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CONTROL NUMBER: 217

This form should be completed and submitted with the program package to the SHARE Program Library Agency at the address shown above. Standards and instructions for submitting programs are in the SHARE Reference Manual, Section 6.

- (1) Program Number (to be filled by SPLA) 370D-CL.3.C18
- (2) Title of Program OS/VSI WORKSTATION PACKAGE
- (3) System Type(s) (Machine) S/370
- (4) Search Key(s) OS/VSI TELEPROCESSING
WORKSTATION PROGRAM
- (5) Programming Systems/Languages ASSEMBLER F
- (6) Primary Subject Code 06 3
- (7) Minimum System Requirements OS/VSI WITH A TRANSMISSION CONTROL UNIT (2701/3705)
- (8) New (N) or Revision (R) (if revision, show prior Program Number in Item 1) N
- (9) Date of Submittal 11-7-77
- (10) Documentation (number of original pages submitted) 45
- (11) Author's Name and Address

- (12) Direct Technical Inquiries to Name & Address
(if different than Author)

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- (13) Submitter's Installation Membership Code

IN 001

- (14) Abstract (should contain sufficient information for a reader to determine the value of the program). Listed on the reverse side of this form are subjects which may serve as a guide for a descriptive abstract.

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SHARE PROGRAM LIBRARY SUBMITTAL FORM

Subject Guide:

- Purpose
- Programming Language used
- Version and modification level or release number
- Field of application
- Type of routine (main program, subroutine, etc.)
- Specific description of machine requirements

THE OS/VS1 WORKSTATION PROGRAM TRANSMITS JOBS TO A CENTRAL COMPUTER FOR PROCESSING. PRINT/PUNCH OUTPUT CREATED BY THESE JOBS CAN BE RETURNED TO THE WORKSTATION OR DIRECTED TO ANOTHER LOCATION. DATASETS MAY BE RECEIVED AT THE WORKSTATION IF A TRANSMIT REQUEST HAS BEEN SUBMITTED TO THE CENTRAL COMPUTER.

THE S/370 ASSEMBLER LANGUAGE PROGRAM REQUIRES REAL STORAGE ENOUGH TO PREFIX THE TELEPROCESSING SUPERVISOR CODE AND THE TP LINE BUFFERS.

THE DOCUMENTATION INCLUDES A INSTALLATION GUIDE AND A USERS GUIDE.

(Please attach additional pages if necessary) Total pages attached _____

An "Acknowledgement of Assistance" statement must be attached to this Submittal Form.

Permission to Publish

"I hereby give the SHARE Program Library Agency permission to reprint, reproduce, and distribute this program"

(15) Signature of Submitter and Date Perry Ferguson 11/17/77

(15) Signature of Installation Addressee _____

November 3, 1977

a tape has been created as sysin input for a IEBUPDTE job with the following macros included...

\$CHAIN	\$INPUT	\$SELMOD
\$COMMON	\$LOG	\$SPIN
\$COMSUP	\$LOGENT	SPINOFWA
\$CONTROL	\$OUTPUT	\$TCT
\$CONS	\$PRINT	COPYRGHT
\$DCHAIN	\$PUT	TRANSMIT
\$DEFTCT	\$RTPGEN	STSRCVE
\$EQUATES	\$SELECT	
\$FREE	\$SELEC1	

4 cylinders of 3330 disk space is required to hold the source code.

The member TRANSMIT contains a sample job stream.

The member STSRCVE contains the two OS jobs required to transmit and receive data files.

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Subsection Name OS/VSI Workstation

Subject Introduction

The OS/VSI workstation program (STSVSI) transmits jobs from a workstation to a central computer for processing. Print/punch output created by these jobs can be returned to the workstation or directed to other location(s). Data sets may also be received at the workstation if a transmit request has been entered at the central computer.

The workstation controls the execution of jobs by entering local commands and central commands.

LOCAL COMMANDS - To control the workstation. A special character (@) identifies local commands.

CENTRAL COMMANDS - To monitor processing at the central computer. Everything not a local command is a central command to the workstation.

Input/output units supported by the workstation include card readers, card punches, printers, and magnetic tapes. All of the above devices supported by the OS/VSI operating system are supported by the workstation.

FCB and UCSB loading for printers is supported thru the OS/VSI operating system macro SETPRT.

Transmission control units listed below are supported. They must be equipped with binary synchronous communication (BSC) facilities.

- . 2701 Data Adapter Unit
- . 2703 Transmission Control Unit
- . 3704 Communications Controller in Emulation Mode
- . 3705 Communications Controller in Emulation Mode

The workstation can transmit via point-to-point (leased or switched) communication lines that may be either two-wire half-duplex or four-wire half-duplex. Transparency, data compression, and high speed line support is also provided.



