INTERCOMM

SYSTEM CONTROL COMMANDS

ISOGON CORPORATION

330 Seventh Avenue, New York, New York 10001

LICENSE: INTERCOMM TELEPROCESSING MONITOR

System Control Commands

Publishing History

Publication	Date	Remarks
First Edition	September 1979	General updates and corrections, corresponding to Intercomm Release 8.0.
Second Edition	October 1982	Updates and additions corresponding to Intercomm Release 9.0.

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PREFACE

Intercomm is a state-of-the-art teleprocessing monitor system executing on the IBM System/370 family of computers and operating under the control of IBM Operating Systems (MFT, MVT, VS1, MVS, XA). Intercomm monitors the transmission of messages to and from terminals, concurrent message processing, centralized access to I/O files, and the routine utility operations of editing input messages and formatting output messages, as required.

This manual documents the special transaction requests (verbs) known as system control commands used to control the facilities of Intercomm.

INTERCOMM PUBLICATIONS

GENERAL INFORMATION MANUALS

- Concepts and Facilities
- Planning Guide

APPLICATION PROGRAMMERS MANUALS

- Assembler Language Programmers Guide
- COBOL Programmers Guide
- PL/1 Programmers Guide

SYSTEM PROGRAMMERS MANUALS

- Basic System Macros
- BTAM Terminal Support Guide
- Installation Guide
- Messages and Codes
- Operating Reference Manual
- System Control Commands

CUSTOMER INFORMATION MANUALS

- Customer Education Course Catalog
- Technical Information Bulletins
- User Contributed Program Descriptions

FEATURE IMPLEMENTATION MANUALS

- Autogen Facility
- ASMF Users Guide
- DBMS Users Guide
- Data Entry Installation Guide
- Data Entry Terminal Operators Guide
- Dynamic Data Queuing Facility
- Dynamic File Allocation
- Extended Security System
- File Recovery Users Guide
- Generalized Front End Facility
- Message Mapping Utilities
- Model System Generator
- Multiregion Support Facility
- Page Facility
- Store/Fetch Facility
- SNA Terminal Support Guide
- TCAM Support Users Guide
- Utilities Users Guide

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Chapter 1

INTRODUCTION

System control commands are a special class of terminal input transactions that cause Intercomm to take action affecting the system in the following areas:

- File Control
- Monitor Control
- Network Control
- Queue Control
- Statistics/Status Display
- Security Control
- Subsystem Control
- Utility/Facility Control
- Multiregion Support Facility Control

Control commands may be acted upon by the Intercomm BTAM, GFE or VTAM Front End, or by an Intercomm supplied message processing subsystem, such as the General Purpose Subsystem, SENDBACK or MMUCOMM.

Use of a system control command may be restricted to the control terminal via the BTVERB macro for that command. If SECUR=YES is specified, the verb may be entered only from the control terminal. Or use of system control commands may be restricted to certain terminals via implementation of Intercomm's Basic Security or Extended Security System.

System control commands may be generated via application subsystems and queued for processing by the appropriate system routines. The subsystem must create a standard message header and text; the text must be formatted as if it had been input from a terminal and must include the following:

- Verb
- Separator character
- Parameters (if any)
- End of message character or characters (X'26', or X'37', etc.)

Consideration should be given to the following message header fields:

- MSGHTID

  Care should be taken to ensure that the message header destination terminal specification meets security requirements.

- MSGHRSCH/MSGHRSC

  Care should be taken to ensure that the receiving subsystem code corresponds to the Subsystem Control Table entry for the command processing routine. Front End control commands (receiving subsystem code is binary zeros) should be passed directly to the Front End via FESEND.

- MSGHVMI

  Care should be taken to ensure that the message header VMI specification meets requirements of the processing program. If the message is directed to a subsystem (other than OUTPUT), it must indicate editing requirements; X'00' if the message is to be edited, X'FF' if not (see Appendix A). If the message is directed to OUTPUT, it must indicate formatting requirements. Front End control commands are sent to the Front End as preformatted output messages (VMI=X'57').

If a Front End control command is sent directly to the Front End via a call to FESEND the processing of the command can be synchronous. That is, on return to the calling subsystem, the command may be completely processed, in which case the FESEND return code indicates success of processing. (Refer to the Assembler Language Programmers Guide for FESEND return code values and their meanings.) Front End command requests (FLSH, RLSE, etc.) issued by a subsystem do not result in a response message to the terminal defined via MSGHTID in the message header.

Chapter 2

TYPES OF SYSTEM CONTROL COMMANDS

The system control commands may be grouped into ten categories, described below.

2.1 FILE CONTROL COMMAND

The system control command FILE is used for all file control functions.

2.2 MONITOR CONTROL COMMANDS

The control commands in this category affect the overall functioning of the Intercomm system, such as closing down the system or requesting a snap or abend. Specifically, these include:

- ABND--request an abend
- SNAP--request a snap
- IMCD--request an immediate closedown
- NRCD--request a normal closedown
- LOAD--specify a dynamic load request
- PGFX--fix or unfix VS pages
- STOP--deactivate system or user function
- STRT--activate system or user function

2.3 NETWORK CONTROL COMMANDS

The commands in this category affect the operation of the terminal network under the various Intercomm-supported Front End interfaces. These transactions include control of individual BTAM or GFE terminals or VTAM logical units, as well as all terminals, lines, or line groups. Specifically, these are:

- COPY--copy a message from one 3270 buffer to another

- CPUD--send list of CPU IDs to IBM 3735 terminals
- FDPS--send FDPs to IBM 3735 terminals
- LOCK--lock a terminal to a verb
- LTRC--stop or start I/O trace on a BTAM line or VTAM logical unit
- P129--place BTAM 129/3270 in Punch Mode
- R129--place BTAM 129/3270 in Read Mode
- RSLU--resynchronize sequence numbers for a VTAM logical unit
- RVRS--request transmission of a reverse interrupt to a remote bisynchronous CPU
- SECF--deactivate control terminal verb assignment
- SECN--activate control terminal verb assignment
- SNBK--echo a message to a terminal
- SPLG--stop a BTAM or GFE line group
- SPLN--stop a BTAM or GFE line
- SPLU--stop a VTAM logical unit
- SPPL--stop BTAM or GFE terminal input
- STLG--start BTAM or GFE line group
- STLN--start a BTAM or GFE line
- STLU--start a VTAM logical unit
- STPL--start BTAM or GFE terminal input
- SWCH--send a message to a specified terminal
- TDWN--stop a BTAM or GFE terminal
- TPUP--start a BTAM or GFE terminal
- UNLK--unlock a terminal from a verb
- VTCN--change the status of VTAM Front End

2.4 QUEUE CONTROL COMMANDS

System control commands in this category control the flow of messages to and from the terminal. These include:

- FLSH--flush messages from a Front End output queue
- RLSE--request messages from a Front End output queue
- QHLD--hold messages on a dedicated output queue
- QRLS--release messages from a dedicated output queue

2.5 STATISTICS AND STATUS COMMANDS

System control commands in this category are used to obtain a variety of system statistics and status displays. These include:

- FHST--display File Handler statistics
- STAT--display Front End Network (BTAM/GFE/TCAM) status
- TALY--request report of system statistics
- VTST--display VTAM Front End Network status

2.6 SECURITY CONTROL COMMANDS

Intercomm provides security control dynamically via system control commands in cases where the installation has the Basic Security feature installed and coded, but chooses to start operations with the Security enabling bit set off. Security can be dynamically activated or deactivated for system or operator sign-on and transactions, or for any specified terminal. Commands in this category include:

- ASGN--activate system sign-on security
- AVRB--activate system transaction security
- DSGN--deactivate system sign-on security
- DVRB--deactivate system transaction security
- SIGN--sign-on terminal operator security
- SWOF--deactivate terminal transaction security
- SWON--activate terminal transaction security

For users with the Extended Security System installed, security for operator sign-on/off (with a password), terminals, transactions, subsystems, files, regions and user functions are dynamically controlled and implemented via one command:

- SECU--sign-on/off and dynamic security control

2.7 SUBSYSTEM CONTROL COMMANDS

Transactions in this category affect the processing of subsystems. These include:

- BEGN--start subsystem message processing
- DELY--stop subsystem message processing
- MNCL--change a subsystem's maximum number of messages that can be processed concurrently -

2.8 UTILITY/FACILITY CONTROL COMMANDS

Transactions in this category are used to control utility functions. These include:

- agen--(user-designated command) sign on for Autogen use
- CHNG--update a record
- COPT--couple TOTAL
- DATA--sign on to Data Entry Facility
- DSPL--display a record
- fgen--(user-designated command) to generate an output format display
- MMUC--control MMU facilities
- PAGE--request a page from a Page Facility response
- SAVE--save the pages of a Page Facility response
- STRB--control the STROBE Intercomm performance tool
- UNPT--uncouple TOTAL

2.9 MULTIREGION CONTROL COMMANDS

Three commands are associated with the Multiregion Support Facility. These are:

- comm--(user-designated command) control Multiregion Support Facility
- LOKR--lock terminal(s) to a region
- ULKR--unlock terminal(s) from a region

Chapter 3

SYSTEM CONTROL COMMAND SYNTAX

SYSTEM CONTROL COMMAND FORMAT CONVENTIONS

Each command in this chapter is described individually, giving detailed attention to the following areas:

- Entry Formats

  How to enter the verb from the terminal or from an application subsystem, with parameter descriptions.

  The conventions used for system commands in the entry formats are as follows:

  $ indicates system separator character.

  @ indicates end of transmission sequence.

  [ ] brackets indicate optional parameters.

  { } braces indicate alternatives, listed vertically.

  The default, if any, is underlined.

- Display Formats

  Where applicable, the format in which the responses to the command are displayed, as with statistics display commands.

The commands are given alphabetically. Each begins on a new page. User-designated commands are alphabetized by their generic name, such as agen. Installation implementation for the commands is described in Chapter 4.

ABND--Request an Abend

The General Purpose Subsystem control command ABND is used to request an Intercomm system abend. The ABND command is edited before processing by the command subroutine. Syntax errors not resulting in rejection by the Edit Utility cause the default option to be selected.

Entry Format

```
ABND[$[nnn][$[DUMP  ]]]@
    [ [100][ [NODUMP]]]
```

nnn
: specifies the abend code number. This value is added to 3000 to produce the actual abend completion code. May be 0 to 127 under MFT or VS1; 0 to 255 under MVT or VS2. The default is 100.

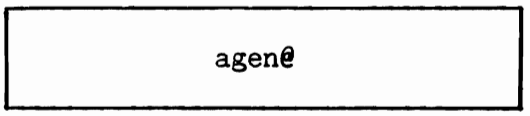
DUMP
: indicates that a dump is to be produced.

NODUMP
: indicates that no dump is to be produced. (Default.)

agen--User-Defined Autogen Facility Sign-on Request

The user-defined Autogen Sign-on Request initiates use of the Autogen Facility, which is documented in the Autogen Facility Users Guide.

Entry Format



agen
is the user-defined verb associated with the Autogen Facility, such as AGEN.

ASGN--Activate System Sign-On Security

The ASGN command is used under Basic Security to activate operator sign-on security on a systemwide basis. If the system sign-on security feature was suppressed via SONOFF=NO on the SPALIST macro, processing of the ASGN command dynamically changes the parameter to SONOFF=YES to activate sign-on security. ASGN is in effect until deactivated via DSGN or until Intercomm closedown.

Entry Format

```
ASGN@
```

AVRB--Activate System Transaction Security

The AVRB command is used under Basic Security to dynamically activate transaction security on a systemwide basis. If transaction security is in effect, verbs are restricted to certain terminals. Each verb entered is checked. If the transaction security feature was suppressed via TRANSEC=NO on the SPALIST macro, processing of AVRB dynamically activates transaction security by changing the parameter to TRANSEC=YES. AVRB is in effect until deactivated via DVRB or until Intercomm closedown.

Entry Format

```
AVRB@
```

BEGN--Start Subsystem Message Processing

The BEGN command is used in conjunction with the Fine Tuner Facility to start message processing by a subsystem. This command should be issued only from the control terminal. It causes (allows) the start/restart of message processing by the specified subsystem. It is issued to activate processing by a subsystem that was previously deactivated via the DELY command, or because a dynamically loaded subsystem could not be loaded (see also LOAD command).

Entry Format

```
BEGN$ssssss@
```

sssss
represents the subsystem name as listed in the Fine Tuner Table.

CHNG--Update a Record

The CHNG command is used with the Change/Display Utility to update a record. It is documented in the Utilities Users Guide.

Entry Format

```
CHNG@
```

comm--Control Multiregion Facility

The user-defined command comm is issued to control various features of the Multiregion Support Facility. See Multiregion Support Facility.

Entry Format

```
comm$[[DOWN  ]$[ALL                        ]       ]@
     [[QDOWN ] [rrrrrrrr($...$rrrrrrrr)]       ]
     [                                         ]
     [[FLUSH ]$[ALL                           ]]
     [[START ] [rrrrrrrr($...$rrrrrrrr)       ]]
     [[STOP  ] [SS$(P=pppppppp$)[ALL         ]]]
     [[STATUS] [                 [h,c($...$h,c)]]]
     [STATUS$[FE$[ALL          -        ]]     ]
     [          [rrrrrrrr(...$rrrrrrrr)]     ]
     [       [RS$rrrrrrrr(...$rrrrrrrr)  ]     ]
     [SEND$rrrrrrrr$message-text                ]
```

comm
: represents the user-defined verb for the Multiregion Control Subsystem, such as COMM.

ALL
: indicates the command is to apply to all satellite regions, or, if preceded by SS$, to all satellite region subsystems.

DOWN
: initiates a normal closedown of the specified region(s).

FE
: displays the status (UP/DOWN) for all terminals locked to all or the specified region(s); can be used only if RAP processing is implemented.

FLUSH
: initiates a flush of subsystem hold and region queues for the specified region(s), or, if followed by $SS, of the subsystem queues for the specified subsystem(s).

QDOWN
: initiates an immediate closedown of the specified region(s).

RS
: displays the status of all subsytems defined for the specified region(s); ALL may not be requested.

SEND
broadcasts a message (message-text) to all terminals locked to the specified region; can be used only if RAP processing is implemented.

SS
indicates that the command applies to satellite region subsystems.

START
allows input to the specified region(s) or subsystem(s).

STATUS
displays the status of the specified region(s) or subsystem(s).

STOP
stops input to the specified region(s) or subsystem(s).

h,c
represents the high-order and low-order bytes of the subsystem code, in alphameric or hexadecimal. Up to ten subsystems may be specified in one command. Applies to satellite region subsystems only, as defined in the Region Descriptor Table. For control region subsystems, see Subsystem Control Commands listed in Chapter 2.

message-text
is a text string of from 1 to 256 characters to be broadcast by the SEND command.

rrrrrrrr
represents a satellite region identifier. Up to ten may be specified in one command.

P=pppppppp
defines a region password (pppppppp), if RAP is used, to indicate to which region a subsystem-oriented command is to apply. If omitted, the command applies to the specified (ALL) subsystems in all satellite regions.

COPT--Couple TOTAL

The COPT command is used to establish communication between Intercomm and the TOTAL DBMS. See the Data Base Management System Users Guide.

Entry Format

```
COPT($ALL)($VOL=xxxxx)($DB=yyyyyy)@
```

ALL
: indicates that all data base update subsystems are to be made scheduleable. If omitted, no data base update subsystems are made scheduleable.

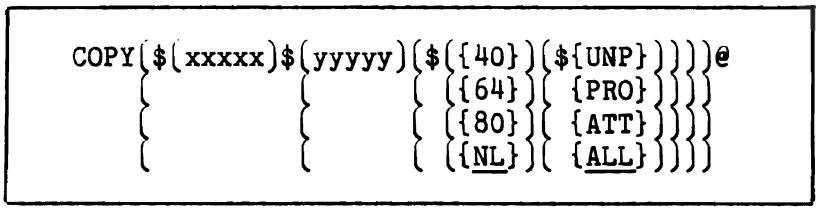
xxxxx
: indicates a five-digit QUIET count. Code a five-digit number; pad on left with zeros. The default is 200.

yyyyyy
: overrides the default data base descriptor provided in SETGLOBE. Code six characters; pad on right with blanks.

COPY--Copy Contents of One 3270 Buffer to Another

The COPY command is used to copy the contents of one 3270 buffer to another 3270 buffer. The following description applies to BTAM terminals only. COPY is not supported for TCAM terminals. For VTAM 3270s, see the SNA Terminal Support Guide.

Entry Format



xxxxx
: represents the from-terminal-ID of the 3270 buffer that is to be copied. The default is the terminal entering the message.

yyyyy
: represents the to-terminal-ID of the 3270 buffer to which the buffer is to be copied. The default is the terminal entering the message.

NL,40,64,80
: is used only if the receiving buffer is a printer. It defines the method of performing new line and end-of-copy functions. NL, the default, honors NL and EM codes. 40, 64 or 80 specifies that the new line function is performed every 40, 64, or 80 bytes, respectively, and that the copy ends when the whole buffer is copied.

ALL,UNP,PRO,ATT
: (applicable to remote clusters only) specifies the type of data to be copied where the from-terminal is on the same control unit as the to-terminal.

- ALL, the default, copies the entire buffer contents.
- UNP copies attribute characters and unprotected alphameric characters only.
- PRO copies attribute characters and protected alphameric characters only.
- ATT copies only attribute characters.

The COPY verb is positional. Thus, the following applies:

- To copy certain fields/attributes from self to self (for remote clusters only), enter

```
COPY$$$${UNP}@
       {PRO}
       {ATT}
```

- To copy from xxxxx to self, enter COPY$xxxxx@
- To copy from self to yyyyy, enter COPY$$yyyyy@
- To copy from xxxxx to xxxxx, enter COPY$xxxxx$xxxxx@
- To copy from xxxxx to yyyyy, enter COPY$xxxxx$yyyyy@

CPUD--Send List of CPU IDs to IBM 3735

CPUIDSND is a subsystem which is used to send a list of CPU IDs defined by the user in the table CPUIDTBL to any one or to all 3735 terminals. The message that activates CPUIDSND should be entered from the control terminal.

