during the configuration utility
	F4	No	Illegal control character received
	F5	No	Parity error on received character
	F6	No	Queue error (internal)
	XX	No	For any error not appearing in this table, the user should refer to the 771/774 programmer's guide for a complete list of runtime errors.



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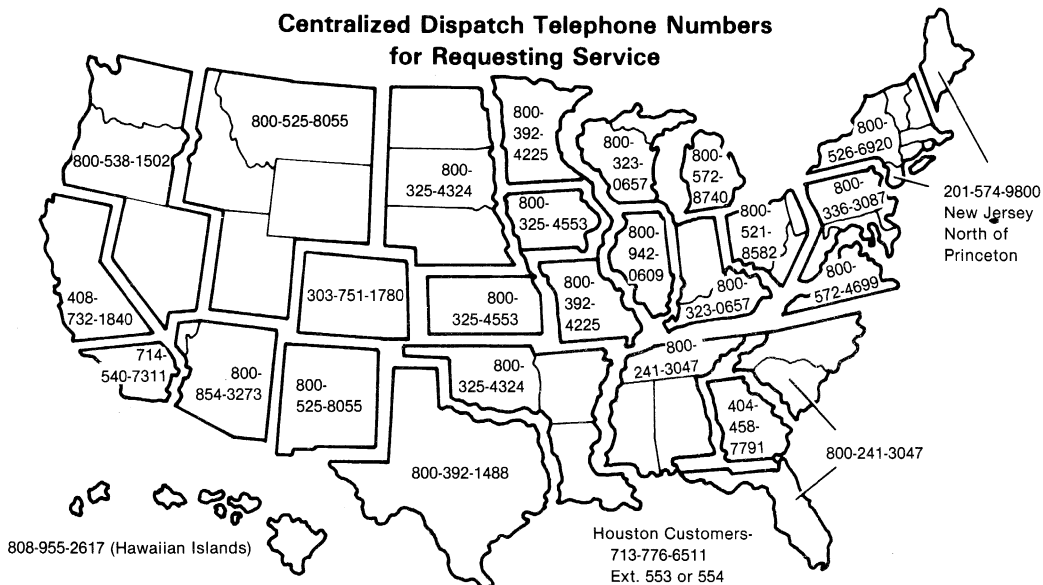
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