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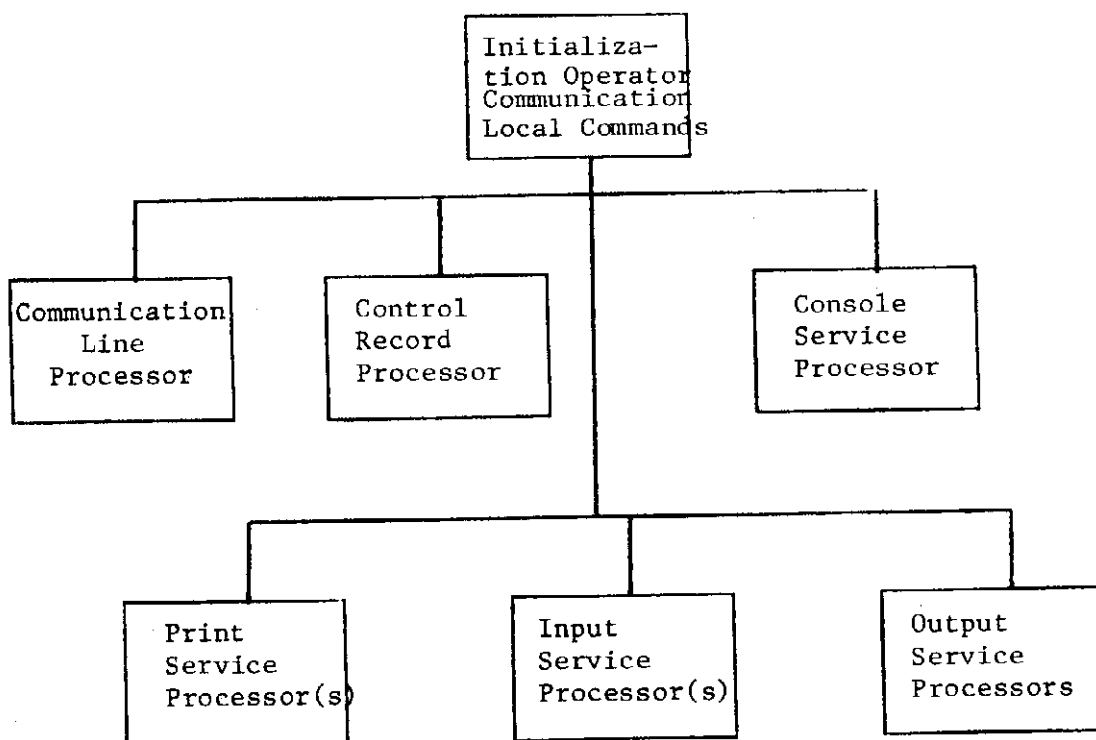
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Subject



Workstation Components

→ Denotes Change

◇ Deletion

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REQUIREMENTS

The workstation program must have all physical devices allocated at the time the program is started. This means the startup procedure must have a DD card for each physical device.

SAMPLE JOB STREAM

```
//TPEXEC      EXEC      PGM=STSVS1
//TPLINE      DD         UNIT=021
//READER1     DD         UNIT=01C,DCB=(RECFM=F,LRECL=80,
                           BLKSIZE=80)
//PRINTER1    DD         SYSOUT=A
//PUNCH1      DD         SYSOUT=B
//FILTAP1     DD         UNIT=280
//OUTTAP1     DD         UNIT=AFF=FILTAP1
//SYSUDUMP    DD         SYSOUT=A
//INCTAP1     DD         UNIT=AFF=FILTAP1
//
```

The workstation program can be started as a normal batch job in any partition. A high priority partition helps to reduce the incidence of time outs on the communication line.

The typical size of a workstation program is approximately 60K bytes of virtual storage. The TP buffers, TP control blocks, and the communication supervisor routines are PFIXED by the initialization routine. Real storage (4K and buffers) must be available for the PFIX routine. The amount of storage required for execution of the OS/VS1 workstation program varies on the following factors:

- . Number of service processors generated and running concurrently.
- . Number and size of communication line buffers generated.
- . Optional functions generated and used.

STARTING THE WORKSTATION PROGRAM

The workstation is started by executing program STSVS1 in any partition available, or by operator command if a procedure has been created (START TP.P1). The initialization routines issue messages to the operator if problems occur. The problem most likely to occur during startup is: not enough core available in that partition.



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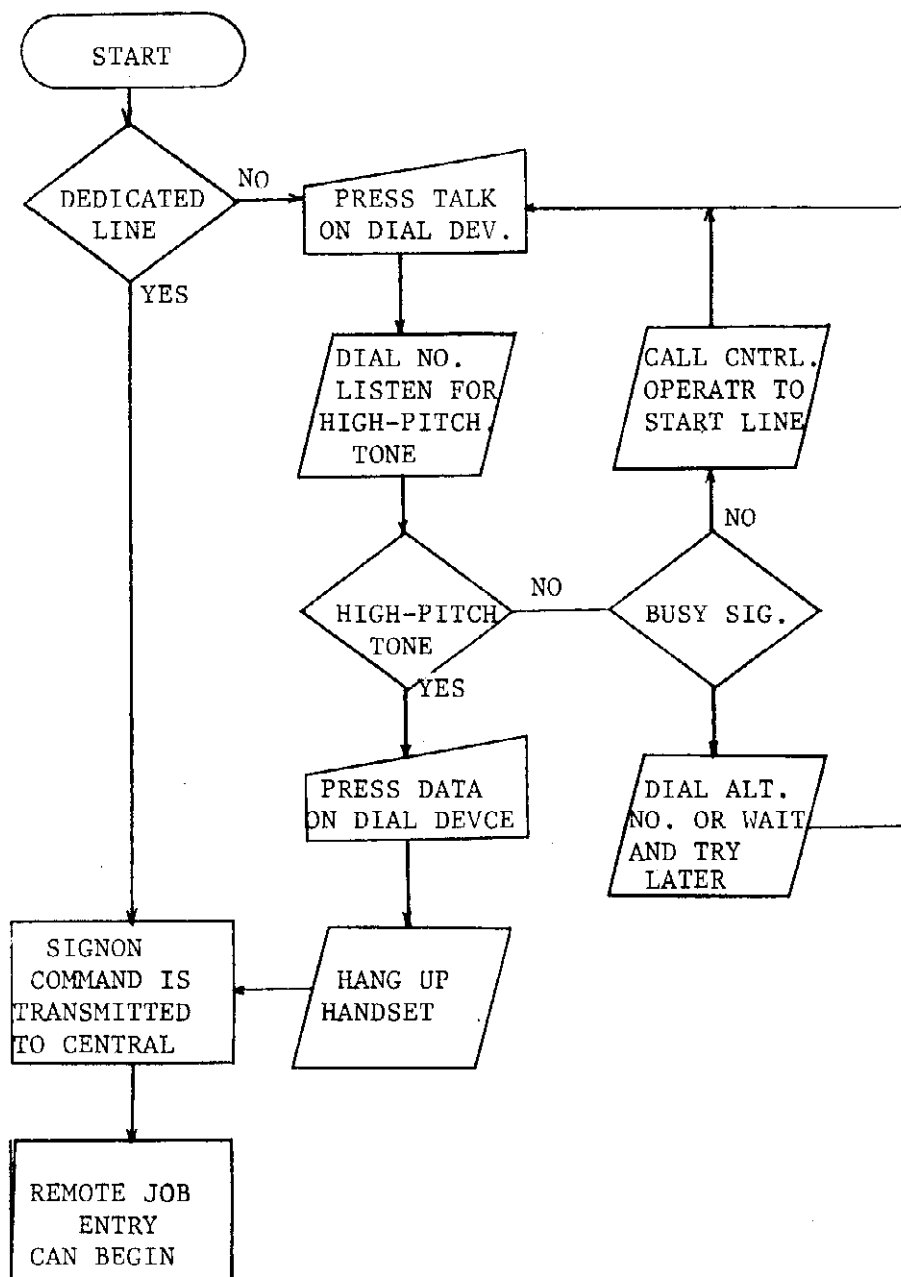
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Establishing a Communication Line