Entry Format

```
CPUD(${tpuid})@
    ( {ALL  })
```

tpuid
: indicates a specific 3735 terminal.

ALL
: indicates send the ID list to all 3735 terminals. (Default.)

DATA--Sign on to Data Entry Facility

The DATA command is used to sign on to the Data Entry Facility. For use of the facility, see the Data Entry Terminal Operators Guide.

Entry Format

```
DATA($operator-id)@
```

operator-id
: represents an authorized one- to eight-character operator identification code, if required.

DELY--Stop Subsystem Message Processing

The DELY command is used in conjunction with the Fine Tuner Facility to temporarily stop message processing by a subsystem for the specified time interval. This command should be entered only from the control terminal. It causes the processing of messages queued for the specified subsystem to be suspended for the delay time requested via the command. A maximum delay time allowable before Intercomm resumes message processing for the subsystem is controlled via the MDELY parameter of the SPALIST macro. Restart of message processing by the subsystem may be forced by entry of the BEGN command.

Entry Format

```
DELY$ssssss$mmm@
```

sssss
: represents the subsystem name as listed in the Fine Tuner Table.

mmm
: represents the number of minutes to delay the subsystem's processing. Specify as a three digit number from 002 to 466 (up to the maximum specified via the SPALIST macro, MDELY parameter).

DSGN--Deactivate System Sign-On Security

The DSGN command is used under Basic Security to dynamically deactivate operator sign-on security on a systemwide basis. If the system sign-on security feature is specified via SONOFF=YES on the SPALIST macro, or, due to a previously issued ASGN command, processing of the DSGN command dynamically deactivates sign-on security by changing the parameter to SONOFF=NO. DSGN is in effect until an ASGN verb is entered, or until Intercomm closedown.

Entry Format

```
DSGN@
```

DSPL--Display a Record

The DSPL command is used with the Change/Display Utility to display a record. It is documented in the Utilities Users Guide.

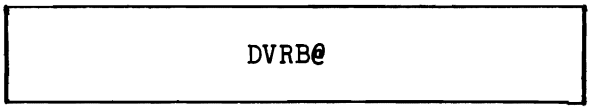
Entry Format

```
DSPL@
```

DVRB--Deactivate System Transaction Security

The DVRB command is used under Basic Security to dynamically deactivate transaction security on a systemwide basis. If transaction security is in effect (specified via TRANSEC=YES on the SPALIST macro or a previous AVRB command), verbs are restricted to certain terminals. Each verb entered is checked. Processing of DVRB dynamically deactivates transaction security by changing the parameter to TRANSEC=NO. DVRB is in effect until AVRB is issued or Intercomm closedown.

Entry Format



FDPS--Send FDPs to IBM 3735 Terminals

FDPSEND is a subsystem which is used to send FDPs to any one or to all 3735 terminals. A table of specific FDPs and associated terminals, FDPTABL, must be coded by the user. The message that activates FDPSEND may be sent by the user subsystem or may be entered from the control terminal.

Entry Format

```
FDPS($LIST)(${tpuid})@
           ( {ALL  })
```

LIST
: specifies that the FDPs associated with the specified terminal (or with all terminals) are to be listed, rather than actually being sent. If LIST is omitted, the FDPs are actually sent.

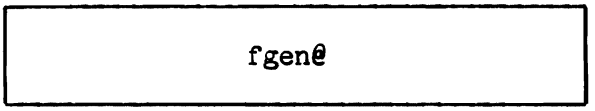
tpuid
: indicates a specific 3735 terminal-ID.

ALL
: indicates all terminals. (Default.)

fgen--Generate Output Format Display

The fgen command is a user-defined transaction. It allows the user to generate an Output Utility format display (Report) to a CRT for use in creating input messages without user coding. When the verb is entered, it is converted by the FORMGEN subsystem via a Format Table to an Output Utility message referencing the format screen requested. Each format is associated with a unique verb.

Entry Format



fgen

represents the verb associated with the Format Table entry to be displayed, as defined in the FORMTBLE.

FHST--Display File Handler Statistics

The FHST command is used to display access statistics for all or a specific data set during the course of on-line processing. The display lists the counts by access or details it by function, depending on the File Handler options specified for the Data Set Control Table. For VSAM files, Local Shared Resources (LSR) statistics on a buffer size basis, may also be displayed.

Entry Format

```
FHST(${ddname})@
     {LSR    }
```

ddname
: represents the ddname of a specific data set for which statistics are requested. If ddname is omitted, the entire File Handler Statistics Report (for all data sets), is displayed at the requesting terminal.

LSR
: requests display only of Local Shared Resources statistics for VSAM file buffer pools, if implemented.

Display Formats

An example of the basic output obtained by entering the FHST command, (showing the file ddname, the number of times the file was selected, the number of times the file was accessed, the total number of accesses, and the average number of accesses per selection), is illustrated below:

```
                FILE  HANDLER STATISTICS
DDNAME      SELECT      ACCESS      TOTAL      AVERAGE
STATFILE        87         749        749         8.61
```

ACCESS counts may be detailed by INPUT and OUTPUT, or by GET, PUT, READ and WRITE, depending on the number of accumulator buckets (2, 3 or 5) specified via the system global table SETGLOBE. If Local Shared Resources (buffer pools) is implemented for VSAM files (see Operating Reference Manual), statistics on buffer pool activity are also displayed when a specific ddname is not requested.

FILE--Request Control Functions for a File

The FILE General Purpose Subsystem control command is used to request file control functions to:

- Open or close a file (do not use for Intercomm log)
- Force an end-of-volume
- Prohibit or allow the use of a file (not available for log)
- Change file processing status (not available for log)
- Allocate/deallocate a file to/from Intercomm (MVS only)

Entry Format

```
FILE$ddname${LOCK                          }@
            {UNLOCK                        }
            {FEOV                          }
            {CLOSE                         }
            {CLOSE($LOCK)                  }
            {ALTER${READONLY}              }
            {      {WRITES  }              }
            {CANCEL                        }
            {ALLOC                         }
            {DEALL($NOREALC($CLASS=x))}
```

ddname
: provides the ddname of the affected file.

LOCK
: prohibits I/O operations to the file. Any subsystem which had selected a file when LOCK is issued will be allowed to complete its I/O processing. After LOCK is performed, any subsequent select request for the file will result in a return code of 9 from the File Handler.

UNLOCK
: permits selection of, and subsequent I/O for, the file.

FEOV
: forces end of volume for output tape data sets. FEOV may be used for a sequential output disk data set (except Intercomm log) if x37 abend protection via the B37 FAR parameter is implemented, as described in the Operating Reference Manual. A close of the current data set and flip to the alternate data set will occur. FEOV for INTERLOG (on tape) may optionally be restricted only to the control terminal via the SPALIST macro GPSSEC parameter.

CLOSE
is used to close the file and optionally to prohibit (LOCK) subsequent opens. Do not use for a sequential output disk file for which x37 abend protection is defined (see FEOV parameter).

ALTER
is used to modify file processing options; the file is quiesced and closed before changing its status.

READONLY
changes the file to read-only status.

WRITES
changes the file to ~~allow~~ input/output; turns off the read-only status.

CANCEL
cancels a LOCK, CLOSE, DEALL, or ALTER command which has not yet completed because outstanding selects exist against the file.

ALLOC
is used to reallocate a file to Intercomm and permit subsequent selects. The file must have previously been deallocated via a DEALL command without the NOREALC option. This command is valid only when Intercomm is running under MVS.

DEALL
is used to deallocate a file from Intercomm and make it available for off-line processing. On-line selects or opens against the file are prohibited. This command is valid only in an MVS environment but may not be used for x37 abend protected files.

NOREALC
when specified with the DEALL command, prevents the future reallocation (via ALLOC) of the deallocated file (required for temporary data sets).

CLASS=x
when specified with the DEALL$NOREALC command for a SYSOUT data set, provides an overriding SYSOUT class (x) for the data set. If omitted, the output will be routed to the class to which the data set was originally allocated in the JCL. This option is invalid for non-SYSOUT data sets.

The LOCK, CLOSE, ALTER and DEALL commands cause a quiesce process to be initiated by the File Handler. That is, the File Handler allows no new SELECTs to the affected files, but outstanding SELECTs are honored. A LOCK, CLOSE, DEALL or ALTER function completes only when all SELECTs have been RELEASEd. Thus, the time required for one of these commands to take effect depends on the number of outstanding SELECTs to the file. The CANCEL command has the effect of stopping both the quiesce process and the original command. ALLOC and DEALL functions are further described in the Operating Reference Manual.

FLSH--Flush Messages from Front End Output Queue

The FLSH command is used to remove the first, or all, messages from a dedicated Front End terminal queue. For example, if invalid data resulted from processing of an inquiry which produces multiple pages of output, the queue could be flushed and the inquiry resubmitted.

This is particularly useful if a terminal is put down due to I/O errors; for example, invalid control characters in the message to be written (that is, in the queue). If an attempt is made to reactivate the terminal via TPUP, the first message to be written would be the one that caused the error. To avoid this situation, the FLSH command is used to remove that message from the queue. This technique is not applicable to queue-sharing terminals, as messages are redirected to the intercept queue when a terminal is nonoperational.

Flushed messages are lost; messages encountering a queue-full condition are logged.

Front End Control Messages, if used, are processed by the Front End, despite the FLSH command. If a message preceding a feedback message is flushed, or a whole queue containing a feedback message is flushed, the feedback message is still sent to the specified subsystem.

Entry Format

```
FLSH$TPUxxxxx($ALL)@
```

xxxxx
is the terminal-ID.

ALL
specifies the entire queue is to be flushed; otherwise, only the first message on the queue associated with the terminal is flushed.

WARNING: The ALL parameter should be avoided on queue-full conditions. Messages should be flushed individually. Do not enter the FLSH command from a terminal whose queue is full (no response can be queued); use another terminal.

IMCD--Request Immediate Closedown

The IMCD verb initiates immediate closedown of the Intercomm system. Messages in progress complete their processing; messages queued are not processed and will be restarted if Intercomm is restarted with log input.

IMCD may be entered only from the control terminal.

Entry Format

```
IMCD[${ABEND              }]@
    [ {SNAP               }]
    [ {RCONTROL[${ABEND}]}]
    [            {SNAP }  ]
```

ABEND
: if specified, the system (control region) closes down with abend 120.

SNAP
: if specified, a snap 120 is issued prior to final closedown. Applies only to the control region in a Multiregion environment.

RCONTROL
: if specified, closes only the control region, if the Multiregion Facility is in use.

LOAD--Specify Dynamic Load Request

The LOAD command is used to specify dynamic load requirements for dynamically loaded subsystems or subroutines. LOAD may be used either to obtain a new copy of a dynamically loadable subsystem or subroutine, or to reactivate processing of messages by a subsystem after an 'inoperable subsystem' or 'program failed' response is received by a terminal operator when entering a transaction for the specified subsystem. LOAD may also be used to change the total storage available for dynamically loaded subsystems.

Entry Format

```
LOAD${NAME$module-name}@
     {CORE$nnnK        }
```

module-name
: represents the load-module name of the subsystem or subroutine to be dynamically loaded.

NAME
: specifies that a new copy of a loadable subsystem or subroutine exists on STEPLIB (or DYNLLIB). If dynamic linkediting is implemented, the new copy is dynamically linkedited when the module is loaded. A BLDL is issued to determine the new module size. The module's resident BLDL list is updated, if specified. If a new subsystem size is greater than the total space reserved for all loadable subsystems, the request is rejected.

CORE
: specifies that load storage space is to be increased. This enables the user to dynamically change the maximum amount of storage available for loadable subsystems.

nnnK
: represents the number of K, from one to three digits, of available main storage for loadable subsystems. The amount of storage used may not be greater than the storage presently occupied by loadable subsystems as specified via the SPALIST macro, MAXLOAD parameter, plus half of the full storage available in the region.

LOCK--Lock a Terminal or Logical Unit Component to a Specific Verb

The terminal operator may be relieved of the need to enter a verb with each message by using the LOCK command. LOCK allows the user to temporarily associate a terminal or VTAM logical unit component to a specific verb. If a second LOCK command is issued while the device is already locked to a verb, it unlocks the device from the first verb and locks it to the second verb.

Entry Format

```
LOCK$TPUxxxxx$vvvv($EOF)@
```

xxxxx
is the five-character BTAM/GFE/TCAM terminal-ID or the VTAM LU component name.

vvvv
is the verb to be prefixed to all subsequent incoming messages. The verb must be one of the verbs defined in the Front End Verb Table.

EOF
may be used only with certain types of BTAM terminals. See BTERM macro, EOFMSG parameter, and the BTAM Terminal Support Guide.

LOKR--Lock Terminals or Logical Unit Components to a Region

The LOKR command is used with Region Associated Processing under the Multiregion Support Facility to associate (lock) the specified terminal or terminals with (to) the region associated with the specified password. LOKR may also be used to override the lock effect of a previous LOKR command, or the BTERM/LUNIT/LCOMP macros, MRPASSW parameter.

Entry Format

```
LOKR$password($(tid($...$tid))@
```

password
: represents the password specified for a region.

tid
: represents one or more VTAM Logical Unit component names or BTAM/TCAM/GFE terminal-IDs. If none is given, the command is assumed to refer to the device from which it originated.

LTRC--Start/Stop Line Trace

The LTRC General Purpose Subsystem control command is used to dynamically start and/or stop the I/O Line Trace on a specific BTAM line or a VTAM logical unit, or all BTAM lines and VTAM logical units.

This command does not apply to graphics or GFE (Extended TCAM) lines. Under the Multiregion Support Facility, LTRC cannot be entered for satellite region processing (only honored in the control region).

For each I/O operation completed (that is, each line ECB posted), a short snap is issued to the file specified on the SNAPDD DD statement. Snap-IDs and areas snapped are documented in Messages and Codes.

Entry Format

```
LTRC${ON¢{xxxxx}[$OFF{xxxxx}]}@
     {   {-ALL-}[    {-ALL-}]}
     {                       }
     {OFF{xxxxx}             }
     {   {-ALL-}             }
```

¢
indicates a blank space.

ON
specifies start the I/O Line Trace.

OFF
specifies stop the I/O Line Trace.

xxxxx
represents the terminal-ID associated with the BTAM line or VTAM logical unit.

-ALL-
specifies all BTAM lines and VTAM logical units defined in the Network Definition Tables.

MMUC--Control MMU Facilities

The MMUC command is used to control Message Mapping Utilities (MMU) features such as deleting the old in-core copy of a map when a revised map group is loaded off-line, or requesting a template display or report layout.

Entry Format

```
MMUC${DELT}$(mapgroup-name$map-name[$...$map-name])[$tid]@
     {SHOW}
```

DELT
: requests that the in-core copy (Store/Fetch string) of the named map within the named map group be deleted. This does not cause the disk copy to be deleted, which may be done only by a reload of the map Store/Fetch data set using the LOADMAP utility. However, this does force a newly loaded (existing) copy of the map (from disk) to be used for the next input transaction to the associated application program (subsystem).

map-name
: specifies the name (as coded for the label of a MAP macro) of the in-core copy of an old map to be deleted, or the name of one or more maps (within the named map group) to be displayed. Multiple maps may be requested when they describe the header, body, and trailer areas of a single screen template display or report page.

mapgroup-name
: specifies the seven-character name (as coded for the label of a MAPGROUP macro) of the map group to be processed, or the eight-character internal map group name, when a device type suffix is appended.

SHOW
: requests a template screen or report layout containing only initial data, and consisting of the named one or more maps within the named map group, to be returned to the requesting terminal or to the device (printer) named via the optional tid parameter.

tid
: specifies the receiving terminal for the template (if CRT) or initial-only report data (if printer) requested via the SHOW subcommand. If omitted, the map data will be returned to the entering terminal. For the DELT command, it specifies a terminal of the same device type as that defined via the DEVICE parameter on the MAPGROUP macro (if not the same type as the requesting terminal).

MNCL--Change Subsystem Concurrent Message Processing Limit

The MNCL command is used in conjunction with the Fine Tuner Facility to dynamically change a subsystem's MNCL value. This command should be entered only from the control terminal. MNCL specifies the concurrent message processing limit for reentrant resident or dynamically loaded subsystems. (MNCL=1 must be specified for such subsystems which are nonreentrant.) Subsystems operating in Overlay Region A are controlled via this parameter to indicate the maximum number of messages to process (serially for nonreentrant subsystems) while resident. MNCL is used to alleviate increased response time in a high-volume condition. The maximum value that can be specified is controlled by the MMNCL parameter of the SPALIST macro.

Entry Format

```
MNCL$ssssss$nn@
```

sssss
represents the subsystem name as listed in the Fine Tuner Table.

nn
represents the new MNCL value to utilize. Specify as a two digit decimal value from 01 to 99 (up to the maximum specified via the SPALIST macro, MMNCL parameter).

NOTE: When the MNCL is changed, the MAX USAGE counter (see TALY command) is reset to zero.

NRCD--Request Normal Closedown

NRCD is the command used to initiate normal closedown of the Intercomm system. All queued messages are processed to completion before the system shuts down. The TALY command may be used to determine the number of messages still to be processed.

NRCD may be entered only from the control terminal.

Entry Format

```
NRCD[${ABEND              }]@
     [ {SNAP              }]
     [ {RCONTROL[${ABEND}]}]
     [            {SNAP }  ]
```

ABEND
if specified, the system (control region) closes down with abend 120.

SNAP
if specified, a snap 120 is issued prior to final closedown. Applies only to the control region in a Multiregion environment.

RCONTROL
if specified, closes only the control region, if the Multiregion Facility is in use.

PAGE--Request a Page from a Response

The PAGE command is used with the Page Facility. It is documented in Page Facility.