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ENTERING COMMANDS

After communication has been established with the central system, operator communication is established and the console message:

STS241I STSVS1 READY

Now the operator can enter local workstation or central system commands. Entering a command to the workstation program the operator must use the OS/VS1 modify command with the jobname parameter followed by the command to be passed to the workstation. For example ...

F TP,@MAP

Where F is the short version of the OS/VS1 modify command.

TP is the name of the job executing the workstation program.
@MAP is a local workstation program command to display the active processors.

The at sign (@) special character is used by the workstation to identify local commands. Every command entered has the first character checked and if it is not a @, the command is sent to the central system for processing.

MONITORING PROCESSORS

The workstation has the possibility of seven input processors and seven output processors active all at the same time. The MAP command allows you to check the status of the processors.

```
STS220I MAP STSVS1
STS221I FCN CUU ATT OPENED EOF STOP CSR FILE
STS223I R1  OOC N      N      Y      Y      N      N
STS223I P1  OOE Y      Y      Y      Y      N      N
STS223I U1  280 N      N      Y      Y      Y      N
```

Eight categories of information are displayed by the map command. They are described below.

FCN refers to the processor for which a line of information is displayed:

P - indicates a print processor
R - indicates a read processor
U - indicates an output (punch) processor



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CUU refers to the device address of a unit associated with a processor. The device address is one of the following:

- . device assigned to the processor, if that processor has been started.
- . device last used by the processor.
- . device specified as a default value

ATT shows that the processor is attached (Y=YES) or not attached (N=NO).

OPENED shows the processor is still active (Y) and

- . an input processor (Rn) has received permission from the central system to send data.
- . an output or print processor has received data sent by the central system and has opened the output files.

EOF indicates that the processor is waiting for work (Y) or is still processing (N).

STOP shows that the processor will terminate on EOF (Y) or will remain active and wait for more work (N).

CSR indicates that a central system request to send output to this processor has been received (Y), but the operator has not yet started the processor.


FILE indicates that the processor is performing file transmission (Y).

MONITORING THE COMMUNICATION LINE

The workstation program performs automatic error recovery for communication line errors. Normally, you will not have to take any action to correct line errors. However, the following types of problems might occur and require your intervention:

- . Central system fails to respond
- . Communication line is disconnected
- . Permanent hardware error occurs, for example, data set does not function properly.

Each of these problems may cause the error message STS283I to be displayed (See the message section). If your installation has specified the log class such that the message STS283I is not displayed, you may use the SETLC command to allow these messages to print.

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RESTARTING A PROCESSOR

In some cases, a processor may terminate abnormally due to problems such as:

- . Occurance of permanent input/output errors
- . Specification of invalid information

Normally, the operating system will inform you that a problem has occurred. You can resume processing after correcting the malfunction by using the local command KILL to reset the processor, then start the processor again by using the local START command.

TERMINATING THE WORKSTATION PROGRAM

All processors must be terminated before the workstation program is terminated. Use the local EOJ command to terminate the workstation program. The local EOJ command sends a signoff command to the central system to disconnect the communication line (If switched line) or to make it available for another signon (If non-switched line). When terminating a workstation session, you should always send a signoff command to the central system. If a signoff is not received, the RJP line will be unusable until cancelled and restarted by the teleprocessing coordinator.

FILE TRANSMISSION

The program ~~STC\$DD~~ creates a sequential dataset based on the data sent as SYSIN input from the workstation to the central computer. The OS/VS JCL sent with the data to the central system describes the characteristics of the output file to be established. (~~See Design Aide Manual for STC\$DD Guidelines.~~)

A File Control Card is entered into the ~~STC\$DD~~ job stream following the STSIN card. As the workstation program is reading this job deck, it recognizes the FILE control card and starts reading from the tape drive indicated. When end of file is reached on the tape drive, the program returns to reading cards from the reader.



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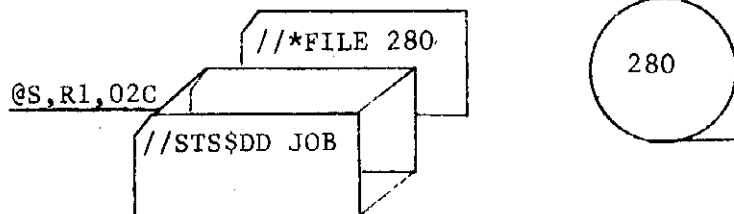
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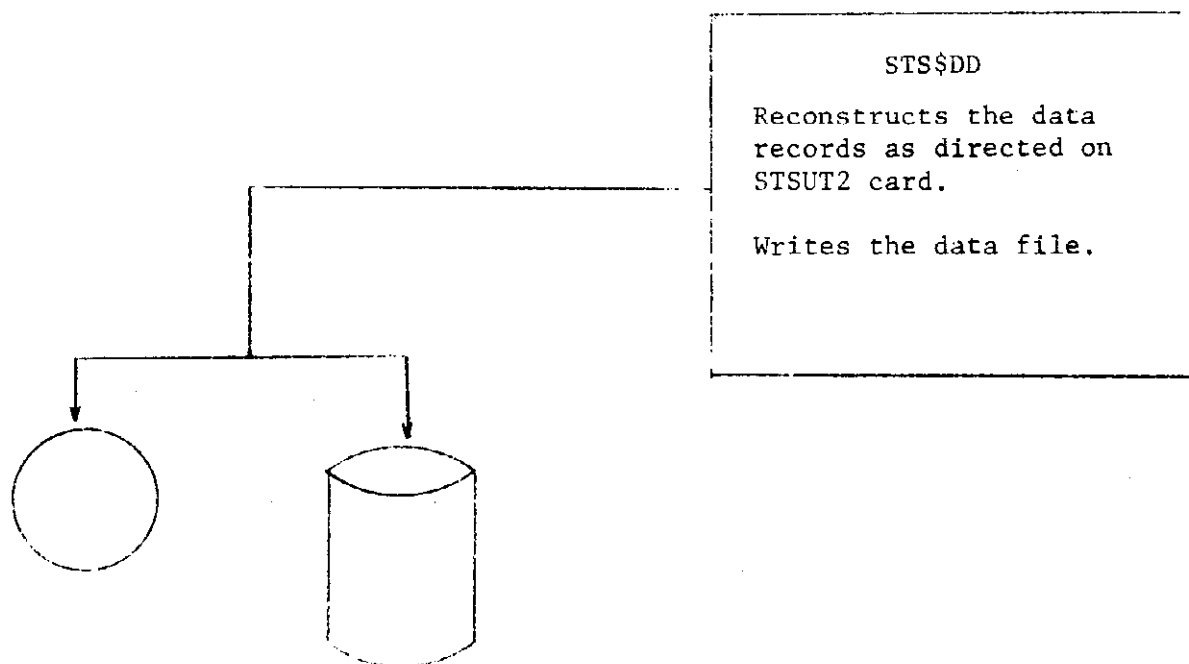
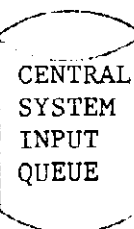


Input Service Processor:

Sends JCL input for the file
transmission Program STS\$DD.

Interprets the //*FILE control
card.

Reads the sequential data file
from the specified unit.



Example of File Transmission to Central System



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Subject Commands

The workstation program uses the STOP/MODIFY technique to communicate with the operator. This means that commands are passed to the workstation by way of a OS/VS1 modify command. Enter the modify keyword, the workstation jobname, and the command to be acted on by the workstation.

For Example:


F TP,*X,WTR

F = Is the short keyword for OS/VS1 modify command

TP = Jobname for the workstation program

*X,WTR = Central system command to be sent to the central system.

The workstation operator will be submitting local commands and central system commands. The program identifies a local command by the special character (@).

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The first character of every local command must be a @.

Local commands are summarized below:

- Cancel - Terminates the workstation program, used when communication between the workstation and the central system has been abnormally terminated.
- EOJ - Sends a signoff command to the central system and terminates the workstation program.
- FCB - Requests the specified Print Services Processor to load a forms control buffer (FCB) before the next print stream is actually printed.
- KILL - Terminates the specified Service Processor and resets all important indicators to allow restart of the processor.
- LOG - Starts or Stops logging of communication line read and write operations on the console.
- MAP - Displays the status of a specified processor or of all processors generated.
- SETLC - Modifies the log class limit for logging of communication line errors on the console.
- START - Attaches and initializes the specified processor and requests FCB/UCSB loads.
- STOP - Requests the specified processor to terminate on EOF.
- TIME - Displays the time of day on the consoles.
- UCS - Requests the specified print processor to load the universal character set buffer (UCSB) before the next print stream is actually printed.



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Subject Local Commands

Command @CANCEL

Function Terminate the Workstation Program if line communication has been interrupted. The STOP or KILL commands may be used before the CANCEL command to assure that all processors are terminated and the units unassigned.

Operands None

Example @CANCEL

This command will cancel the OS/VS1 Workstation Program.

User Notes Write center or operator notes applicable to this command in the space below.



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Subject Local Commands

Command

@EOJ
@END
@E

Function

Terminate a workstation session. It causes a SIGNOFF command to be sent to the central system. Use of the MAP command to display the status of all processors prior to issuing this command is recommended. The KILL command must be used to reset processors, if any have terminated abnormally.

Operands

None

Example

@E

This command will terminate communication with the central system.

User Notes

Write center or operator notes applicable to this command in the space below.



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Subject Local Commands

Command @FCB,pn,fcphase-name

Function Request the Print Service Processor to load the forms control buffer (FCB) with an image cataloged in the OS/VS1 SYS1.IMAGE Library.

Operands pn - This positional parameter must be specified to identify the Print Service Processor requested to load the FCB. Specify Pn where n must be a numeric digit from 1 to 7 to identify the specific processor.

fcphase-name - Specifies the name of a phase representing a forms control buffer image cataloged in the OS/VS1 SYS1.IMAGE Library. Code from one to four characters (0-9, A-Z, #, \$, /, and @). If '/' is coded, the phase-name must be contained within apostrophes. The first four characters of every FCB phase name must be FCB2.

Example @FCB,P6,FCB2STD1

This command requests Print Service Processor 6 to load a FCB cataloged under FCB2STD1 in the library.

User Notes Write center or operator notes applicable to this command in the space below.



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Subject Local Commands

Command @KILL,pn

Function Reset a specific processor when the processor has been terminated abnormally and must be restarted.

Operands pn - This positional parameter must be specified to identify the processor to be reset. Specify rn for an input service processor, Pn for a print service processor, or Un for an output service processor. n is a numeric digit from 1 to 7 to identify the specific processor.

Example @KILL,R4

This command detachs input service processor 4 if it is still attached, unassigns any assigned units and resets all of R4's indicators.

User Notes Write center or operator notes applicable to this command in the space below.



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Subject Local Commands

Command @LOG,ON
OFF

Function To determine if line communication has been interrupted;
or to request that the number of communication line reads
and writes be accumulated by the workstation program.
The output displayed varies with the specification in the
gen parameter LOGCLAS.

Operands On - Start logging on the console.
Off - Terminate logging on the console.

User Notes Write center or operator notes applicable to this command
in the space below.