Entry Format

```
PAGE$[{N}[${n}]]@
     [{P} {1} ]
     [{S$s    ]
     [{C      ]
     [{L      ]
     [{REPORT ]
     [{TC     ]
     [{TH     ]
     [{TA     ]
```

C
: specifies retransmission of the current page.

L
: specifies transmission of the last page.

N
: specifies transmission of the page following the current page by one or more (n) pages. The default is 1.

n
: specifies the number of pages preceding or following the current page.

P
: specifies transmission of the page preceding the current page by one or more (n) pages. The default is 1.

REPORT
: specifies display of the Page Report for the entering terminal.

S
: specifies transmission of a specified page.

s
: specifies the number of a specific page to be transmitted.

TA
: terminates all responses.

TC
terminates the current response.

TH
terminates all responses except the current one.

PGFX--Fix/Unfix VS Page

The PGFX command is used in conjunction with the Page Fixing facility to fix a VS page or return a page to the control of VS. Page fixing under VS is performed at Intercomm system startup. However, page fixing may be modified during program execution via the PGFX command.

Entry Format

```
PGFX${ON }{$id }@
     {OFF}{ ALL}
```

ON
: specifies that the indicated pages are to be fixed.

OFF
: specifies that the indicated pages are to be unfixed.

id
: provides the three-character code identifying a specific FIXTABLE entry.

ALL
: specifies that the system is to act upon all page groups identified in FIXTABLE. (Default.)

P129--Place BTAM IBM 129/3270 Attachment in Punch Mode

The P129 command is used to place the IBM 129/3270 Card Data Recorder Attachment into Punch Mode. It releases the 129 output queue previously held by a R129 command.

Entry Format

```
P129$TPUxxxxx@
```

xxxxx
represents the 129 terminal-ID.

QHLD--Hold Dedicated Terminal Output Queue

The QHLD command is used to hold the dedicated output queue of a BTAM terminal. QHLD prevents output messages from being transmitted to the terminal until the queue is released, via the QRLS command.

The QHLD command is particularly useful when it becomes necessary to route printer output from a down terminal to an alternate terminal and a forms change is involved. First issue a QHLD for the alternate terminal, then change to the printer form needed. Then issue a TDWN command for the down printer with the ATD subparameter specifying the alternate (active) printer. When all currently queued output from the down terminal is printed, issue another TDWN command for the the down printer specifying ATD back to the down printer. Then, after restoring the original forms needed by the alternate printer, issue a QRLS for that printer. This sequence will prevent interleaving of messages queued for both printers, but requiring different forms. While printing the down terminal's messages, subsystems which produce output for that terminal should be quiesced via the DELY command, as new messages will be placed at the end of the alternate terminal's queue while the ATD routing is in effect (see TDWN command).

A QHLD command may be delayed. If a message is ready to be written from the queue when the QHLD command is entered, the message must be transmitted or flushed via the FLSH command. In this case, a message is sent to the terminal operator. Once this is completed, all other messages on that terminal queue are held until a QRLS is issued. QHLD is not delayed if the queue is empty when the command is issued.

QHLD has no effect on VTAM logical unit component queues.

Entry Format

```
QHLD$TPUxxxxx@
```

xxxxx
: is the terminal-ID.

QRLS--Release Dedicated Terminal Output Queue

The QRLS command is used to release a dedicated BTAM terminal output queue that had previously been held via a QHLD command. This allows output messages to once again be transmitted to that terminal (or a specified alternate, if the subject terminal is down; see QHLD and TDWN commands).

QRLS has no effect on VTAM logical unit component queues.

Entry Format

```
QRLS$TPUxxxxx@
```

xxxxx
is the terminal-ID.

RLSE--Request Message from Front End Queue

The RLSE command is used to release, that is, to request transmission of, the next message from the Front End queue associated with the terminal from which the command is entered. When operating terminals or VTAM logical units (components) in CRT mode (specified via CRT=YES on the BTERM or LUNIT/LCOMP macro), an input message is required for each output message to the terminal or component. In order to receive the next output message without actually submitting new input, the RLSE command is entered. If output is currently queued for the terminal or component, it is sent immediately. Otherwise, if the corresponding BDEVICE or LCOMP/VTCSB macro specifies RLSERSP=YES (default value), a message will be sent indicating no output. If RLSERSP=NO is specified, the terminal or component is placed in a state that permits the next output message, when it is queued, to be written to the terminal or component immediately.

The RLSE command may be sent (via FESEND or FESENDC) from a Back End subsystem to a CRT-mode terminal (BTAM or TCAM) or a logical unit component (VTAM). Its effect is to cause the first message on the associated queue to be written to the terminal immediately, overlaying or altering the current screen display without operator intervention. It must be noted, however, that this will not always work for VTAM logical unit components, particularly when half-duplex flip-flop protocol is being used. An alternative to generating the RLSE command, by using an option of FESEND or FESENDC as described in the BTAM Terminal Support Guide (for BTAM/TCAM) or SNA Terminal Support Guide (for VTAM) and the Intercomm Programmer's Guides, is recommended.

Entry Format

```
RLSE[$]@
```

To submit the RLSE command from the Back End, the message text must include the system separator character. The MSGHTID field in the message header names the terminal for which a previously queued message is to be released.

RSLU--Resynchronize VTAM Logical Unit Sequence Numbers

The RSLU command is used to resynchronize the sequence numbers of a VTAM logical unit. The resynchronization procedure consists of sending a CLEAR command and a START DATA TRAFFIC command to the logical unit. This procedure clears the VTAM buffers and resets sequence numbers to zero. The command can be used to initiate a sequence number synchronization at any time.

Entry Format

```
RSLU$TPUxxxxx@
```

xxxxx
is any component of the logical unit.

RVRS--Issue Reverse Interrupt to Remote Bisynchronous CPU Terminal

The RVRS command is used to issue an RVI (reverse interrupt) to a bisynchronous CPU defined as a remote leased or switched line terminal. The purpose of issuing an RVI is to send to a terminal output that has greater priority than new input. RVRS must be associated with a terminal name; it causes this terminal to be flagged for priority output. If the terminal specified is not active, a TPUP command must be issued before the RVRS command.

Entry Format

```
RVRS$TPUxxxxx@
```

xxxxx
represents the terminal-ID to be flagged for priority output.

R129--Place BTAM IBM 129/3270 Attachment in Read Mode

The R129 command is used to place the IBM 129/3270 Card Data Recorder Attachment into Read Mode. It causes the 129 output queue to be held.

Entry Format

```
R129$TPUxxxxx@
```

xxxxx
is the IBM 129 terminal-ID.

SAVE--Save the Pages of a Page Facility Response

The SAVE command is used with the Page Facility. It is documented in the Page Facility.

Entry Format

```
SAVE@
```

SECF--Deactivate Control Terminal Security

The SECF command is used to remove the restriction that a transaction can be entered only from the control terminal of a BTAM, VTAM or TCAM Front End. The effect of this command is to dynamically change the parameter SECUR=YES of the BTVERB macro for the specified verb to SECUR=NO. SECF may be issued to reverse a SECN command for the same verb.

Entry Format

```
SECF$vvvv@
```

vvvv
: represents the verb to be removed from control terminal only restriction.

SECN--Activate Control Terminal Security

The SECN command is used to restrict a transaction to input only from the control terminal of a BTAM, VTAM or TCAM Front End. The effect of this command is to dynamically change the parameter SECUR=NO of the BTVERB macro for the specified verb to SECUR=YES. Applies only to messages directly entered from a terminal, not those internally queued from a Back End user program.

Entry Format

```
SECN$vvvv@
```

vvvv
: represents the verb to be restricted to entry by the control terminal only.

SECU--Extended Security System Sign-on/off and Dynamic Control

For dynamic control and implementation functions of this command, see Extended Security System. For terminals defined as secure under ESS, they are automatically locked to the SECU verb at startup. To use such terminals, every operator must use the SECU$SIGNON command to sign on to Intercomm, and subsequently the SECU$SIGNOFF command to sign off from Intercomm. The command to sign off is entered as written. To sign on, the command is described below. When the terminal is locked to SECU, the verb may be omitted.

Entry Format except when preformatted prompt screen displayed on an IBM 3270 CRT (see below).

```
[SECU$]SIGNON$user-id[${password                  }]@
                      {user-id$new-password       }
                      {old-password$new-password  }
```

old-password$new-password
: is used when a password change is desired or required. The old and new passwords may not be the same.

password
: represents the one- to eight-character password previously associated with the account.

user-id
: represents the one- to eight-character user-ID associated with the account.

user-id$new-password
: is used for first SIGNON of a new account, or after the old password has been unassigned.

NOTE: new-password may not be the same as old-password, nor may it be the same as the account's user-id.

Entry Format for IBM 3270 CRT with preformatted display (the SIGNON command is automatic and is omitted):

```
                INTERCOMM EXTENDED SECURITY SYSTEM

          SPECIFY USER-ID, AND PASSWORD IF APPROPRIATE

                    TERMINAL ==> ttttt

                     TIME ==> hh.mm.ss

                    USER-ID ==> user-id

                  PASSWORD ==> old-password
-------------------------------------------------------------------------
     PASSWORD HAS EXPIRED, RETYPE CURRENT AND SPECIFY NEW PASSWORD

          NEW PASSWORD ==> new-password <== REQUIRED
```

The area above the line of dashes is the basic display and contains:

ttttt	is the terminal-ID of the terminal and is displayed in the format.
hh.mm.ss	is the time when the display was sent to the terminal and is displayed in the format.
user-id	is a blank area where the operator must enter the user-id.
old-password	is a blank non-display area where the account password is to be entered. For the first sign-on of a new account, or after the old password has expired or been unassigned, the account's user-id is to be entered here. If a password is required but omitted, or if entered incorrectly, this prompt screen is returned with <== REQUIRED after the password entry area. The area below the line of dashes is displayed in addition to the basic screen only when a new, or change of, password is required:
new-password	is a blank non-display area where the new account password or changed password is to be entered. It may not be the same as the old password, nor the same as the account's user-id.

Note: If any ESS error message is displayed on the screen, erasing the screen and entering SIGNON (no parameters) will return the prompt display; do not use the CLEAR Key to erase the screen.

Even though the SECU verb may be omitted from the SIGNON command, once sign-on is successful, the terminal is unlocked from the SECU verb. Therefore, the SECU verb (system command) is required for all other ESS commands. SIGNOFF, whether entered, forced, or due to a time-out, automatically locks the terminal to the SECU verb.

Sucessful sign-on results in ESS messages (and system news message, if any and if allowed) preceded by the heading line:

INTERCOMM EXTENDED SECURITY SYSTEM

At the end of the ESS (news) messages, the following sign-on logo appears:

```
INTERCOMM SESSION BEGINNING  hh.mm.ss  yy.ddd
TERMINAL(++++)  USER(uuuuuuuu)  GROUP(gggggggg)
>----------SIGNON COMPLETED----------<
```

If the user is not a member of a group, the GROUP(name) is omitted.

At this time, standard message transmission may proceed. If at a CRT terminal, erase the screen before keying the first message.

If ESS sign-on response messages are prohibited, a menu display will be transmitted instructing the operator how to proceed.

NOTE: Response messages to SECU commands other than those described above, are listed in Extended Security System.

SIGN--Terminal Operator Sign-On Security

The SIGN command is used under Basic Security to provide operator log-on/log-off security on a terminal basis. If the sign-on security option (see ASGN command) is in effect, a security check is required, via entry of the SIGN transaction, before a terminal operator can enter any other transactions.

Entry Format

```
SIGN${ON$operator-code}@
     {OFF              }
```

ON
: is used to sign on to the terminal.

operator-code
: represents the numeric identifier for the operator signing on. It must be decimal in the range of 1 to 2147483647 and must correspond to one of the values coded in the corresponding terminal STATION macro, OPER parameter.

OFF
: is used by the operator to sign off from the terminal, unless the automatic sign-off feature is in effect (SPALIST macro, SGNTIME parameter).

SNAP--Request a Snap

The General Purpose Subsystem control command SNAP is used to request a partial or complete region snap. The SNAP command is edited before processing by the command subroutine.

Entry Format

```
SNAP{$SIDb{nnn}}{$SYSb({sopt[,...,sopt]})}
    {     {100}}{      {Q,CB           } }

     {$ICMb({iopt[,...,iopt]})}{$FSTb{YES}}@
     {      {SPLS           } }{     {NO }}
```

b
: indicates a blank.

SID
: specifies the snap-ID; nnn may be 0 to 127 under MFT or VS1, or 0 to 255 under MVT or VS2. The default is 100.

SYS
: specifies OS/VS system snap options. Values for sopt are ALL, TRT, NUC, Q and/or CB. These are the same as for the IBM SNAP macro, SDATA parameter. The default is (Q,CB).

ICM
: specifies the Intercomm region snap options. Values for iopt are ALL, SPLS, JPA, LPA, ALLPA, REGS, SA and/or SAH. These are the same as for the IBM SNAP macro, PDATA parameter. MOD is a synonym for JPA; INTERCOMM is a synonym for (JPA,SPLS). The default is (SPLS).

FST
: indicates whether or not a fast snap is to be issued. NO specifies a normal snap. YES specifies a special high speed snap. When used, the SYS and ICM options are ignored and a full region dump is written to the data set defined by the FASTSNAP DD statement. If for some reason a fast snap cannot be performed, a slow snap is issued using the SNAP verb default parameters only.

SNBK--Echo Message

The SNBK command allows the user to enter a message at a terminal and have the message returned to the originating terminal. The entire message, including the verb, is returned.

The purpose of this command is to test a new terminal by determining if the terminal is being polled and if an output message can be written to the terminal. Another type of test could be to check the translate tables for the device. Also, under Multiregion, communication with a satellite region could be checked if the echo subsystem is defined for that region rather than the control region.

Entry Format

```
SNBK$data@
```

data
is the actual message text being entered.

SPLG--Stop Line Group

The SPLG command is used to terminate the operation of a leased or switched BTAM or GFE communications line group. The SPLG command internally generates a SPLN command for each line in the line group and then closes the line group's DCB. For a BTAM line, closing the DCB also causes BTAM to flush outstanding (hung) I/O operations.

The response to this command appears only at the control terminal, and in some cases the execution of the command may take several seconds to complete. Therefore it is advisable to issue the command only from the control terminal, and to wait for the response to the command before issuing another network control command affecting the same or an associated terminal, line, or line group. The status of the network can be checked using the STAT command.

SPLG has no effect for VTAM logical units or the CPU console, and is not supported for leased TTY, Sanders or Wiltek terminals.

Entry Format

```
SPLG${TPUxxxxx   }@
     {DDNyyyyyyyy}
```

xxxxx
: represents the name of the terminal in the line group to be closed.

yyyyyyyy
: is the ddname of the line group to be closed; maximum of eight characters (blank low-order padding may be omitted).

SPLN--Stop Line

The SPLN command is used to terminate the operation of a leased or switched BTAM or GFE/TCAM communication line. For leased and local lines, the SPLN command internally generates TDWN commands for all terminals on the line before deactivating the line and resetting all dynamically modifiable switches.

The response to this command appears only at the control terminal, and in some cases the execution of the command may take several seconds to complete. Therefore it is advisable to issue the command only from the control terminal, and to wait for the response to the command before issuing another network control command affecting the same or an associated terminal, line, or line group. The status of the network can be checked using the STAT command.

SPLN has no effect on VTAM logical units or the CPU console.

Entry Format

```
SPLN$TPUxxxxx[$LINEnn]@
```

xxxxx
represents the name of the terminal on the line to be deactivated.

nn
represents the relative line number (within the line group) of a switched line (range 01-99).

SPLU--Stop VTAM Logical Unit

The SPLU command is used to halt (that is, disconnect) a VTAM logical unit; or initiate an orderly shutdown of a LU, and optionally, to deactivate the LU to Intercomm.

In some cases the execution of the command may take several seconds to complete. Therefore it is advisable to issue the command only from the control terminal, and to wait for the response to the command before issuing another network control command affecting the same or an associated VTAM logical unit. The status of the VTAM network can be checked using the VTST command. The response to this command goes back to the requesting terminal or logical unit component, unless the object logical unit is the requesting terminal. In this case the response will be returned to the control terminal.

Entry Format

```
SPLU[$TPUxxxxx${HALT }[$DEACT]]@
                {SHUTD}
```

xxxxx
is the name of any component of the logical unit (LU).

HALT
is used to halt the LU, that is to disconnect it via the VTAM CLSDST macro.

SHUTD
is used to initiate an orderly shutdown; that is, to send VTAM SHUTD command to the LU, which completes processing, and returns a SHUTC command. Intercomm then disconnects it. This ongoing orderly shutdown can be terminated at any time by entering the SPLU command with the HALT operand.

DEACT
is used to deactivate the LU to Intercomm and causes Intercomm to refuse a future logon request. A LU can be reactivated via the STLU command.

NOTE: When SPLU alone is entered, the subject logical unit (the device from which the command was entered) will be disconnected. HALT is assumed.

SPPL--Stop Terminal Input

The SPPL command is used to stop the polling of terminals. It allows the control terminal operator to reduce the volume of input to the system during periods when the system's resources are limited; that is, when available main storage is low.

The SPPL command causes the BTAM Front End to cease accepting input on all leased lines, except the line containing the control terminal. The Stop Poll function is supported for all BTAM and GFE (Extended TCAM) devices.

The response to this command appears only at the control terminal, and in some cases the execution of the command may take several seconds to complete. Therefore it is advisable to issue the command only from the control terminal, and to wait for the response to the command before issuing another network control command affecting the same or an associated terminal, line, or line group. The status of the network can be checked using the STAT command.

SPPL has no effect on VTAM logical units or switched lines.

Entry Format

```
SPPL@
```

STAT--Display BTAM and GFE Front End Status

The STAT command is used to display the status of BTAM or GFE (Extended TCAM) terminals operating in the Intercomm environment. Details of terminal down conditions can be displayed, as well as whether a line is down or the associated DCB is closed. I/O error counts by terminal or line may also be requested.