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Command @MAP, pn
@M

Function Monitor the status of input, print, and output service processors.

Operands pn - Optional positional parameter specified to identify the processor for which status is to be displayed. If omitted, status of all generated processors is displayed. Specify Rn for input, Pn for print, Un for output. Code a numeric digit from 1 to 7 for n to identify the specific processor.

Examples @M,U2

This command will display the status of output service processor 2.

@M

This command will display the status of all generated processors.

User Note

Write center or operator rates applicable to this command in the space below.



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Subject Local Commands

Command @SETLC,lc

Function Modify the log class limit specified at generation in the LOGCLAS parameter. The log class limit, in combination with the severity class of a communication line error, determines which errors are to be displayed.

Operands lc - Positional operand specifies valid log class entries as one character (0 to 9, A, B, C, D, E, F). It must be coded.

Example @SETLC,E

This command changes the log class limit from its generated value to log class limit of E.

User Notes Write center or operator notes applicable to this command in the space below.



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Subject Local Commands

Command

@START, pn

@S

(, cuu)

({ , STOP }
P)

({ , DENSITY=1600
, DENS 800 }
D)

(, FCB=fcphase-name)

({ , FILEID=file-id
DSNAME
DSN
FILENAME
FILE
FN
N })

({ , LABEL=STD
L NO })

(, UCS-ucs-phase-name)

({ , VOLID=vol-id
VOLSER
V })

Function

Specify a processor to be activated.

Operands

pn - Positional parameter. Must be specified to identify the processor to be activated. Specify Rn for SYSIN input, Pn for print output, and Un for punch output. Code a numeric digit from 1 to 7 for n to identify the specific processor.

cuu - Optional positional parameter. May be coded to specify the unit address of the I/O device being used by the processor. If omitted, the unit defaults to sysgen unit address or last specified unit address for this processor.



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STOP - Optional positional parameter. May be coded to cause the specified processor to terminate on end of file. If omitted, processor remains active.

DENSITY - Optional keyword parameter may be coded to specify the density of a tape output file.

1600 - Specifies a 1600 bpi output tape. The default density can be set at workstation generation time. If no generation parameter was specified for DENSITY, 1600 is the default.

800 - Specifies a 800 bpi output tape.

6250 - Specifies a 6250 bpi output tape.

FCB - Optional keyword parameter may be coded to request the Print Service Processor to load the forms control buffer.

fcphase-name - Specifies the name of a load module representing a forms control buffer image.

FILEID - Keyword parameter must be coded if any tape I/O dataset is to be processed by the Workstation Program.

file-id - Specifies the unique name associated with a file on a tape volume. No more than seventeen characters may be coded. If a blank or special character is coded, the file-id must be contained within parentheses.

LABEL - Optional keyword parameter may be coded to suppress standard label processing for input and output tapes.

STD - Specifies standard label processing for input and output tapes. If coded, FILEID and VOLID must also be coded. This is the default.

NO - Specifies no tape label processing is to take place.

UCS - Optional keyword parameter may be coded to request loading of the Universal Character Set Buffer (UCSB) by the Print Service Processor.



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ucs-phase-name - Specifies the name of a load module representing a UCSB image.

VOLID - Optional keyword parameter may be coded to indicate the volume serial number of a dataset to the Workstation Program.

vol-id - Specifies the volume serial number of the volume containing the dataset to be processed. Code from one to six characters. SCRTCH may be used to indicate any available scratch volume.

Examples

@S,R5,00C

This command will start an input service processor for SYSIN input on card reader with unit address 00C.

@S,P4,181,STOP,FCB=FCB2STD1,N=TAPEFIL,V=123456

This command requests that Print Service Processor 4 be activated for print output. The file is located on tape unit 181; a FCB image is represented by load module FCB2STD1; the filename is TAPEFIL and the volume serial number of the tape is 123456.

User Notes

Write center or operator notes applicable to this command in the space below.



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Subject Local Commands

Command @STOP,pn
@P

Function Terminate a processor. If the processor is still processing output when the command is entered, it remains active until it detects end of file.

Operands pn - Positional parameter must be specified to identify the processor to be stopped. Specify Rn for input, Pn for print, and Un for output processors. Code a numeric digit from 1 to 7 for n to identify the specific processor.

Example @P,P1

This command will terminate print processor 1 when it has finished processing its current task.

User Notes Write center or operator notes applicable to this command in the space below.



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Subject Local Commands

Command @TIME
@TOD
@T

Function Display on the console the time of day maintained at the workstation computer.

Operands None

Example @T

This command will cause the time to be displayed in the format hh.mm.ss, where hh=hours (00-23), mm=minutes (00-59), and ss=seconds (00-59).

User Notes

Write center or operator notes applicable to this command in the space below.



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Subject Control Cards

Command

```

// *FILE      cuu
               ( { , FILEID      = file-id
                   DSNAME
                   DSN
                   FILENAME
                   FILE
                   FN
                   N
                   } )
               ( { , LABEL      =   STD
                   L              NO
                   } )
               ( { , VOLID      =   vol-id
                   VOLSER
                   V
                   } )

```

Function

This control statement is used to request transmission of a tape or disk data set to the central system.

Operands

cuu - This optional positional parameter may be coded to specify the unit address of the I/O device containing the data set to be transmitted.

FILEID - Keyword parameter must be coded if tape or disk dataset is to be located by catalog look-up by the Workstation Program.

file-id - Specifies the unique name associated with the file on a tape or disk volume. Code from one to forty-four alphanumeric characters; one to seventeen characters for tape. If a blank or special character is coded, file-id must be contained within apostrophes.

LABEL - Optional keyword parameter may be coded to suppress standard label processing for a tape dataset to be transmitted.

STD - Specifies standard label processing for a tape data set to be transmitted. This is the default. Parameters FILEID and VOLID must be coded.

NO - Suppresses standard label processing for a tape dataset to be transmitted.

VOLID - Optional keyword parameter may be coded to indicate the serial number of the volume containing a tape or disk dataset to be transmitted.



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vol-id - Specifies the volume serial number of the volume containing the dataset to be transmitted. Code from one to six characters.

Examples

```
//*FILE 160
```

This control statement requests the Input Service Processor to read the sequential data file at unit address 160 for transmission.

```
//*FILE 150,N=SEDNFIL,L=NO,V=246810
```

This control statement requests that the tape file named SENDFIL on volume 246810 be read with label processing suppressed.

User Notes

Write center or operator notes applicable to this command in the space below.



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COMMAND

//*FILEC

FUNCTION

This control statement is sued to request transmission of
a dataset from the central system.

OPERANDS

None

EXAMPLE

//*FILEC



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Explanation

STS200I OK

A Local Command Handler has performed its task satisfactorily.
The Operator Communication Routine waits for more work.

STS201I DISPLAY MESSAGE RECEIVED FROM CENTRAL SYSTEM

A message received from the center may or may not require
operator action.

STS202I XX - UCS PHASE XXXXXXXX NOT LOADED

A request to load a UCS phase has been rejected by the
system. Correct phase name or device type and re-issue
command.

STS203I OPERATOR COMMUNICATION BUSY

The Operator Communication Routine is not able to handle
the operator request since the routine is still occupied
processing another request. Try again.

STS204I WHAT ?

The operator input entered at the console was preceded
by the local command identification, but no acceptable
command code was entered (possibly a syntax error). Try
again with acceptable command code.

STS205I XX - UCS PHASE XXXXXXXX LOADED IN cuu

The UCS phase requested was loaded in printer.



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Explanation

STS2061 XX //*INCL OPERAND ERROR ffn

An error was detected while processing a //*INCL Control Card.

STS2071 XX - FCB PHASE XXXXXXXX NOT LOADED

FCB phase requested was not loaded due to invalid device type or phase name.

STS2081 XX - FCB PHASE XXXXXXXX LOADED IN CUU

The FCB phase requested has been loaded in printer.

STS2091 XX INPUT TAPE NNNNN RECORDS PROCESSED

An input service processor routine that reads sysin input from tape and sends the data to the central processor detected EOF.

STS2101 NNNNN RETRIES TO ESTABLISH COMMUNICATION SNS=XX

After startup the workstation program tries to establish communication with central system. The number of failures are listed in increasing time intervals.

SENSE BYTE INFORMATION

80 - Command Reject
40 - Intervention Required
20 - Bus out check
10 - Equipment check
08 - Data check
04 - Overrun
02 - Lost data
01 - Time out

STS2111 COMMUNICATIONS ESTABLISHED

Workstation program has established communication with the central system and sent SIGNON information to it.

STS2121 XX CLOSED CUU

READER CLOSED



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Explanation

STS213I XX CLOSED CUU

An input or output service processor detected EOF and STOP was specified for this processor.

STS214I UNABLE TO DETACH XX BECAUSE FUNCTION IS STILL BUSY

Due to an undetermined condition in the system or in the workstation program, an attempt was made to detach a subtask that is still busy.

STS215I FUNCTION XX IS ALREADY DETACHED

Due to an undetermined condition in the system or in the workstation program, an attempt was made to detach a subtask that is not attached.

STS216I UNABLE TO DETACH XX - TCT NOT FOUND

Due to an undetermined condition in the system or in the workstation program, an attempt was made to detach a subtask for which the total control table (TCT) cannot be found.

STS217I XX WAITING FOR WORK CUU

A service processor detected EOF and STOP was not specified and no work was available.

STS218I FILE CONTROL CARD DISPLAY

A /*FILE control card was detected in the job stream now being processed. The card is displayed on the console.

STS219I ERROR IN OPERAND ffnn

An error was detected in the operand of a command entered by the operator.

STS220I MAP STSVS1

First line of display created by issuing the MAP command.

STS221I FCN CUU AT OPENED EOF STOP CSR FILE

Second line or heading of display created by MAP command.



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Explanation

STS222I INVALID FUNCTION SPECIFIED IN MAP

An invalid function was detected in MAP command.

STS223I DATA LINE OF MAP COMMAND DISPLAY

The information to be displayed about each processor.

STS224I SETLC - SPECIFIED LOG CLASS INVALID

The operand of the SETLC command entered is invalid.

STS225I UNABLE TO ALLOCATE SUFFICIENT COMMUNICATION LINE BUFFERS

Workstation program is unable to allocate at least three communication line buffers.

STS226I UCS - FUNCTION XX INVALID

The UCS command handler is not able to post a print service processor for UCSB load because the processor name is not valid.

STS227I UCS - FUNCTION XX NOT GENERATED

The UCS command handler is not able to post a print service processor for UCSB load because the processor name entered is invalid.

STS228I UNABLE TO ACQUIRE SPACE FOR TAPE BUFFER


While initializing a FILE or INCL command, the workstation program was unable to get space for tape buffers.

STS229I EOJ - XX STILL BUSY

An EOJ command was entered, but the processor listed in the message and perhaps some other processors are still active.

STS230I UNABLE TO ATTACH SUBTASK

While initializing a processor, the attach failed.

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----------------	--------------------

STS231I NO BUFFERS - REENTER COMMAND

The console service processor is unable to send the command to the central system because all transmission buffers are occupied.

STS232I XX CURRENTLY IN USE

Unable to start requested processor as it is already in use.

STS233I INVALID FUNCTION SPECIFIED IN STOP COMMAND

The STOP command handler failed to stop the processor specified. The cause may be one of the following:

- . Processor is not generated
- . Processor has not been started
- . Processor name is invalid

STS234I REQUEST FROM CENTRAL SYSTEM TO START FUNCTION STILL PENDING

A stop command was entered specifying an output processor for which the central system has already requested permission to transmit data.

STS235I XX CLOSED CUU

A service processor detected EOF and was specified for this processor.

STS236I INVALID FUNCTION IN KILL COMMAND SPECIFIED


A KILL command was entered specifying a processor RX, UX, or PX, with X being greater than value specified at sysgen.