The status of VTAM logical units can be displayed using the Intercomm VTST command.

Because STAT is processed by the Front End, and cannot be made conversational, RLSE commands may have to be entered to receive the first and/or subsequent segments of the response. The last response contains the footnote NO MORE DATA.

Entry Format

```
STAT${{ALL }[$nnn]    }@
     {{UP  }          }
     {{DOWN}          }
     {TPUxxxxx        }
     {ERR[${nnn     }]}
     {   [ {TPUxxxxx}]}
```

ALL
: requests display of the status of all terminals, or all terminals on a specified line, if nnn is given.

UP
: requests display of information for all operational terminals, or all operational terminals on a specified line, if nnn is given.

DOWN
: requests display of information for all nonoperational terminals, or all nonoperational terminals on a specific line, if nnn is given.

nnn
: is the channel address of the BTAM line as specified on the DD statement UNIT parameter. If the associated line group (DCB) is closed, the requested UNIT will not be found. To verify this cause, use the STAT command for a specific terminal (TPU) on the line.

xxxxx
is the five-character terminal-ID. Requests display of the status of the specified terminal only, or the I/O error count for the terminal, if ERR$ precedes TPU.

ERR
requests display of I/O error counts for all lines, or for a specific line, if $nnn is given.

Display Formats

Processing for the STAT command results in displays, as shown in the following examples. The columns in the displays are as follows:

- TERMINAL indicates the terminal-ID.
- LINE indicates the line address or other information as follows:

Line	Meaning
ccc DN	The line is down, but the line group is active. The channel address is given in ccc.
??? DN	The line is not specified in the UNIT parameter of a DD statement in the execution JCL, so no channel address is available, even though the line group is active.
GFE	This is a GFE (Extended TCAM) line.
DIALUP	A switched line terminal is not currently connected to a line.
ddname	The DCB for the line group is closed.

Line error statistics are not displayed for lines in a down (closed) line group.

- ADDRESS indicates the addressing characters, if polling is used.
- STATUS indicates the terminal's operational status. A switched line terminal may be up, although the DCB for the line group is closed, since closing the DCB of a switched line does not force the terminals on the line down.

- REASON gives the reason for the down condition for nonoperational terminals, as follows:

Reason	Meaning	Priority
BUS OUT	Control unit or channel error	13
COMMAND REJ	Command reject--invalid channel command issued	16
CRCT FAILED	Transmission errors--circuit failed	5
DATA CHECK	Transmission errors	14
DCB CLOSED	Line group could not be opened at startup, or was subsequently closed	1
DEV FAILED	Transmission errors--terminal failed	6
EQUIP CHEK	Equipment check	9
INTRVN REQ	Intervention required--terminal is turned off	12
I/O Errors	None of the above reasons apply, or no error statistics are available for the terminal.	17
LOCAL MODE	Terminal is off-line in local mode	3
LOST DATA	Data lost in transmission	10
OPER REQST	Terminal was put down by operator request via a TDWN command	2
OUT OF PRR	Terminal is out of paper	4
OVERRUN	Channel overrun	15
PARITY ERR	Transmission errors--parity check or VRC error	7
TIMEOUT	No response to polling or addressing	11
UNIT EXCPN	Unit exception--invalid line control sequence	8

If two or more reasons occur simultaneously, only one is reported, in the order given in the column labeled "priority".

For example, if terminal was put down by OPER REQST and DATA CHECK, only OPER REQST is reported.

- SENSE
  indicates the sense bytes returned by the TCU if, and only if, a unit check occurs. (See the IBM OS/VS BTAM SRL manual.)

Examples:

Command entered: STAT$ALL@

Resulting Display:

```
TERMINAL    LINE      ADDRESS    STATUS    REASON        SENSE

CNT01       030       0A09       UP
NYC01       030       0A0A       DOWN      LOST DATA
GRN01       031 DN    0909       DOWN      I/O ERRORS

                  *** NO MORE DATA ***
```

Command entered: STATALL030@

Resulting Display:

```
TERMINAL    LINE      ADDRESS    STATUS    REASON        SENSE

CNT01       030       0A09       UP
NYC01       030       0A0A       DOWN      TIMEOUT       0100

                  *** NO MORE DATA ***
```

Command entered: STAT$TPUGRN01@

Resulting Display:

```
TERMINAL    LINE      ADDRESS    STATUS    REASON        SENSE

GRN01       021       0909       DOWN      OVERRUN
```

Command entered: STAT$ERR@

Resulting Display:

```
          LINE ID                          I/O ERRORS

            030                              0002
            031                              0001
            041  DN                          0005

                    *** NO MORE DATA ***
```

Command entered: STATERR030@

Resulting Display:

```
          LINE ID                          I/O ERRORS

            030                              0003

                    *** NO MORE DATA ***
```

Command entered: STATERRTPUNYC01

Resulting Display:

```
        TERMINAL                           I/O ERRORS

          NYC01                            0008

                    *** NO MORE DATA ***
```

STLG--Start Line Group

The STLG command is used to start the operation of a leased or switched BTAM or GFE/TCAM communications line group. The STLG command opens the line group DCB and internally generates a STLN command for each line in the group.

The response to this command appears only at the control terminal, and in some cases the execution of the command may take several seconds to complete. Therefore it is advisable to issue the command only from the control terminal, and to wait for the response to the command before issuing another network control command affecting the same or an associated terminal, line, or line group. The status of the network can be checked using the STAT command.

STLG has no effect for VTAM logical units or the CPU console, and is not supported for leased TTY terminals.

Entry Format

```
STLG${TPUxxxxx    }@
     {DDNyyyyyyyy}
```

xxxxx
represents the name of any terminal in the group to be activated.

yyyyyyyy
is the ddname of the line group to be opened; maximum eight characters.

STLN--Start Line

The STLN command is used to start the operation of a leased or switched BTAM or GFE/TCAM communication line. For leased lines, the STLN command internally generates TPUP commands for all terminals on the line before activating the line. If the line group DCB is closed, it is opened if possible.

The response to this command appears only at the control terminal, and in some cases the execution of the command may take several seconds to complete. Therefore it is advisable to issue the command only from the control terminal, and to wait for the response to the command before issuing another network control command affecting the same or an associated terminal, line, or line group. The status of the network can be checked using the STAT command.

STLN has no effect on VTAM logical units or the CPU console.

Entry Format

```
STLN$TPUxxxxx[$LINEnn]@
```

xxxxx
represents the name of a terminal on the line to be activated.

nn
represents the relative line number (within the line group) of the switched line to be started (range 01-99).

STLU--Start VTAM Logical Unit

The STLU command is used to activate a logical unit to Intercomm and optionally cause Intercomm to acquire the logical unit. Refer also to SPLU command.

The response to this command appears only at the control terminal, and in some cases the execution of the command may take several seconds to complete. Therefore it is advisable to issue the command only from the control terminal, and to wait for the response to the command before issuing another network control command affecting the same or an associated VTAM logical unit. The status of the VTAM network can be checked using the VTST command.

Entry Format

```
STLU$TPUxxxxx[$ACQ[$Q]]@
```

xxxxx
is the name of any component of the logical unit (LU).

ACQ
specifies that the LU is to be acquired, whether or not ACQ=NO is indicated on the LUNIT macro of the LU. If ACQ=NO is coded and ACQ is omitted, STLU does not cause acquisition of the LU.

If ACQ=YES is indicated in the LUNIT macro, ACQ in the STLU is redundant, and has no effect.

Q
specifies the creation of a pending acquisition, and causes the RELREQ exit of the current owner to be scheduled. If the LU is not immediately available, the STLU will fail unless Q is specified.

SWCH--Send Message to Specified Terminal

The SWCH command is used to send a message to a specified terminal. It allows the user to type in a message on one terminal, and have it transmitted to one or more other terminals or broadcast groups, without any user coding.

This facility can be useful for testing new terminals, broadcasting messages (GOOD MORNING, DATA COLLECTION STARTING SOON, etc.), or sending a message to a terminal after turning it up.

A message can be switched only to a specified maximum number of other terminals or broadcast groups. The field labeled TPUMAX in the module SWITCH controls the maximum and is equated to five. The user can increase this number to increase the maximum value.

Due to special control characters required for certain terminals, it may not always be possible to transmit messages between different device types via the SWCH verb.

Entry Format

```
SWCH$(term($...$term))data@
```

term
: specifies the five-character terminal-ID or broadcast group-ID to receive the message. At least one terminal-ID must be specified, others are optional. All IDs must be contained in parentheses.

data
: is the actual message text.

NOTE: no response is returned to the entering terminal if the switched message was successfully queued for the receiving terminals(s). If entering the command at an IBM 3270 CRT, depress RESET key (BTAM) or System Request key (VTAM) to reestablish communication.

SWOF--Deactivate Terminal Transaction Authorization

The SWOF command is used under Basic Security to dynamically deactivate authorization of entry of the specified verb at the specified terminal. When transaction security is in effect, each terminal is assigned a list of permissible transactions (via the SECVERBS and STATION macros). The SWOF command is issued to remove a transaction from the permissible list and bar entry of that transaction from the specified terminal. Only the transactions defined as allowable from a particular terminal may be referenced in SWOF transactions. SWOF is in effect until a SWON command is issued or until Intercomm closedown.

Entry Format

```
SWOF$ttttt$vvvv@
```

ttttt
: represents the associated terminal-ID

vvvv
: represents the verb which is to be removed from the terminal's permissible list.

SWON--Activate Terminal Transaction Authorization

The SWON command is used under Basic Security to dynamically authorize entry of the specified verb at the specified terminal. If Intercomm transaction security is in effect, each terminal is assigned a list of permissible transactions (via SECVERBS and STATION macros). The SWON command is issued to place the specified verb, previously removed from the list by a SWOF command, back on the permissible list. Only transactions defined as allowable for a particular terminal may be referenced in SWON.

Entry Format

```
SWON$ttttt$vvvv@
```

ttttt
: represents the associated terminal-ID.

vvvv
: represents the verb which is to be placed back on the terminal's permissible list.

TALY--Request Report of System Status

The TALY General Purpose Subsystem command is used to generate a report containing a variety of useful data about the current status of the Intercomm system. The report includes information on:

- Resource utilization (for example, storage)
- Current status of the Dispatcher queues
- Thread status report
- Message traffic for all or a specific subsystem or terminal
- Line error statistics for line groups for which BTAM LERB macros have been coded in the Front End Network Table. (See LINEGRP macro, LERB parameter, in Basic System Macros.)

Entry Format

```
TALY[$SU][$DS][$DA][$BE[([ssch$]ssc)]][$FE[(tid)]]@
```

SU specifies the system summary report.

DS specifies the Dispatcher queues status report.

DA specifies the current threads status report.

BE specifies Back End (subsystem) traffic report. For one subsystem, specify the codes in parentheses following BE. The high and low codes may be given in single alphanumeric character, 2-digit hex, or 3-digit decimal form. An omitted code defaults to 000.

FE specifies BTAM/VTAM Front End traffic report. For one terminal, specify the tid in parentheses following FE.

If all options are omitted, a full report is produced, for example:

TALY@ generates full report

TALYSUDS@ generates system summary and dispatcher reports as separate messages (use RLSE command to see each report).

Display Format

An example of the full report provided by the TALY command appears below. The requesting terminal must have a minimum page size of 6 lines by 80 columns.

```
                              SYSTEM SUMMARY

 BACK END MMM nnnnnnnn      FRONT END BMN     nnnnnnnn

 MAXIMUM CONTIGUOUS DYNAMIC STORAGE AVAILABLE     nnnnnnnn BYTES

 TOTAL DYMAMIC STORAGE AVAILABLE     nnnnnn BYTES

 DYNAMIC STORAGE CUSHION     nnnnnn BYTES (status)

 FREE RCBS nnnnn TOTAL RCBS    nnnnn    RCB TABLE RELOCATIONS    nnnnn

 THREAD COUNT HIGH:  nnn, NOW:  nnn

                          DISPATCHER WORK QUEUES

          FREE    WAIT    TIME    PRI 0     PRI 1    PRI 2    PRI 3    IPOST

 WQT      addr    addr    addr    addr      addr     addr     addr     N/A

 COUNT    nn      nn      nn      nn        nn       nn       nn       nn

 HI/LOW   nn      nn      nn      nn        nn       nn       nn       nn

 SUBSYSTEM   NUM. MSGS    MAXIMUM    NUMBER    NUMBER       NUMBER
 CODE        PROCESSED    USAGE      QUEUED    CANCELLED    STARTED    MNCL

 cc hhhh     nn           nn         nn        nn           nn         nn

**TOTALS*

 THREAD     SUB/       EP/           BMN        MMN    RESIDENCY      STATUS
   NO.     SYSTEM    LOADNAME

    nnn    xxxx/cc    name          nnnnn     nnnnnnn   {LOADED  }   {IN PURGE}
                                                       {OVERLAY }   { ACTIVE }
                                                       {RESIDENT}   {  HUNG  }
                                                                    {CON WAIT}

 THREAD COUNT HIGH:  nnn, NOW:  nnn

-------------------------------------------------continued--------
```

Note: MAXIMUM USAGE count for a subsystem is the number of times the MNCL (maximum concurrent threads) was reached since Intercomm started; for reentrant subsystems only (LANG=RBAL, RCOB, or RPL1).

```
  TERMINAL LINE   STATUS  QNUM    NUMBER  NUMBER  TIME    DATA    INTER
  ID                              QUEUED  XMITS   OUTS    CHECK     REQ

  ttttt    uuu    {UP  }  nn      nn      nn      nn      nn      nn
                  {DOWN}
**TOTALS*

  COMP  LU     VTAM      STATUS   TYPE   NUMBER  NUMBER  NUMBER
  NAME  NAME    ID                       QUEUED  LCOMPS  ACTIVE

  ccccc lllll vvvvvvvv   status   type   nn      n       n

**TOTALS*
CURRENT SESSIONS = nnnnnn          HIGH-WATER SESSIONS = nnnnnn(nnnnnn)
```

Notes: For BTAM lines/terminals the NUMBER XMITS, TIME OUTS, etc. are provided only if LERB recording for a remote BTAM line was specified via the associated LINEGRP macro in the Network Definition table. For terminals with shared queues, the NUMBER (of messages) QUEUED value may include messages for other terminals sharing the queue.

For VTAM logical units and components the status designation will be one of the following:

- ACQUIRED-- Logical unit is in session with, and was acquired by, Intercomm.
- AVAILABLE-- Logical unit is not currently in session with Intercomm. A log-on request may be accepted.
- DEACTIVATED-- Logical unit is not currently in session with Intercomm. A log-on request will be rejected. (An SPLU with the DEACT option has been issued.)
- LOGGED ON-- Logical unit is in session with Intercomm.
- DISCON. ERRS-- Intercomm session terminated because of errors.
- UP-- Logical unit component is up.
- DOWN-- Logical unit component is not up.

The type designation will be one of the supported logical unit types (VTLSB, LUTYPE parameter) or component types (VTCSB, COMPTYP parameter). There will be a line in the report for each logical unit and for each of its components, if more than one component defined. The final line of the VTAM report gives the current number of logical units in session with Intercomm together with the highest number of concurrent sessions attained. The maximum number of sessions allowed (as defined by the VCT SNMAX parameter) is also shown in parenthesis.

TDWN--Stop Terminal Operation

The TDWN command is used to stop the operation of a BTAM or GFE terminal. The TDWN command is also routed to the Output Utility (control region only) to allow the Station Table to reflect the same status as the Front End Network Table. If the terminal specified is the last (or only) active terminal on a leased line, the line is also deactivated (does not apply to dial-up terminals).

The response to this command appears only at the control terminal, and in some cases the execution of the command may take several seconds to complete. Therefore it is advisable to issue the command only from the control terminal, and to wait for the response to the command before issuing another network control command affecting the same or an associated terminal, line, or line group. The status of the network can be checked using the STAT command.

TDWN has no effect on VTAM logical units or the CPU console.

Entry Format

```
TDWN$TPUxxxxx(${CU      })@
              {ATDyyyyy}
```

xxxxx
: represents the five-character identifier of the terminal to be stopped, as defined in the Front End Network Table and the Station Table.

CU
: is valid only for bisynchronous terminals on a multidrop line. When specified, all terminals on the control unit to which TPUxxxxx is connected are put down. (Use SPLN if only one CU.)

ATD
: dynamically assigns an alternate terminal identification (yyyyy). This overrides any previously assigned or coded alternate terminal-ID in the Network Table. If ATD is entered, current and future messages queued for the down terminal xxxxx are placed on the queue of the alternate terminal yyyyy. The alternate terminal must be the same device type, as specified via the BDEVICE macro, TERMTYPE parameter; for example, an IBM 2260 cannot be an alternate to an IBM 3270. The Station Table does not reflect the alternate terminal assignment. When a TDWN is issued for the control terminal, the ATD parameter is required if no alternate terminal was previously assigned.

yyyyy
: represents the five-character identifier of the alternate terminal, as defined in the Front End Network Table.

TPUP--Start Terminal Operation

The TPUP system control command is used to start the operation of a BTAM or GFE terminal. If a leased line with which the terminal is associated was previously inactive, the line is reactivated (if the DCB is open). (Only the terminal specified becomes activated; other terminals associated with the line remain inactive.) The TPUP message is also routed to the Output Utility (control region only) to allow the Station Table to reflect the same status as the Front End Network Table.

The response to this command appears only at the control terminal, and in some cases the execution of the command may take several seconds to complete. Therefore it is advisable to issue the command only from the control terminal, and to wait for the response to the command before issuing another network control command affecting the same or an associated terminal, line, or line group. The status of the network can be checked using the STAT command.

TPUP has no effect on the CPU console or VTAM logical units.

Entry Format

```
TPUP$TPUxxxxx[$CU]@
```

xxxxx
is the five-character identifier of the terminal, as defined in the Front End Network Table and the Station Table.

CU
is valid only for bisynchronous terminals on a multidrop line. If specified, all terminals on the control unit to which TPUxxxxx is connected are turned up. If there is only one control unit on the line, this form of the command has the same effect as a STLN command; however, if the DCB is closed, use the STLN command as it will not be opened.

ULKR--Unlock Terminals or Logical Unit Components From a Region

The ULKR command is used with Region Associated Processing under the Multiregion Support Facility to disassociate (unlock) the specified terminal or terminals from the region associated with the specified password. ULKR is used to reverse the lock effect of a previus LOKR command, or the BTERM/LUNIT/LCOMP macros, MRPASSW parameter.

Entry Format

```
ULKR$password[$(tid[$...$tid])]@
```

password
: represents the password specified for a region.

tid
: represents the five-character one or more VTAM Logical Unit (component) Intercomm names or BTAM/TCAM/GFE terminal-IDs. If none is given, the command is assumed to refer to the terminal from which it originated.

UNLK--Unlock a Terminal or Logical Unit Component from a Specific Verb

The UNLK command is used to unlock a terminal or VTAM logical unit component from a verb (locked via the LOCK command or BTERM or VTAM macro, LOCK parameter). The assignment of a verb to a terminal or component can also be removed by issuing a LOCK command with a different verb.

Entry Format

```
UNLK$TPUxxxxx@
```

xxxxx
is the terminal-ID or the VTAM component name.

UNPT--Uncouple TOTAL

The UNPT command is used to discontinue communication between Intercomm and the TOTAL DBMS.

Entry Format

```
UNPT($CLOSE)@
```

CLOSE
: specifies that a physical close of TOTAL files is to be done before uncoupling.

VTCN--Change Status of VTAM Front End

The VTCN command is used to alter the status of the VTAM Front End based on parameters coded with the VTCN verb.

Entry Format

```
VTCN${START}@
     {SHUTD}
     {HALT }
```

START
: is used to start the VTAM Front End. It is used in situations such as:

- The VTAM Front End failed to start during Intercomm startup due to a correctable VTAM problem; for example, VTAM was not active at the time.
- The VTAM Front End was stopped by a previous VTCN command or external event; for example, VTAM was halted or abnormally ended.

SHUTD
: is used to initiate an orderly shutdown of the VTAM Front End. It may be used to sign off the VTAM logical units while Intercomm remains active servicing BTAM terminals.

HALT
: is used to immediately halt the VTAM Front End. This command may be used when an orderly shutdown is not needed or an abrupt termination of an ongoing orderly shutdown is needed.

VTST--Display VTAM Logical Unit Status

The VTST command is used to display the status of VTAM logical units defined to Intercomm. Status information of connected LUs as well as sense information for terminals that were disconnected may be displayed. Information displays may be limited to specific LUs and display of much data may be inhibited by command options, giving the user flexibility in the operating environment.

Because VTST is processed by the Front End, it cannot be made conversational. The RLSE command may have to be entered to receive the first and/or subsequent segments of the response. The status of BTAM and GFE/TCAM terminals can be displayed using the Intercomm STAT command.

Entry Format

```
VTST[$[{ALL    }][${LUBONLY}]]@
      {CONN   }   {SENSE  }
      {NCONN  }   {ALL    }
      {LUxxxxx}
      {TOT    }
```

ALL
: display all logical units defined in the Intercomm Network Table.

CONN
: display all logical units currently connected to (in session with) Intercomm.

NCONN
: display all logical units defined to Intercomm which are not presently connected to (in session with) Intercomm.

LUxxxxx
: display information pertaining to a specific LU; xxxxx is the five-character Intercomm terminal name of the logical unit.

TOT
: display only information about total number of logged-on LUs.

NOTE: If the first parameter is omitted, the default will be a status display of the requestor's terminal if it is an LU. Thus, a user can display his own terminal status without having to know its Intercomm five-character id.

The second set of parameters specifies what information about the logical unit(s) is to be displayed:

ALL specifies information from both the Intercomm LUB (Logical Unit Block) and LUC (Logical Unit Component) is to be displayed (default). See the Display Formats Descriptions to find out what information is LUB or LUC related.

LUBONLY specifies information from only the LUB is to displayed.

SENSE enables the operator to display the sense data that caused Intercomm to put down an LU (due to an exception response) until the time when an STLU is issued to bring up that LU. SENSE also has the effect of modifying the first parameter as follows:

- CONN,NCONN,TOT - SENSE is ignored.
- ALL - only LUs disconnected by Intercomm due to errors are displayed. No data is displayed for terminals still connected or disconnected normally.
- LUxxxxx - display SENSE data if LU xxxxx was disconnected by Intercomm, else issue error message.

Examples

Entered: VTSTALLALL@ or VTST$ALL@

```
   LU      CON  FL2  FL4  SF1  RF1  TERM  DEVICE  ACT  LF1  VERB  REGION
 VTAM0001  YES  CO   A8   30   08   NYC01 3270N   YES   34  HELP  SATLITE1
 VTAM0002  NO   00   00   00   00   CNT01 3270S   YES   00
 VTAM0003  YES  EO   OC   80   58   SFC01 3270N   YES   10        SATLITE9
                                    SFC02 3270N   YES   00        SATLITE9

TIME 13:23:57   NUMBER CONNECTED 00002       LOGONS QUEUED 00000
```

Entered: VTST$LUABC01$SENSE@

```
      NAME      VTAM       SSI    SSM      USN
      ABC01     NTWABC01   10     00       0140
```

Entered: VTST$$LUBONLY@

```
   LU    CON  FL2  FL4  SF1  RF1  TERM  DEVICE  ACT  LF1  VERB  REGION
NETWORK  YES  E0   0C   80   50
```

Entered: VTST$TOT@

```
TIME  09:16:03    NUMBER CONNECTED 00171    LOGONS QUEUED 00003
```

Display Format Descriptions:

LU	the VTAM eight-character name for the logical unit in question
CON	connect status of the logical unit.
FL2	hex value of LUBFLAG2 from the Intercomm LUB for this LU. Bit meanings are as follows: X'80' - SDT has been sent; data traffic accepted X'40' - SDT request has been sent X'20' - RECEIVE or SEND was done since SDT sent X'10' - SPLU, SHUTD in progress X'08' - VTLUSHTC routine processing SHUTC X'04' - Output queue drain in progress during shutdown
FL4	hex value of LUBFLAG4 from the LUB for this LU. Bit values are as follows: X'80' - Sequence number resynchronization is in progress x'40' - Session in bracket mode X'20' - RTR pending X'10' - Pending send of EB (will be sent on next message) x'08' - Pending send of BB (will be sent on next message) X'04' - EB received on current input chain X'02' - LU is in Half Duplex Flip-Flop receive mode X'01' - Next message should be "CHASE" command
SF1	hex value of LUBSF1 from the LUB for this LU. Bit values are as follows: X'80' - VTSEND active for this LU X'40' - VTSEND dispatched for this LU, not yet active X'20' - QEC received from this LU X'10' - QC indicator sent to LU X'08' - FECMRLSE is queued

RF1	hex value of LUBRF1 from the LUB for this LU. Bit values are as follows: X'80' - Blocked input being received X'40' - Chain being received X'20' - Chain being accumulated X'10' - Remainder of chain to be truncated because of exception condition X'08' - Input message being received for this LU
TERM	five-character Intercomm name of the component (terminal)
DEVICE	device type of the component
ACT	component active status. (Due to the relationship of control blocks, a component may be marked up although the logical unit to which it is attached is not connected. The component active status display is irrelevant unless the logical unit to which it belongs is actually connected.)
LF1	hex value of LUCLF1, from the LUC for this component. Bit settings are as follows: X'80' - Flush all queued messages X'40' - Flush first queued message only X'20' - Terminal locked because of SEGLOCK x'10' - Unreleased display on CRT x'08' - Queue empty message issued by RLSE verb X'04' - Flush input while in conversational wait X'02' - This component is Intercomm control terminal
VERB	displays four-character Intercomm verb to which component is currently locked
REGION	displays eight-character region-id to which component is currently locked

NOTE: The displays of LU, CON, FL2, FL4, SF1 and RF1 appear only when ALL (default) or LUBONLY is entered as the second parameter of VTST verb. The displays of TERM, DEVICE, ACT, LF1, VERB, and REGION appear only when ALL is entered as the second parameter, or the second parameter is omitted. Values are for each component (LUC) attached to the LUB. This corresponds to the number of LCOMP macros coded for the LUNIT macro describing the logical unit. Each logical unit will have at least one component. See the Intercomm SNA Terminal Support Guide for further information.

The following data appears only when ALL, CONV, NCONN or TOT is entered as the first parameter of the VTST verb. The data appears once, as the last line of the display:

TIME - time of day.
NUMBER CONNECTED - number of logical units connected to Intercomm.
LOGONS QUEUED - number of LOGONs queued both for and by Intercomm but not yet completed.

The following information appears only if SENSE is entered as the second parameter and ALL or LUxxxxx is the first parameter of VTST:

NAME - five-character Intercomm name of the LU (name of first or only component)
VTAM - eight-character VTAM name of the logical unit.
SSI - one byte, system sense data in hexadecimal
SSM - one byte, system sense modifier in hexadecimal
USN - two bytes, user sense information in hexadecimal

NOTE: The above information is displayed for terminals disconnected by Intercomm after receiving an exception response from the LU and applies only for 3270S and 3270N devices. If no disconnected terminals are found, an informational message is sent instead.

The System Sense Information (SSI) and System Sense Modifier (SSM) bytes are set by VTAM. There are currently five bit values for SSI as follows:

X'80' - Path Error; physical problem in the network or error in the system-supplied transmission header accompanying the message
X'40' - Unrecoverable Request Header error; current session protocol not followed by sender
X'20' - State Error - incorrect use of sequence numbers, chaining commands, bracket indicators or change direction indicators; or data sent after a CLEAR command or session control command sent before a CLEAR command
X'10' - Request Error - message itself is invalid
X'08' - Request Reject; message could not be handled by the receiver (device may be turned off/disconnected).

The SSM values define the specific type of error that occurred. The meanings are different depending on the SSI values. The SSM values are covered fully in an Appendix of IBM's ACF/VTAM Programming manual.

The SSM and SSI values relating specifically to 3270 devices may also be found in IBM's ACF/VTAM Programming chapter on programming for IBM 3270 terminals.

The two-byte User Sense Data field (USN), called USENSEI in IBM documentation, is usually set by the application program executing in the logical unit. The only current exception to this is the case of BSC 3270 sessions, in which case the user sense data is predefined by IBM. Explanations of the user sense data for BSC 3270 sessions may be found in the same IBM 3270 programming chapter described above. For more details, see specific IBM 32xx Component Description manuals.

Chapter 4

IMPLEMENTATION

4.1 INTRODUCTION

Implementation and use of system control commands requires one or more of the following preparatory steps:

- Front End Verb Table definition (via the BTVERB macro in the BTVRBTB, or the user-coded COPY member USRBTVRB).
- Subsystem Control Table definition (via the SYCTTBL macro in INTSCT, or the user-coded COPY member USRSCTS).
- Additional table definitions
- Preformatting data sets
- Intercomm linkedit
- JCL for execution

These requirements are discussed in general in the following sections, and are detailed for each command in alphabetical order in Appendix A.

4.2 FRONT END VERB TABLE DEFINITION

Each command must be defined by a BTVERB macro entry in the Front End Verb Table (in the BTVRBTB Csect), specifying the transaction code (verb) and associated subsystem to process the message. Processing by the Front End is denoted by subsystem code X'00',X'00'. Refer to Basic System Macros for a complete description of the BTVERB macro.

The Front End Verb Table entry for certain transactions is supplied in BTVRBTB with the Intercomm system release and need not be coded. The commands for which this is true are indicated in Appendix A.

4.3 SUBSYSTEM CONTROL TABLE DEFINITION

To relate the subsystem code (specified in BTVERB) to the actual subsystem interface entry point, the subsystem associated with a verb must be defined by an entry in the Subsystem Control Table. This is done by coding a SYCTTBL macro for the subsystem, defining its characteristics, queue specifications, and residency requirements.

The Subsystem Control Table entry for certain subsystems is supplied with the Intercomm system release in INTSCT and need not be coded. The commands for which this is true are indicated in Appendix A. Commands processed by the Front End, whose subsystem code is X'00',X'00', do not require a Subsystem Control Table entry. The commands for which this is true are indicated in Appendix A.

Refer to Basic System Macros for a complete description of the SYCTTBL macro.

4.4 ADDITIONAL TABLE DEFINITIONS

Other tables may be required for implementation of some verbs; for example, Edit Control Table entries, or tables unique to command processing. Some verbs also require an Intercomm supplied OFT (Report) for formatting the response message. Reports are supplied as members RPT000nn; the specific report number (nn) is given for the applicable commands.

4.5 PREFORMATTED DATA SETS

Certain commands require preformatted BDAM data sets for storage and retrieval of data. The off-line utilities CREATEGF and KEYCREAT are used to accomplish this function.

4.6 LINKEDIT REQUIREMENTS

Subsystems associated with the various commands must be included in the Intercomm linkedit, as appropriate to the subsystem residency specified in the SYCTTBL macro.

4.7 EXECUTION JCL

DD statements must be added to the execution JCL for any required data sets.

4.8 GENERAL PURPOSE SUBSYSTEM

The General Purpose Subsystem (GPSS) performs various functions as indicated by the associated verbs SNAP, ABND, STRT, STOP, FILE, TALY, LTRC.

Implementation of the GPSS commands requires the following considerations:

- Front End Verb Table entries are required and supplied for all GPSS verbs, as given in Appendix A.

- A Subsystem Control Table entry is required for GPSS and is supplied, as follows:

```
GP  SYCTTBL  SUBH=G,SUBC=P,SBSP=GPSS,LANG=RBAL,TCTV=120,
             MNCL=4,NUMCL=10,RESTART=NO
```

  GPSS may not be dynamically loaded.

- The SNAP, ABND and LTRC commands are edited before processing and require an entry in the Edit Control Table (VERBTBL Csect), and is supplied in PMIVERBS, as described in Appendix A.

- The linkedit control cards for GPSS and its subroutines are generated by the ICOMLINK macro parameter GPSS=YES (default value). The included modules are GPSS, TALLY, BLHSTRC, BLHTRACE, IXFCTRL, STRTSTOP, SNAPRTN and IXFDYALC (if executing under MVS or XA).

- If executing under an operating system other than MVS or XA, the following must be reassembled (to generate a non-MVS snap list):

  BLHTRACE SNAPRTN

- If executing without a VTAM Front End, the following must be reassembled:

  BLHSTRC TALLY

- DD statements for the data sets required by certain commands must be added to the execution JCL, and are described in Appendix A.

- If the Intercomm message restart facility is used, ensure that RESTART=NO is coded on the SYCTTBL macro for the GPSS subsystem.

Appendix A

INSTALLATION REQUIREMENTS

System control commands are listed alphabetically.

- ● Indicates coding requirements supplied with the release.
- * Indicates coding requirements to be supplied by the user.

Detailed discussion of the facilities invoked by the system control commands, including in some cases additional installation requirements and considerations, is located in the Operating Reference Manual, unless reference is made to another manual.

ABND

- Verb Table entry, supplied as follows:

```
BTVERB VERB=ABND,SSCH=G,SSC=P,CONV=36000
```

- Subsystem Control Table entry for General Purpose Subsystem. See Section 4.8.

- Linkedit control cards for the General Purpose Subsystem. See Section 4.8.

- Edit Control Table entry in PMIVERBS, supplied as follows:

```
ABND   VERB     ABND,8,,2,KEY=NO            GPSS ABEND VERB
       PARM     AID,1,2,4,00000111          ABEND ID
       PARM     DMP,2,0,6,00000111          DUMP/NODUMP
```

* SNAPDD DD statement (see the Operating Reference Manual).

---

agen

* See the Autogen Facility Users Guide.

ASGN

* Verb Table entry. Sample coding:

```
BTVERB VERB=ASGN,SSC=S,SSCH=000
```

* The Subsystem Control Table entry for PMISIGN. Sample coding:

```
S  SYCTTBL  SUBC=S,SUBH=000,SBSP=PMISIGN,OVLY=0,LANG=RBAL,
            SECU=00,TISE=YES,SOSO=YES,BLRI=F,ECB=YES,
            MNCL=5,NUMCL=10
```

- Subsystem Control Table entry for the PMIOUTPT subsystem, supplied as follows:

```
N  SYCTTBL  SUBC=N,SBSP=PMIOUTPT,TCTV=120,LANG=RBAL,
            DLFN=PMIQUE,PCEN=10,BLRI=F,NUMCL=10,MNCL=4,
            RESTART=NO
```

* If the terminal operator security codes are on a disk data set, a DD statement for data set SEC000 is required and must be added to the execution JCL.

* PMISIGN subsystem must be included in the Intercomm linkedit as resident.

* Report numbers 36 and 37 must be resident or on RCT000 data set.

AVRB

* Verb Table entry. Sample coding:

```
BTVERB  VERB=AVRB,SSC=S,SSCH=000
```

If PMISIGN is not in the system, the subsystem codes may be for any subsystem with TISE=YES.

- Subsystem Control Table entry for the PMIOUTPT subsystem, supplied as follows:

```
N  SYCTTBL  SUBC=N,SBSP=PMIOUTPT,TCTV=120,LANG=RBAL,
            DLFN=PMIQUE,PCEN=10,BLRI=F,NUMCL=10,MNCL=4,
            RESTART=NO
```

* Report numbers 36 and 37 must be resident or on RCT000 data set.