STS237I FCB - FUNCTION XX NOT GENERATED

The FCB command handler is not able to post a print service processor for FCB load because the processor name entered is not valid.

STS238I XX PRINTER CUU WAITING FOR WORK

The indicated print service processor recognized an EOF record sent by the central system. The processor was started without a stop request.

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Explanation

STS239I FCB FUNCTION XX INVALID

The FCB command handler is not able to post a print print service processor for FCB load because the processor name entered is invalid.

STS240I HH.MM.SS


The time of day operator command handler displays the time of day on the console.

STS241I PLEASE START FUNCTION XX

The central system has sent a request to the workstation program indicating that output is ready for transmission.

STS242I DD CARD MISSING - FOR TPLINE

The workstation was started without a DD card for the communication line. DDname must be TPLINE.

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Explanation

STS244I XX SPACE FOR JFCB NOT AVAILABLE

Notify the system programmer. Retry after reloading the workstation program or after existing tank(s) have completed.

STS246A XX MOUNT XXXXXX ON CUU

Mount tape volume XXXXXX on tape drive CUU.

STS247A DIAL CENTRAL SYSTEM

The workstation operator should dial the central system using the teleprocessing dataset.

STS248I UNABLE TO PAGE FIX TP BUFFERS

The workstation abends. When enough real storage is available for page fixing, the workstation can be started.

STS259I XX NO CATALOG RECORD FOUND

A catalog lookup of a dataset to be transmitted failed. Reader task is abended with user code 340.

STS250I XX RECEIVING JOB=NNNNNNNN FORM=XXXX CLASS=X FCB=XXXXXXXXX

Job start PRCB received by print processor XX.

STS251I STS READY

Operator communication has been established and the workstation is waiting for commands.

STS252I XX RECEIVING DATASET FORM=XXXX CLASS=X FCB=XXXXXXXXX DSN=NNNNNNNN

STS prefix PRCB received by print processor XX.

STS253I XX NO SPACE AVAILABLE

No space available for tape file buffer. Restart workstation program in a larger partition.



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Explanation

STS254 XX NO DD CARD FOR THIS PROCESSOR

Attempt to start an output file processor for which no DD card was in the start deck or procedure.

STS255 XX DATASET NOT CATALOGED DSN=NNNNNNNNNN

Attempt to catalog a dataset failed due to one of the following reasons.

STS256 OPERAND MISSING

A local command was entered without an operand.

STS257 XX DATASET CATALOGED DSN=NNNNNNNNNNNN

STS DATASET RECEIVED has been cataloged.

STS258 MOUNT VOLUME XXXXXX ON CUU

Receiving a tape dataset. If a volume serial number was entered on the transmit request, it is put into this message; otherwise a SCRTCH volume is asked for.

STS259 XX RECEIVING JOB=NNNNNNNN FORM=XXXX CLASS=X

Job start PRCB received by punch processor XX.

STS260 XX RECEIVING DATASET FORM=XXXX COPIES=X DSN=NNNNNNNNNN

STS prefix PRCB received by tape file processor.

STS261 DISPLAY OF INCLUDE CONTROL CARD

Include control card entered is displayed on the console.

STS262 XX FILE TRANSMISSION SEQUENCE CHECK

In recreating a tape file block, an invalid sequence was detected. The tape file processor is terminated and the transmit request will have to be restarted.



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Explanation

STS263 XX PRINTER CUU CLOSED

The print processor finished and detached.

STS264 XX RECEIVING DATASET ON UNIT=CUU VOLUME=XXXXXX DSN=NNNNNNNNNN

The tape file dataset transmission as started.

STS265 XX UNABLE TO ACQUIRE SPACE

The sysout spinoff routine was unable to acquire space to build control blocks for the pseudo sysout job.

STS266 XX INPUT TAPE XXXXX RECORDS PROCESSED

The tape file processor has completed and XXXXX physical records were written to the tape.

STS267 XX JOB=NNNNNNNN SENT TO SYSOUT CLASS=X FOR PRINTING

The sysout spinoff routine completed and the job is available for printing by the regular system writers.

STS268 XX SYSTEM TASK IN SPINOFF ROUTINE FAILED


One of the system routines used in creating the pseudo job for sysout spinoff failed. The processor is abended.

STS269 XX SPINOFF RTN FAILED--SYSOUT INCOMPLETE

The print processor abended while writing a sysout spinoff dataset.

STS270 NO SPACE AVAILABLE FOR TP BUFFERS

Unable to get space for the teleprocessing buffers. The workstation program is abended with user code 670.

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Explanation

STS272 XX NO SPACE AVAILABLE FOR CATALOG WORK AREA

No space available to build extension of catalog work area. The dataset continues to be received but no attempt is made to catalog the dataset.

STS275I XX INVALID DEVICE TYPE

An unexpected error has occurred closing a print service processor. The processor is terminated.

STS277I XX FUNCTION NOT GENERATED

Support not generated for this function. Request ignored. Operator should issue KILL command for this processor.

STS281I XXXXXXXX COMMAND NOT SUPPORTED

A local command was recognized, for which support was not generated.

STS283I COMMUNICATION LINE ERRORS
01RREE00 BLOCK SEQ CK

A transmission block was duplicated or lost. RR = received block number, EE = expected block number.

02000000 ERROR REPLY

Workstation received a negative reply from the central system.

03RRRR00 INVALID RESPONSE

An unrecognizable control character was received from the central system. RRRR = first two characters.

04XXAAAA UNIT EXCPTN

Indicates the receipt of an "EOT" character from the central system. Multi-leaving doesn't use "EOT".



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Explanation

05SS0000 UNIT CHECK

Unit check in the communications adapter. SS = SENSE BYTE
80 = COMMAND REJECT
40 = INTERVENTION REQUIRED
20 = BUS OUT CHECK
10 = EQUIPMENT CHECK
08 = DATA CHECK
04 = OVERRUN
02 = LOST DATA
01 = TIME OUT

06CCCC00 UNUSUAL END

Unusual condition in the channel or control unit. CCCC = status bytes of the CSW.