BEGN

* Verb Table entry. This verb should be restricted to the control terminal by specifying SECUR=YES. Sample coding:

```
BTVERB  VERB=BEGN,SSC=T,SSCH=000,SECUR=YES
```

* Subsystem Control Table entry for the FINTUNER subsystem, which processes the BEGN command. Sample coding:

```
T  SYCTTBL  SUBC=T,SUBH=000,MNCL=4,LANG=RBAL,TCTV=120,
            SBSP=FINTUNER,NUMCL=10,RESTART=NO
```

* Fine Tuner Table to identify all subsystem names used in BEGN messages and relate the names to their subsystem codes, alphanumeric or hexadecimal, in the following format:

```
TUNERTBL CSECT
         DC CL5'sssss',CL2'cc',AL4(0)
         DC CL5'sssss',XL2'xxxx',AL4(0)
         .
         .            one entry per subsystem
         .
         PMISTOP
         END
```

sssss
    is the subsystem name

cc
    is an alphameric subsystem code

AL4(0)
    is required internally by Intercomm, and must be coded as the third element of every entry in the table.

xxxx
is the subsystem code in hexadecimal

* The modules TUNERTBL, TUNRBEGN, and FINTUNER must be included in the Intercomm linkedit; however, FINTUNER may be dynamically loadable. TUNERTBL must be resident.

* Ensure that Report numbers 9, 22 and 28 are resident or on the RCT000 data set.

CHNG

- See the Utilities Users Guide.

---

comm

* See the Multiregion Support Facility.

COPT

* Verb Table entry. Sample coding:

```
BTVERB  VERB=COPT,SSC=P,SSCH=C
```

* Subsystem Control Table entry for the CPLUNCSS subsystem, which processes the COPT command. Sample coding:

```
CP  SYCTTBL  SUBH=C,SUBC=P,SBSP=CPLUNCSS,LANG=NBAL,
             NUMCL=1,MNCL=1,OVLY=0,RESTART=NO
```

* Include CPLUNCSS in the Intercomm linkedit as resident.

COPY

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=COPY,SSC=C,SSCH=C
```

- Subsystem Control Table entry for the COPYSS subsystem, which processes the COPY command, supplied as follows:

```
CC  SYCTTBL  SUBH=C,SUBC=C,SBSP=COPYSS,NUMCL=10,OVLY=0,
             TCTV=120,LANG=RBAL,RESTART=NO,MNCL=4
```

* For BTAM 3270 CRTs which might issue a COPY command, code the BDEVICE macro parameter COPYRSP to specify whether or not receipt of the acknowledgement message is desired.

* Assemble and include as resident the user exit routine COPYEXIT, if coded. See the BTAM Terminal Support Guide.

* For a VTAM-only Front End, omit SSC and SSCH on the BTVERB macro, and omit the COPYSS subsystem and its SYCTTBL.

CPUD

* See the BTAM Terminal Support Guide.

DATA

* See the Data Entry Installation Guide.

DELY

* Verb Table entry. This verb should be restricted to the control terminal by specifying SECUR=YES. Sample coding:

```
BTVERB  VERB=DELY,SSC=T,SSCH=000,SECUR=YES
```

* Subsystem Control Table entry for FINTUNER, which processes the DELY command, as detailed for the BEGN command.

* Code the Fine Tuner Table as illustrated for the BEGN command.

* The modules TUNERTBL, TUNRBEGN, and FINTUNER should be included in the Intercomm linkedit, as for BEGN.

* Specify the value for the MDELY parameter of the SPALIST macro.

* Ensure that Report number 28 is resident or on the RCT000 data set.

DSGN

* Verb Table entry. Sample coding:

```
BTVERB  VERB=DSGN,SSC=S,SSCH=000
```

* Subsystem Control Table entry for PMISIGN. Sample coding:

```
S  SYCTTBL  SUBC=S,SUBH=000,SBSP=PMISIGN,OVLY=0,
            LANG=RBAL,SECU=00,TISE=YES,SOSO=YES,
            BLRI=F,ECB=YES,MNCL=5,NUMCL=10
```

● Subsystem Control Table entry for the PMIOUTPT subsystem, supplied as follows:

```
N  SYCTTBL  SUBC=N,SBSP=PMIOUTPT,BLRI=F,LANG=RBAL,DLFN=PMIQUE,
            PCEN=10,TCTV=120,NUMCL=10,MNCL=4,RESTART=NO
```

* If the terminal operator security codes are on a disk data set, a DD statement for data set SEC000 is required and must be added to the execution JCL.

* PMISIGN subsystem must be included in the Intercomm linkedit as resident.

* Report numbers 36 and 37 must be resident or on RCT000 data set.

DSPL

* See the Utilities Users Guide.

DVRB

* Verb Table entry. Sample coding:

```
BTVERB  VERB=DVRB,SSC=S,SSCH=000
```

If PMISIGN is not in the system, the subsystem codes may be for any subsystem with TISE=YES.

● Subsystem Control Table entry for the PMIOUTPT subsystem, supplied as follows:

```
N  SYCTTBL  SUBC=N,SBSP=PMIOUTPT,BLRI=F,LANG=RBAL,DLFN=PMIQUE,
            PCEN=10,TCTV=120,NUMCL=10,MNCL=4,RESTART=NO
```

* Report numbers 36 and 37 must be resident or on RCT000 data set.

FDPS

* See the BTAM Terminal Support Guide.

---

fgen

Method 1

* Verb Table entry for each verb. Sample coding:

```
BTVERB  VERB=fgen,SSC=x,SSCH=y,EDIT=NO
```

fgen is a user-defined verb. The values for SSC and SSCH reference the FORMGEN subsystem.

* Subsystem Control Table entry for FORMGEN, which processes the fgen verbs. Sample coding:

```
XY      SYCTTBL SUBC=x,SUBH=y,SBSP=FORMGEN,OVLY=n,LANG=RBAL,
                MNCL=4,NUMCL=5,RESTART=NO
```

* Report number 17 (for FORMGEN error message) must be resident or on RCT000 data set.

* The FORMTBLE, which consists of one six-byte entry for each fgen verb to be converted, in the following format:

```
FORMTBLE CSECT
* nn IS OUTPUT FORMAT NUMBER
         DC CL4'fgen',H'nn'
         .
         .     one entry for each fgen verb
         .
         PMISTOP
         END
```

fgen
is the verb to be converted

nn
is the associated output format number in decimal in the range 51-32767

* Include FORMTBLE and FORMGEN in the Intercomm linkedit. the FORMTBLE must be resident.

Method 2

* One Verb Table entry. This verb must be edited and must have one parameter, a four-character identifier specified in the FORMTBLE. Sample coding:

```
BTVERB VERB=FORM,SSC=x,SSCH=y,EDIT=BQ
```

The EDIT=BQ is required, as FORMGEN does not call the Edit Utility

* Edit Control Table entry in PMIVERBS. Sample coding:

```
FORM     VERB  FORM,xx,256,1,FIX=YES
         PARM  FRM,1,0,4,10000111
```

In the VERB macro, a VMI code (xx) and either KEY=YES or KEY=NO may be specified; FIX=YES must be coded. In the PARM macro, the underscored fields must be coded as shown.

* Subsystem Control Table entry for FORMGEN, which processes the fgen verbs. Sample coding:

```
XY       SYCTTBL SUBC=x,SUBH=y,SBSP=FORMGEN,OVLY=n,LANG=RBAL,
                 MNCL=4,NUMCL=5,RESTART=NO
```

* Report number 17 (for FORMGEN error message) must be resident or on RCT000 data set.

* The FORMTBLE, which consists of one six-byte entry for each format to be displayed. It is coded in the same manner as in Method 1, except that the fgen identifier is the parameter entered for the FORM verb.

* Include FORMTBLE and FORMGEN modules in the Intercomm linkedit. The FORMTBLE must be resident.

FHST

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=FHST,SSC=R,CONV=36000
```

- The Subsystem Control Table entry for the IXFRPTIQ subsystem, which processes FHST, supplied as follows:

```
R  SYCTTBL  SUBC=R,SBSP=IXFRPTIQ,OVLY=0,LANG=RBAL,TCTV=120,
            MNCL=4,NUMCL=10,RESTART=NO
```

- Subsystem Control Table entry for the PMIOUTPT subsystem, supplied as follows:

```
N  SYCTTBL  SUB=N,SBSP=PMIOUTPT,BLRI=F,LANG=RBAL,DLFN=PMIQUE,
            PCEN=10,TCTV=120,NUMCL=10,MNCL=4,RESTART=NO
```

* Ensure that &FHSTATS in SETGLOBE is set to 2 (selects and accesses), 3 (selects, inputs and outputs) or 5. It is released at a setting of 5 for full details (selects, gets, puts, reads and writes), which is required for LSR statistics accumulation. If changed, see the Operating Reference Manual for reassembly considerations.

* Optionally define a preformatted (via CREATEGF) BDAM data set with the ddname STATFILE for use by the FHST command. If used, a DD statement must be added to the execution JCL with DCB=(DSORG=PS,BLKSIZE=560,RECFM=FB,LRECL=n) where n is 16, 20 or 28 depending on the setting of &FHSTATS in SETGLOBE.

* If VSAM Local Shared Resources (buffer pools) and LSR statistics are desired, see the Operating Reference Manual for implementation.

* Make sure that Report numbers 46 and 47 are resident or on the RCT000 file.

* Include member IXFRPT01 (containing the entry point IXFRPTIQ) in the Intercomm linkedit as resident. It may not be dynamically loaded or in an overlay area.

* If more than 1596 files (Intercomm and user) are defined before the //PMISTOP DD statement, see the Operating Reference Manual for an IXFRPT01 internal modification.

FILE

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=FILE,SSCH=G,SSC=P,CONV=36000
```

- Subsystem Control Table entry for General Purpose Subsystem. See Section 4.8.

- Linkedit control cards for the General Purpose Subsystem. See Section 4.8.

* DD statement for each file for which the command may be specified.

* If the ALLOC and DEALL commands are to be used, the module IXFDYALC must be assembled and included in the Intercomm linkedit (MVS systems only).

FLSH

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=FLSH
```

* If disk queuing is specified for any Front End terminals, a DD statement(s) for the queue(s) must be added to the execution JCL.

  Since the FLSH command is processed by the Front End, a Subsystem Control Table entry is not required.

IMCD

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=IMCD,SSC=J
```

- Subsystem Control Table entry for the PMICLDWN subsystem, which processes IMCD, supplied as follows:

```
J  SYCTTBL  SUBC=J,SBSP=PMICLDWN,TCTV=0,LANG=RBAL,
            RESTART=NO,NUMCL=2,PRTY=3,MNCL=1
```

LOAD

- Verb Table entry, supplied as follows:

```
BTVERB VERB=LOAD,SSC=L,SSCH=L,CONV=36000
```

- Subsystem Control Table entry for the LOADSCT subsystem, which processes the LOAD command, supplied as follows:

```
LL  SYCTTBL  SUBC=L,SUBH=L,SBSP=LOADSCT,TCTV=120,
             LANG=RBAL,NUMCL=10,MNCL=4,RESTART=NO
```

* If dynamic linkediting is necessary, JOBLIB, STEPLIB, or DYNLLIB DD statement for the Load Library must be present in the execution JCL (see the Operating Reference Manual).

* Ensure that the SPALIST macro, MAXLOAD parameter is coded.

* For incore BLDL lists, see the BLDL parameter on the SUBMODS and SYCTTBL macros.

LOCK

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=LOCK
```

* The verb to which the terminal or component is to be locked may be any verb defined in the Front End Verb Table (BTVRBTB).

* Code the EOFMSG parameter of the BTERM macro as appropriate.

Since LOCK is processed by the Front End, a Subsystem Control Table entry is not required.

LOKR

* See the Multiregion Support Facility.

LTRC

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=LTRC,SSCH=G,SSC=P
```

- Subsystem Control Table entry for General Purpose Subsystem. See Section 4.8.

- Linkedit control cards for the General Purpose Subsystem. See Section 4.8.

- Edit Control Table entry in PMIVERBS, supplied as follows:

```
LTRC    VERB   LTRC,4,,2,KEY=YES,FIX=YES    GPSS LTRC VERB
        PARM   ON,1,000,5,00000110          START TRACE
        PARM   OFF,2,000,5,00000110         STOP TRACE
```

* SNAPDD DD statement.

* If the Multiregion Facility is not in use, ensure that the global &MULTREG is set to 0, reassemble INTSPA.

* If executing with a VTAM Front End, ensure that VTTRACEV is included in the Intercomm linkedit.

* If executing with a BTAM Front End, but not under MVS, reassemble and link BLHTRACE.

MMUC

- Verb Table entry, supplied as follows:

```
BTVERB VERB=MMUC,SSCH=M,SSC=M,CONV=18000
```

- Subsystem Control Table entry for the MMUCOMM subsystem which processes the MMUC command, supplied as follows:

```
MM   SYCTTBL   SUBH=M,SUBC=M,SBSP=MMUCOMM,TCTV=120,
               RESTART=NO,LANG=RBAL,MNCL=4,NUMCL=10
```

The subsystem may be resident, in overlay A, or dynamically loadable and is reentrant and Link Pack eligible. Subsystem codes may be changed, if desired.

* MMU must be installed, along with the Store/Fetch data sets to hold maps, etc. See Message Mapping Utilities.

MNCL

* Verb Table entry. MNCL should be restricted to the control terminal by specifying SECUR=YES. Sample coding:

```
BTVERB  VERB=MNCL,SSC=T,SSCH=000,SECUR=YES
```

* Subsystem Control Table entry for FINTUNER, which processes the MNCL command, as detailed for the BEGN command.

* Code the Fine Tuner Table as illustrated for the BEGN command.

* The modules TUNERTBL, TUNRBEGN, and FINTUNER should be included in the Intercomm linkedit, as for BEGN.

* Ensure that the MMNCL parameter is specified on the SPALIST macro.

* Ensure that Report number 28 is resident or on the RCT000 data set.

NRCD

* Verb Table entry, supplied as follows:

```
BTVERB VERB=NRCD,SSC=J
```

* Subsystem Control Table entry for the PMICLDWN subsystem, which processes the NRCD verb, supplied as follows:

```
J  SYCTTBL  SUBC=J,SBSP=PMICLDWN,TCTV=0,RESTART=NO,LANG=RBAL,
            NUMCL=2,MNCL=1,PRTY=3
```

* If the "Intercomm is closed" message is desired, the Intercomm version of USRCLOSE must be included in the linkedit, and the broadcast group TOALL must be defined.

* See also the description of the ENVIRON global &CLDWAIT in BTAM Terminal Support Guide and the SPALIST parameters CLDNLIM and CLDTO.

PAGE

* See Page Facility.

PGFX

* Verb Table entry. Sample coding:

```
BTVERB  VERB=PGFX,SSC=F
```

* Subsystem Control Table entry for the PMIFIXB subsystem, which processes the PGFX verb. PMIFIXB must be defined as nonreentrant and single-threaded, and may be resident or assigned to an overlay region, but may not be a dynamically loaded subsystem. Sample coding:

```
F  SYCTTBL  SBSP=PMIFIXB,SUBC=F,OVLY=n,LANG=NBAL,MNCL=1,
            NUMCL=2
```

* The FIXTABLE. Each entry of the ICOMFIX macro represents a group of pages specified by the address of the first page, the number of pages (maximum 32) and a three-character identifier of the group. For example:

```
ICOMFIX  ADDR=BTVRBTB,PAGES=10,ID=FTD
```

P129

* Verb Table entry. Sample coding:

```
BTVERB  VERB=P129
```

* A dedicated queue must be defined for the IBM 129/3270 attachment.

Since P129 is processed by the Front End, a Subsystem Control Table entry is not required.

See also the BTAM Terminal Support Guide.

QHLD

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=QHLD
```

* Ensure that the queues are dedicated (via the QNUM parameter of the BTERM macro) for all terminals for which the command may be entered.

* If disk queueing is specified for any terminal, a DD statement(s) for the queue(s) must be present in the execution JCL.

Since QHLD is processed by the Front End, a Subsystem Control Table entry is not required.

See also the BTAM Terminal Support Guide.

QRLS

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=QRLS
```

* Ensure that the queues are dedicated (via the QNUM parameter of the BTERM macro) for all terminals for which the command may be entered.

* If output disk queuing is specified for any terminal, a DD statement(s) for the queue(s) must be present in the execution JCL.

Since the QRLS command is processed by the Front End, a Subsystem Control Table entry is not required.

See also the BTAM Terminal Support Guide.

RLSE

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=RLSE
```

* Specify RLSERSP=YES (default value) on BDEVICE or LCOMP/VTCSB macros to cause a message to be received in response to RLSE when no output is queued.

* If a Front End disk queue is specified for any terminal, a DD statement(s) for the queue(s) must be present in the execution JCL.

Since the RLSE command is processed by the Front End, a Subsystem Control Table entry is not required.

See also the BTAM and SNA Terminal Support Guides.

RSLU

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=RSLU
```

Since RSLU is processed by the VTAM Front End, a Subsystem Control Table entry is not required.

Refer also to the SNA Terminal Support Guide for additional implementation considerations.

RVRS

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=RVRS
```

Since RVRS command is processed by the Front End, a Subsystem Control Table entry is not required.

See also the BTAM Terminal Support Guide.

R129

* Verb Table entry. Sample coding:

```
BTVERB  VERB=R129
```

Since the R129 command is processed by the Front End, a Subsystem Control Table entry is not required.

See also the BTAM Terminal Support Guide.

SAVE

* See Page Facility.

SECF

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=SECF
```

Since the SECF command is processed by the Front End, a Subsystem Control Table entry is not required.

SECN

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=SECN
```

Since the SECN command is processed by the Front End, a Subsystem Control Table entry is not required.

SECU

* See Extended Security System.

SIGN

* Verb Table entry. Sample coding:

```
BTVERB  VERB=SIGN,SSC=S,SSCH=000,LOCKEXE=YES
```

* The Subsystem Control Table entry for the PMISIGN subsystem. Sample coding:

```
S  SYCTTBL  SUBC=S,SUBH=000,SBSP=PMISIGN,OVLY=0,MNCL=5,
            LANG=RBAL,SECU=00,TISE=YES,NUMCL=10,
            SOSO=NO,BLRI=F,ECB=YES,SPAC=1000
```

SOSO=YES must be coded to use SIGN from a subsystem.

● Subsystem Control Table entry for the PMIOUTPT subsystem, supplied as follows:

```
N  SYCTTBL  SUBC=N,SBSP=PMIOUTPT,BLRI=F,LANG=RBAL,DLFN=PMIQUE,
            PCEN=10,TCTV=120,NUMCL=10,MNCL=4,RESTART=NO
```

* PMISIGN subsystem must be included in the Intercomm linkedit as resident.

* Report numbers 36 and 37 must be resident or on RCT000 data set.

* For the automatic sign-off feature, specify AUTOFF=YES on the STATION macro of each applicable terminal, and code the SPALIST macro SGNTIME parameter to specify the automatic sign-off time interval in minutes. The default is 005.

* For each terminal under security check, specify the permissible operator code(s) via the OPER parameter of the STATION macro.

* If any terminal operator security codes tables are on a disk data set, a DD statement for the SEC000 data set must be added to the execution JCL.

* Refer to the Operating Reference Manual for additional macro coding and linkedit requirements.

SNAP

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=SNAP,SSCH=G,SSC=P,CONV=36000
```

- Subsystem control Table entry for General Purpose Subsystem. See Section 4.8.

- Linkedit control cards for the General Purpose Subsystem. See Section 4.8.

- Edit Control Table entry in PMIVERBS, supplied as follows:

```
SNAP   VERB      SNAP,4,,4                  GPSS SNAP VERB
       PARM      SID,1,2,4,00000111         SNAP ID
       PARM      SYS,2,0,14,00000011        SDATA
       PARM      ICM,3,0,200,00000000       IDATA
       PARM      FST,4,0,3,00000000         FST  YES/NO
```

* SNAPDD DD statement.

* FASTSNAP DD statement if the Fast Snap facility is installed.

* The Fast Snap facility must be installed to get a fast snap via the FST parameter (see the Operating Reference Manual).

SNBK

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=SNBK,SSC=W
```

- The Subsystem Control Table entry for the SENDBACK (echo) subsystem, which processes SNBK is supplied as follows:

```
W  SYCTTBL  SUBC=W,SBSP=SENDBACK,NUMCL=10,LANG=RBAL,
            TCTV=120,MNCL=4,RESTART=NO
```

SPLG

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=SPLG
```

* Ensure that TPUMSG Csect components are resident, not in the transient overlay area.

Since the SPLG command is processed by the Front End, a Subsystem Control Table entry is not required.

SPLN

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=SPLN
```

* Ensure that TPUMSG Csect components are resident, not in the transient overlay area.

Since the SPLN command is processed by the Front End, a Subsystem Control Table entry is not required.

SPLU

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=SPLU,LOCKEXE=YES
```

Since the SPLU command is processed by the VTAM Front End, a Subsystem Control Table entry is not required.

Refer also to the SNA Terminal Support Guide for additional implementation considerations.

SPPL

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=SPPL
```

Since the SPPL command is processed by the Front End, a Subsystem Control Table entry is not required.

STAT

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=STAT
```

- Subsystem Control Table entry for the PMIOUTPT subsystem, supplied as follows:

```
N  SYCTTBL  SUBC=N,SBSP=PMIOUTPT,BLRI=F,LANG=RBAL,TCTV=120,
            DFLN=PMIQUE,PCEN=10,NUMCL=10,MNCL=4,RESTART=NO
```

* In order to accumulate and report I/O error statistics, ERRSTAT=YES must be coded on each BLINE or BTERM macro for which line or terminal error statistics are to be accumulated, and for which reasons are to be displayed for down conditions. This can be done individually for any terminal via its BTERM macro, or for any line via its BLINE macro, independent of any other BTERM or BLINE.

* Ensure that the modules ERRSTATS and BSTAT2 are included in the Intercomm linkedit. Both modules should be resident.

* Ensure that Report number 45 is resident.

Since the STAT command is processed by the Front End, a Subsystem Control Table entry is not required.

STLG

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=STLG
```

* Ensure that TPUMSG Csect components are resident, not in the transient overlay area.

Since the STLG command is processed by the Front End, a Subsystem Control Table entry is not required.

STLN

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=STLN
```

* Ensure that TPUMSG Csect components are resident, not in the transient overlay area.

Since the STLN command is processed by the Front End, a Subsystem Control Table entry is not required.

STLU

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=STLU
```

Since the STLU command is processed by the VTAM Front End, a Subsystem Control Table entry is not required.

Refer also to the SNA Terminal Support Guide for additional implementation considerations.

STOP

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=STOP,SSCH=G,SSC=P
```

- Subsystem Control Table entry for General Purpose Subsystem. See Section 4.8.

- Linkedit control cards for the General Purpose Subsystem. See Section 4.8

To implement a user-defined start/stop function controllable by the STRT and STOP commands, the following must be done:

* User functions begin with 113 and can go up to 32752. If user function values greater than 240 (default) are desired, change the SSNUM specification on the SPALIST macro and reassemble INTSPA.

* Within a user-written routine, use an SSTEST macro to ascertain the current status of the function and use the result of that test to branch to an appropriate location within the routine. User functions are by default started at Intercomm startup.

STPL

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=STPL
```

Since the STPL command is processed by the Front End, a Subsystem Control Table entry is not required.

STRB

* Verb Table entry. Sample coding:

```
BTVERB  VERB=STRB,SSC=254,SECUR=YES
```

* The Subsystem Control Table entry for the INTSTROB subsystem, which processes STRB. INTSTROB has no residency requirements. The module is pseudo-reentrant, may reside in an overlay area, but is not Link Pack eligible. Sample coding:

```
II  SYCTTBL  SBSP=INTSTROB,LANG=RBAL,SPAC=8192,
             SUBC=254,RESTART=NO,MNCL=1,NUMCL=4
```

* The interface module STRBICOM should be linkedited in the Intercomm nucleus.

STRT

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=STRT,SSCH=G,SSC=P
```

- Subsystem Control Table entry for General Purpose Subsystem. See Section 4.8.

- Linkedit control cards for the General Purpose Subsystem. See Section 4.8

* To implement a user-defined start/stop function, see the entry for STOP.

SWCH

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=SWCH,SSC=B
```

EDIT=NO, the default, is required.

- The Subsystem Control Table entry for the SWITCH subsystem, which processes the SWCH command, supplied as follows:

```
B  SYCTTBL  SUBC=B,SBSP=SWITCH,OVLY=0,NUMCL=2,LANG=RBAL,
            MNCL=2,TCTV=120,LOG=NO,RESTART=NO
```

* An Output Station Table (PMISTATB) entry and/or Broadcast Table (BROADCST) entry must be present to verify each terminal and/or broadcast group ID requested via SWCH.

SWOF

* Verb Table entry. Sample coding:

```
BTVERB  VERB=SWOF,SSC=S,SSCH=000
```

If PMISIGN is not in the system, the subsystem codes may be for any subsystem with TISE=YES.

* Ensure that Report numbers 36 and 37 are resident or on the RCT000 data set.

SWON

* Verb Table entry. Sample coding:

```
BTVERB  VERB=SWON,SSC=S
```

If PMISIGN is not in the system, the subsystem codes may be for any subsystem with TISE=YES.

* Ensure that Report numbers 36 and 37 are resident or on the RCT000 data set.

TALY

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=TALY,SSCH=G,SSC=P,CONV=18000
```

- Subsystem Control Table entry for the PMIOUTPT subsystem, supplied as follows:

```
N  SYCTTBL  SUBC=N,SBSP=PMIOUTPT,BLRI=F,LANG=RBAL,DLFN=PMIQUE,
            PCEN=10,TCTV=120,NUMCL=10,MNCL=4,RESTART=NO
```

- Subsystem Control Table entry for General Purpose Subsystem. See Section 4.8.

- Linkedit control cards for the General Purpose Subsystem. See Section 4.8

* Reassemble and link TALLY if only BTAM or only VTAM terminals in use.

* Ensure that Report number 43 is resident.

TDWN

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=TDWN
```

The parameter SSC=N is internally generated; the TDWN command will be processed by the Output subsystem for the Station Table, and thus forces Back End logging of the command request.

- Subsystem Control Table entry for the PMIOUTPT subsystem to process TDWN, supplied as follows:

```
N  SYCTTBL  SUBC=N,SBSP=PMIOUTPT,BLRI=F,LANG=RBAL,DFLN=PMIQUE,
            PCEN=10,TCTV=120,NUMCL=10,MNCL=4,RESTART=NO
```

* Ensure that TPUMSG Csect components are resident, not in the Transient Overlay Area.

TPUP

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=TPUP
```

  The parameter SSC=N is internally generated; the TPUP command will be processed by the Output subsystem for the Station Table, and thus forces Back End logging of the command request.

- Subsystem Control Table entry for the PMIOUTPT subsystem to process TPUP, supplied as follows:

```
N  SYCTTBL  SUBC=N,SBSP=PMIOUTPT,BLRI=F,LANG=RBAL,MNCL=4,
            DFLN=PMIQUE,PCEN=10,TCTV=120,NUMCL=10,RESTART=NO
```

* Ensure that TPUMSG Csect components are resident, not in the Transient Overlay Area.

UNLK

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=UNLK
```

Since the UNLK command is processed by the Front End, a Subsystem Control Table entry is not required.

ULKR

* See the Multiregion Support Facility.

UNPT

* Verb Table entry. Sample coding:

```
BTVERB  VERB=UNPT,SSC=P,SSCH=C
```

* Subsystem Control Table entry for the CPLUNCSS subsystem, which processes the UNPT command. Sample coding:

```
CP  SYCTTBL  SUBH=C,SUBC=P,SBSP=CPLUNCSS,LANG=NBAL,
             NUMCL=1,MNCL=1,OVLY=0,RESTART=NO
```

* The modules TOTSTART and TOTCLOSE must be resident.

* Include CPLUNCSS in the Intercomm linkedit as resident.

VTCN

- Verb Table entry, supplied as follows:

```
BTVERB  VERB=VTCN
```

Since the VTCN command is processed by the VTAM Front End, a Subsystem Control Table entry is not required.

VTST

- Front End Verb Table entry, supplied as follows:

```
BTVERB  VERB=VTST,LOCKEXE=YES
```

- Subsystem Control Table entry for the PMIOUTPT subsystem, supplied as follows:

```
N   SYCTTBL  SUBC=N,SBSP=PMIOUTPT,BLRI=F,LANG=RBAL,TCTV=120,
             DFLN=PMIQUE,PCEN=10,NUMCL=10,MNCL=4,RESTART=NO
```

* Ensure that VTAMSTAT is included in the Intercomm linkedit.

* Ensure that RPT00045 is included in the Intercomm linkedit.

Since the VTST command is processed by the VTAM Front End, a Subsystem Control Table entry is not required.

Appendix B

MESSAGES

Some response messages listed indicate the message's OFT number. The OFT number signifies the report table which contains the error message and is not part of the message text returned to the terminal operator. The OFT number is included because it can be useful for debugging purposes.

Error messages listed in Messages and Codes are not repeated here.

Messages which are purely informative and do not indicate an error condition are indicated in this listing by a bullet. The bullet is not actually part of the message.

● ABND COMMAND COMPLETED NORMALLY

ABND COMMAND FAILED EDITING

CAUSE: Syntax error

CHANGE MASK FUNCTION CANCELLED, VERB IS NOT IN MASK RANGE (OFT no. 0036).

CAUSE: Incorrect use of SWON/SWOF command.

COMMAND IGNORED - NOT VALID FOR INTERLOG.

CAUSE: An invalid FILE command option was entered for the log data set.

COUPLE FAILED--DBSTART MISSING.

CAUSE: Unable to connect to TOTAL, required module missing.

ACTION: Verify that the TOTSTART module (which contains the entry point DBSTART) is in Intercomm linkedit and is resident.

COUPLE WAS UNSUCCESSFUL, TOTAL NOT UP.

CAUSE: Communication with TOTAL DBMS could not be established.

ACTION: 1. Check Intercomm linkedit to verify that all required modules are present.

2. Check console log for operator messages from TOTAL or Intercomm, which may disclose reason for failure.

● DDNAME=xxxxxxxx ALTERED TO READONLY STATUS.

CAUSE: An ALTER READONLY command for file xxxxxxxx has completed.

● DDNAME=xxxxxxxx COMMAND PENDING FILE QUIESCE.

CAUSE: A LOCK, CLOSE or ALTER command issued for file xxxxxxxx cannot complete immediately because the file is in use.

ACTION: No action required. The system will complete the command when the file has been quiesced. The command may optionally be revoked via a FILE$CANCEL command.

DDNAME=xxxxxxxx HAS BEEN DEALLOCATED; CANNOT UNLOCK

CAUSE: A FILE$UNLOCK was entered for a file which was previously deallocated.

ACTION: Enter a FILE$ALLOC for the file before attempting UNLOCK (not valid if file previously deallocated with the NOREALC option).

● DDNAME=xxxxxxxx HAS BEEN SUCCESSFULLY DEALLOCATED

CAUSE: Successful completion of FILE$DEALL command. File defined by ddname xxxxxxxx is now available for off-line processing.

DDNAME=xxxxxxxx IS A TEMP DS AND MAY NOT BE REALLOCATED. USE 'NOREALC' OPTION OF DEALL CMD.

CAUSE: ddname xxxxxxxx defines a temporary data set. These may be deallocated but not reallocated.

ACTION: If the data set will not be needed later during the run, use NOREALC option of FILE$DEALL command.

● DDNAME=xxxxxxxx IS CURRENTLY ALLOCATED

CAUSE: FILE$ALLOC command entered for ddname xxxxxxxx which is already allocated.

DDNAME=xxxxxxxx IS NOT SYSOUT DATA SET. OVERRIDING SYSOUT CLASS INVALID

CAUSE: CLASS option specified on FILE$DEALL command but the data set identified with ddname xxxxxxxx is not a SYSOUT data set.

ACTION: DEALL command is ignored. Reenter without CLASS option.

● DDNAME=xxxxxxxx IS NOW CLOSED.

CAUSE: A CLOSE command for file xxxxxxxx has completed. If the LOCK option was used, this response will not be received, but the 'LOCKED' response will be. The file will be closed previous to the appearance of either response.

● DDNAME=xxxxxxxx IS NOW LOCKED.

CAUSE: A FILE$LOCK or FILE$CLOSE$LOCK command for file xxxxxxxx has completed. The file is now locked.

DDNAME=xxxxxxxx, IS SET FOR B37 PROTECTION - COMMAND IGNORED

CAUSE: The entered FILE command option is not valid for x37 abend protected files.

ACTION: If trying to use the CLOSE option, use the FEOV option instead.

● DDNAME=xxxxxxxx NO LONGER A READONLY DATA SET.

CAUSE: An ALTER WRITES command for ddname xxxxxxxx has completed.

DDNAME=xxxxxxxx NOT DEALLOCATED, STORAGE UNAVAILABLE

CAUSE: Storage could not be obtained to save information about the data set for future reallocation.

ACTION: Retry the FILE$DEALLcommand.

DDNAME=xxxxxxxx ON UNIT UNSUPPORTED FOR REALLOCATION. USE 'NOREALC' OPTION OF DEALL

CAUSE: Unit code in UCB (UCBTBYT4) connected to ddname xxxxxxxx specified an unsupported device type. Data set cannot be reallocated at any future time

ACTION: FILE$DEALL command is ignored. Use NOREALC option to deallocate without future reallocation.

● DDNAME=xxxxxxxx SUCCESSFULLY REALLOCATED

CAUSE: Successful completion of FILE$ALLOC command. File may again be used by on-line subsystems.

DDNAME=xxxxxxxx, UNABLE TO CLOSE FILE. CANNOT DEALLOCATE

CAUSE: Bad return code from File Handler RELEASE request.

ACTION: Retry FILE command.

DDNAME=xxxxxxxx, UNABLE TO OBTAIN DCB. USE 'NOREALC' OPTION OF DEALL CMD

CAUSE: FILE$DEALL command was entered for ddname xxxxxxxx but DCB for file could not be obtained, thus preventing Intercomm from acquiring information needed about the data set for a possible future reallocation.

ACTION: Use the NOREALC option of the DEALL command if it will not be necessary to reallocate the file later. Otherwise, retry the DEALL command without the NOREALC option.

DDNAME=xxxxxxxx, UNABLE TO READ JFCB. USE 'NOREALC' OPTION OF DEALL CMD

CAUSE: RDJFCB macro on ddname xxxxxxxx returned a nonzero return code. Intercomm was unable to obtain information about the data set necessary for reallocation.

ACTION: Retry FILE command. Use NOREALC option if data set will not need to be reallocated later.

DDNAME=xxxxxxxx, UNABLE TO REALLOCATE

CAUSE: System unable to find control block necessary for reallocation.

NOTE: This message will be returned when an ALLOC command is entered for a file which was previously deallocated with FILE$DEALL$NOREALC.

DDNAME=xxxxxxxx, UNRECOGNIZABLE OPTION ON LAST ALLOC/DEALL COMMAND

CAUSE: An invalid option was entered on last FILE$ALLOC or FILE$DEALL command for xxxxxxxx.

ACTION: The command is ignored. Reenter the command specifying the option correctly; or omit the option.

DDNAME=xxxxxxxx, yyyyy UNSUCCESSFUL, RC=X'zz', ERROR REASON CODE=X'aaaa'

WHERE: xxxxxxxx is the ddname entered for the FILE command
yyyyy is the command (ALLOC or DEALL)
zz is the return code from DYNALLOC macro
aaaa is the error reason code from the dynamic allocation request block.

CAUSE: Error in IBM SVC 99 routine (DYNALLOC macro)

ACTION: Meanings of return code and error reason code may be found in IBM's MVS/370 SPL: Job Management or MVS/XA SPL: System Macros and Facilities in the section concerning dynamic allocation.

NOTE: Error reason codes whose value is 02xx are eligible for retry, since these errors are returned when certain required system resources are unavailable. All other errors are considered permanent and cannot be retried. (Intercomm restriction.)

- DDNAME=xxxxxxxx WAS PREVIOUSLY DEALLOCATED

  CAUSE: FILE$DEALL command entered twice for the same data set.

ERROR--FIXTABLE INCORRECTLY LINKEDITED

ACTION: Check Intercomm linkedit; FIXTABLE must be resident.

ERROR--FIXTABLE MISSING

ACTION: Check Intercomm linkedit; be sure FIXTABLE was included.

ERROR--NOT A VS SYSTEM

CAUSE: Pages cannot be fixed in a non-VS system.

ERROR--PAGE FIX REJECTED BY VS SUPERVISOR

CAUSE: VS page supervisor returned a nonzero completion code for the request to fix a page indicating the page was not fixed.

EXCEEDED MAXIMUM TPUS--NOTHING SWITCHED

CAUSE: The number of terminal-IDs specified for the SWCH command exceeds the maximum of five terminal/broadcast groups.

ACTION: Specify five or fewer terminals or change TPUMAX field.

- FEOV NOT PERFORMED. FILE IS NONSEQUENTIAL OR HAS NO OPEN DCB

- FILE COMMAND COMPLETED NORMALLY

FILE COMMAND IS MISSING OR INVALID

CAUSE: Parameters not valid or not supplied.

- *** GOOD AFTERNOON** INTERCOMM IS CLOSED: mm-dd-yy-hh.mm.

- *** GOOD EVENING *** INTERCOMM IS CLOSED: mm-dd-yy-hh.mm.

- *** GOOD MORNING *** INTERCOMM IS CLOSED: mm-dd-yy-hh.mm.

IN A SATELLITE REGION - FE OPTION IS IGNORED

CAUSE: Terminal is locked to a satellite region, no Front End Tables.

ACTION: Unlock terminal (see ULKR command) and reenter request.

INPUT FORMAT ERROR - TALY COMMAND ABORTED

CAUSE: Syntax error in TALY command request.

ACTION: Reenter command with correct syntax.

INTSTROB--INVALID KEYWORD, REQUEST REJECTED

INTSTROB--STROBE INTERFACE NOT PRESENT, REQUEST REJECTED

INVALID COMMAND TYPE

CAUSE: STAT command parameter entered is other than UP, DOWN, ALL, TPU, or ERR.

ACTION: Reenter command with one of the valid parameter types listed.

INVALID FILE NAME SPECIFIED

CAUSE: ddname exceeded eight characters.

INVALID MESSAGE (OFT no. 00037)

CAUSE: Syntax error in entry of SIGN verb: no operator code specified; operator code longer than 10 characters or 0; no separator character, etc.

INVALID OFFSET IN SECURITY TABLE (OFT no. 00036)

INVALID SEPARATOR AND/OR TERMINATING CHARACTER

CAUSE: Input character following the STAT command or parameter is not a system separator character (usually a comma), a blank, a hardware line-ending character (such as CR/LF), or a hardware end-of-message character.

ACTION: Reenter command message with the correct parameter format.

INVALID STOP NUMBER

CAUSE: Number specified is 0 or exceeds SSNUM specification in SPALIST.

INVALID STRT KEYWORD

CAUSE: Parameter specified is undefined.

INVALID STRT NUMBER

CAUSE: Number specified is 0 or exceeds SSNUM specification in SPALIST.

INVALID STRT/STOP KEYWORD

CAUSE: Parameter specified is undefined.

INVALID TERMINAL ID--YOU TYPED IN xxxxx

CAUSE: Syntax error in issuing SWCH command; or terminal-ID specified is invalid.

IXFDYALC ROUTINE NOT PRESENT; ALLOC AND DEALL COMMANDS IGNORED

CAUSE: FILE$ALLOC or FILE$DEALL command was entered but IXFDYALC module not linkedited into system.

IXFRPT01: CRT LINE SIZE TOO SMALL FOR OUTPUT (OFT no. 00046)

IXFRPT01: DISK FILE CAPACITY ERROR (OFT no. 00046)

IXFRPT01: FILE UNDEFINED (OFT no. 00046)

IXFRPT01: I/O ERROR ON STATISTICS FILE (OFT no. 00046)

IXFRPT01: INVALID PARAMETER IN INPUT MESSAGE (OFT no. 00046)

IXFRPT01: NO LSR STATS, FIVE DSCT BUCKETS ARE NEEDED, LSR POOLS MUST EXIST (OFT no. 00046)

LINE NOT FND

CAUSE: Line address specified for STAT command is incorrect, or DCB is closed for that line.

ACTION: Correct line address or reenter command without specifying the line.

- LOAD REQUEST PROCESSING COMPLETED. [REGION=rrrrrrrr]

  WHERE: rrrrrrrr is the id of the region into which the module was loaded if a Multiregion system is in use.

- LTRC COMMAND COMPLETED NORMALLY

- LTRC--PROHIBITED FOR USE IN A SATELLITE REGION

  CAUSE: GPSS command routed to a satellite region. Or the global &MULTREG was set on when the SPALIST macro (INTSPA) was assembled, or the SPALIST parameters MRCNTL and/or MRID were incorrectly defined.

  ACTION: GPSS subsystem processing for LTRC must be defined in the control region. If using single-region Intercomm, ensure that &MULTREG is set off in SETGLOBE, and the SPALIST is correctly defined. Reassemble INTSPA and relinkedit Intercomm.

LTRC--WRONG PARAMETER SPECIFIED

MMUC - ALTERNATE TID NOT FOUND OR NOT SUPPORTED

  CAUSE: The alternate terminal ID specified by the user could not be found in the Station Table (PMISTATB).

  ACTION: Verify that the terminal ID exists and/or correct spelling and retry.

- MMUC - DELETION(S) SUCCESSFUL

  The in-core copy of the map(s) has been deleted.

MMUC - INCORRECT FUNCTION SPECIFIED - TERMINATED

  CAUSE: The function specified was neither SHOW nor DELT.

  ACTION: Correct the function and retry.

MMUC - INTFETCH ERROR FOR 'DELT' FUNCTION, RC=x

  CAUSE: INTFETCH tried to find the in-core copy of the designated map(s) for deletion but passed back a bad return code.

  ACTION: If RC=2, an in-core copy of the map does not exist; otherwise analyze the return code in the Store/Fetch manual, correct the error and retry.

MMUC - MAPEND ERROR FOR 'SHOW' FUNCTION, RC=x

CAUSE: MAPEND was called with the 'Q' option to transmit the maps via FESEND, but returned a nonzero return code.

ACTION: Analyze the return code via Appendix B of the MMU manual and correct the error.

MMUC - MAPOUT ERROR FOR 'SHOW' FUNCTION, RC=x

CAUSE: MAPOUT was called with the 'initial only' option (template), but passed back a bad return code.

ACTION: Ensure that the spelling of the MAPGROUP/MAP(S) is correct; analyze the return code via Appendix B of the MMU manual.

MMUC - SYNTAX ERROR ON INPUT - TERMINATED

Check MMUC command description for correct syntax and retry.

MODULE NAME NOT FOUND IN SCT,LOAD REQUEST REJECTED [REGION=rrrrrrrr]

CAUSE: rrrrrrrr is the name of the region where the command was tried if a Multiregion system is in use. The SCT has been searched and the module name specified in the LOAD command was not found.

ACTION: Check SCT coding and module name spelling. Module names are specified via the LOADNAM parameter of the SYCTTBL macro.

- NO OUTPUT QUEUED

CAUSE: There are no output messages on queue for terminal from which the RLSE command was entered.

NON-NUMERIC CHARACTER GIVEN ON mmm PARAMETER FOR vvvv VERB. ALL CHARACTERS SHOULD BE NUMERIC. MESSAGE NO. nnnnnnnn FROM TPUxxxxx.

ACTION: Reenter DELY/MNCL command with correct parameter.

NUMERIC FIELD EXCEEDED MAXIMUM SIZE FOR mmm PARAMETER ON vvvv VERB. MESSAGE NO. nnnnnnnn FROM TPUxxxxx.

ACTION: Reenter DELY/MNCL command with parameter within correct value range.

- ONLY CONTROL TERMINAL MAY FEOV LOG

CAUSE: Terminal other than control terminal tried to use the FEOV parameter for the system log when GPSSEC=FEOVLOG was specified on the SPALIST macro.

---

oper-code IS ALREADY SIGNED ON TO ttttt (OFT no. 00037)

oper-code IS NO LONGER AUTHORIZED (OFT no. 00036)

- oper-code IS NOW AUTHORIZED (OFT no. 00036)

O/P DEVICE PAGE TOO SMALL - TALY COMMAND ABORTED

CAUSE: Terminal buffer size must be at least 1920, with a line length of at least 80 positions.

PAGE-FIX PARAMETER MISSING OR IN ERROR

CAUSE: Syntax error in entry of PGFX command.

- PAGE-FIX REQUEST COMPLETED

- PAGE-ID WAS IN ERROR

CAUSE: ID not found in FIXTABLE or incorrectly specified.

- PAGE-UNFIX REQUEST COMPLETED

POLLING HAS BEEN SUSPENDED time (OFT no. 00037)

CAUSE: Issued upon failure to sign on after n times as specified in the MAXTIMES parameter of the SPALIST macro. Terminal is put down.

- PREVIOUS DELY CANCELLED

- QHLD DELAYED

- R129 DELAYED

REQUIRED PARAMETER mmm WAS OMITTED (OR GIVEN IN ERROR) ON THE vvvv VERB. ALL CHARACTERS SHOULD BE NUMERIC. MESSAGE NUMBER nnnnnnnn FROM TPUxxxxx.

ACTION: Reenter DELY/MNCL command with correct parameter value.

REQUIRED PARAMETER sssss WAS OMITTED (OR GIVEN IN ERROR) ON THE vvvv VERB. VERB WAS CANCELLED. MESSAGE NO. nnnnnnnn FROM TPUxxxxx.

ACTION: Reenter BEGN/DELY command with correct subsystem name.

SEC000 COULD NOT BE READ (OFT no. 00037)

SEC000 COULD NOT BE RELEASED (OFT no. 00037)

SEC000 COULD NOT BE SELECTED (OFT no. 00037)

SEC000 IS NOT IN THE FILE TABLE (OFT no. 00037)

- SECURITY VERB ACTIVATED (OFT no. 00036)

- SECURITY VERB DEACTIVATED (OFT no. 00036)

- SENSE DATA NOT AVAILABLE FOR LU xxxxx

  CAUSE: Response to VTST$LUxxxxx$SENSE@ when LU xxxxx was
  a) either not disconnected by Intercomm, or
  b) was disconnected by Intercomm but a STLU was subsequently issued for it.

- SENSE DATA UNAVAILABLE FOR ALL LOGICAL UNITS.

  CAUSE: Response to VTSTALLSENSE@ when no logical units have been put down by Intercomm due to exception responses or STLU was issued for all such LUs.

- SIGN-ON/OFF ACTIVATED (OFT no. 00037)

- SIGN-ON/OFF DEACTIVATED (OFT no. 00037)

- SIGN-OFF COMPLETED (OFT no. 00037)

- SIGN-ON CANCELLED (OFT no. 00037)

  CAUSE: Invalid message.

- SIGN-ON COMPLETED STATION ttttt OPERATOR oper-code (OFT no. 00037)

- SIGN-ON IS NOT REQUIRED STATION ttttt OPERATOR oper-code (OFT no. 00037)

  CAUSE: Since no operator codes are specified for this terminal, sign-on/sign-off security checking is not required.

- SNAP COMMAND COMPLETED NORMALLY

SNAP COMMAND FAILED EDITING

  CAUSE: Syntax error

STATION NOT IN THE STATION TABLE (OFT no. 00036)

- STATION ttttt OPERATOR oper-code (OFT no. 00036)

- STATION VERB (formatted headers) (OFT no. 00036)

- STOP COMMAND COMPLETED NORMALLY

STORAGE REQUEST FAILED - TALY COMMAND ABORTED

  CAUSE: Not enough storage available to create command response.

  ACTION: Retry command at a later time.

- STRT COMMAND COMPLETED NORMALLY

SUBROUTINE IS IN LINK-EDIT, LOAD REQUEST REJECTED [REGION=rrrrrrrr]

WHERE: rrrrrrrr is the name of the region when the LOAD command was tried, if a Multiregion system is in use.

- SUBSYSTEM sssss DELAYED FOR mmm MINUTES

- SUBSYSTEM sssss MNCL IS NOW nn

- SUBSYSTEM sssss PROCESSING

- SUBSYSTEM sssss PROCESSING RESTARTED

- SUCCESSFUL COUPLE WITH TOTAL COMPLETED.

- SUCCESSFUL UNCOUPLE WITH TOTAL COMPLETED.

SYNTAX ERROR COPY MESSAGE REJECTED

CAUSE: Format of COPY request in error; check syntax and reenter.

SYSTEM NOT MVS; ALLOC AND DEALL COMMANDS IGNORED

CAUSE: FILE$ALLOC or FILE$DEALL may not be used in a non-MVS (non MVS/XA) environment.

TERM NOT FND

CAUSE: Terminal name specified for STAT command is incorrect.

ACTION: Correct terminal name, or reenter command without specifying the terminal.

TEXT ERROR, LOAD REQUEST REJECTED [REGION=rrrrrrrr]

CAUSE: rrrrrrrr is the name of the region where the command was tried if a Multiregion system is in use. Error was made in entry of LOAD command, such as more than three digits specified, module name omitted, or module name more than eight characters.

THERE IS NO SUCH VERB AS VERB vvvv. MSG NO. nnnnnnnn FROM TPU ttttt (OFT no. 00017)

CAUSE: A FORMGEN (fgen verb) request was entered for a verb not defined in the FORMTBLE, or the FORMTBLE was not included in the Intercomm linkedit.

ACTION: Reenter fgen command with correct verb, or correct FORMTBLE and/or linkedit.

THE SECURITY TABLE IS NOT IN CORE (OFT no. 00036)

THE SECURVRB AND BTVRBTB TABLES ARE MISSING (OFT no. 00036)

THIS OPERATOR IS NOT AUTHORIZED FOR THIS STATION (OFT no. 00037)

CAUSE: The operator sign-on code entered is not specified as an authorized code for this terminal.

THIS VERB IS NOT AUTHORIZED FOR THIS STATION (OFT no. 00036)

CAUSE: Verb requested by SWOF/SWON command is not defined as allowable for terminal referenced by command.

• TOTAL CORE FOR LOAD SUBSYSTEMS SET AT nnnK. [REGION=rrrrrrrr]

TOTAL IS ACTIVE, CANNOT COUPLE.

CAUSE: Communication has already been established with TOTAL.

TOTAL UNCOUPLE FAILED.

CAUSE: Unable to disconnect from TOTAL.

ACTION: Check Intercomm region linkedit to verify that all required modules are present. Also, check console log for TOTAL and/or Intercomm operator messages giving reasons for failure.

UNABLE TO FIND SPECIFIED FILE

CAUSE: ddname not in Intercomm Data Set Control Table.

UNDEFINED SUBSYSTEM CODE - BE OPTION IS IGNORED

CAUSE: TALY$BE(ssch,ssc) request specified unknown ssch or ssc.

ACTION: Reenter with correct code, or if under Multiregion, check terminal locked to desired region.

UNDEFINED TERMINAL ID - FE OPTION IS IGNORED

CAUSE: TALY$FE(tid) request specified an unknown tid.

• VERB vvvv IS ACCEPTED FOR DEFERRED PROCESSING

VTAMSTAT - INPUT MSG CONTAINS EXTRANEOUS PARAMETERS.

CAUSE: More than 2 parameters entered on VTST command.

ACTION: Reenter command with correct parameters.

VTAMSTAT - UNRECOGNIZABLE PARAMETERS ON INPUT MSG.

CAUSE: Misspelled or invalid parameter(s) on VTST command.

ACTION: Reenter command with correct parameters.

VTAMSTAT - xxxxx IS NOT VTAM LU. REQUEST IGNORED.

CAUSE: VTST command entered for a non-VTAM Device.

ACTION: Use STAT command (for BTAM/TCAM/GFE devices).

VTAMSTAT - xxxxx NOT DEFINED IN TERMINAL TABLES.

CAUSE: For VTST command, terminal xxxxx could not be located in either the VTAM nor BTAM portion (if any) of the Front End Network Table.

ACTION: Check spelling of terminal-ID and reenter command.

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xxxx IS INVALID VERB FOR FINTUNER. THE ONLY ACCEPTABLE VERBS ARE: MNCL, DELY, BEGN. (OFT no. 00028)

CAUSE: The verb xxxx cannot be processed by FINTUNER.

ACTION: Change the Front End Verb Table entry for the verb xxxx so that it is no longer input to the FINTUNER subsystem.

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xxxxxxxx CANNOT BE ACCESSED DUE TO ERROR CONDITION. CONTACT YOUR SYSTEMS DIVISION BEFORE RETRYING THE LOAD [REGION=rrrrrrrr]

CAUSE: rrrrrrrr is the name of the region where the command was tried, if a Multiregion system is in use. Module did not exist on STEPLIB (or DYNLLIB) or a LOAD error occurred while accessing the dynamic load library.

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xxxxxxxx SIZE TOO BIG,RE-LINKEDIT IT AND ENTER THE LOAD REQUEST AGAIN [REGION=rrrrrrrr]

WHERE: rrrrrrrr is the region-ID where the command was tried if a Multiregion system is in use.

ACTION: 1. Revise program, recompile and linkedit again, then reissue the LOAD$NAME command; or

2. Issue LOAD$CORE command to increase storage size, then reissue the LOAD$NAME command.

SPR NO.

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SYSTEM PUBLICATION REVISION

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Title page, ii-iv, 2, 14, 23, 33-34, 38-40, 47, 52-53, 61-62, 64-66, 69-72, 81-82, 86, 90-95, 99, 104, 114, 118, 124, 129-138

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