08WWWWW LOG WRITE

A write operation was performed by the TP supervisor.
WWWWW = first three bytes.

09RRRRRR LOG ALL READ

A read operation was performed by the TP supervisor.
RRRRRR = first three bytes.

STS284I XX REQUESTED FUNCTION IS NOT SUPPORTED

The indicated input service processor recognized a request to perform a function, which is not supported by the workstation program.

STS285I XX //*FILE OPERAND ERROR ffn

An operand error in the //*FILE control card was detected by the indicated input service processor.

STS286I XX TAPE OUTPUT FILE CUU CLOSED NNNNN RECORDS WRITTEN

The indicated output service processor, which performed file transmission on device 'CUU', has received EOF from the central system and closed the output file.



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Explanation

STS2871 UNABLE TO ATTACH TASK

The attach failed during initialization of one of the control subtasks. The workstation abends and must be restarted.

STS2971 XX UNDETERMINED ERROR

An input service processor failed due to an undetermined error. The input service processor terminates. Make sure the device is varied online.

STS2981 XX UNDETERMINED ASSIGN ERROR

An input service processor failed due to an undetermined error. The processor terminates.



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Generation Parameters

- &CMPTYPE - Type of character compression that is supported. Default is 3.
- 1 = Trailing blank compression
 - 2 = Blank compression - anywhere
 - 3 = Any duplicate character compression
- CMPTYPE=3
- &CCT - Number of times a character must be duplicated before compression takes place. Default is 4. CCT=4
- &DENSITY - Default density of tapes used by the workstation. Default is 6250. DENSITY=6250
- &MLBSIZE - Multi leaving buffer size. The size of the TP Buffers. Default is 512 bytes. MLBSIZE=512
- &LCMDID - Local command identifier. Default is the at sign (@).
LCMDID=@
- &LOGCLAS - TP line errors are assigned a log class and if the assigned class is equal or lower than this parameter, the error is logged on the console. Allowable classes 0-9, and A-F. Default is F. LOGCLAS=F
- &NUMBUFS - Multi leaving buffers. The number of TP Buffers that will be created. Default is 30. NUMBUFS=30
- &NUMISP - The number of input service processors that will be generated. Default is 1. NUMISP=1
- &NUMOSP - The number of output service processors that will be generated. Default is 1. NUMOSP=1
- &NUMPSP - The number of print service processors that will be generated. Default is 1. NUMPSP=1
- &PADR - Default printer addresses. Default is 00E. PADR=(00E)
- &RADR - Default reader addresses. Default is 00C. RADR=(00C)
- &UADR - Default punch addresses. Default is 00D. UADR=(00D)



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Generation Parameters

- &PBLM - Maximum number of TP Buffers that can be assigned to each printer. Default is ten. PBLM=(10)
- &UBLM - Maximum number of TP Buffers that can be assigned to each punch. Default is ten. UBLM=(10)
- &WBLM - Maximum number of TP Buffers that can be assigned to console messages. Default is ten. WBLM=(10)
- &PRTSIZE - Maximum size of each print record and block. Default is 132. PRTSIZE=132
- &RMTID - Five characters that form the terminal name for the SIGNON card. Default is RMTST. RMTID=RMTST
- &PTCU - TP control unit. Default is 2701. TPCU=2701
- &WTOSIZE - Maximum length of console messages. Default is 120. WTOSIZE=120

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Generation Considerations

The workstation runs as an authorized program and therefore must reside in an authorized program library.

Approximately 20K of real storage must be available to the partition that the workstation is going to run in. Actual real storage required varies with the size and number of transmission buffers.

The workstation will run in any partition. There will be fewer line errors if it is run in a high priority partition.

The devices used by the workstation are dedicated and can not be used by any other job while the workstation is up.

The ddname must correspond to the processor that they apply to. For example, the JCL cards with ddnames READER1, INCTAP1, and FILTAP all apply to the input service processor READER1. Output service processor number one uses PUNCH1 and OUTTAP1 and the print processors are PRINTER1 through PRINTER7.

Each additional processor generated requires 2K of virtual storage plus the size of the largest block that will be received or sent from that device.

If print sysout spinoff is to be used by the additional print processor(s), another 2K of virtual storage should be added to virtual storage requirement.



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Authorized Program

STSVS1 runs as an authorized program and therefore must reside in an authorized program library. The following jobs show how you can determine if the program is already authorized and if not how to add it to the authorized program facility (APF) list.

LIST APF MODULE:

```
//STEP1      EXEC  PGM=IEBUPDTE
//SYSPRINT    DD    SYSOUT=A
//SYSOUT      DD    SYSOUT=A
//SYSUT1      DD    DSN=SYS1.PARMLIB,DISP=SHR
//SYSUT2      DD    SYSOUT=A
//SYSIN       DD    DATA
./ REPRO NEW=PS, NAME=IEAAPFOO
./ ENDUP
/*
//
```

ADD OUR LIBRARY TO APF MODULE:

```
//STEP1      EXEC  PGM=IEBUPDTE, PARM=NEW
//SYSPRINT    DD    SYSOUT=A
//SYSUT2      DD    DSN=SYS1.PARMLIB,DISP=OLD
//SYSIN       DD    *
./ ADD LIST=ALL, NAME=IEAAPFOO
U.ULAPF CAL347
/*
//
```

Devices

STSVS1 uses OS/VS1 data management routines and therefore supports all devices supported by OS/VS1.

The workstation will support seven readers, seven printers, and seven punch tasks running simultaneously. Each task may control a real or pseudo device(s). For example, a printer task may be assigned to a printer, tape drive, or disk data extent. A reader task may use several real devices if file and/or include transmission is used.



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The workstation as distributed has one reader task, one printer task, and one punch task generated. Devices dedicated to the workstation program include:

The 2701 Data Adapter
One card reader
One tape drive

Procedure

The workstation can be started by submitting a job or by operator command. The following jobs are examples of each method.

JOB STEP OR PROCEDURE:

```
//STEP0      EXEC  PGM=STSVS1
//SYSUDUMP   DD    SYSOUT=A
//STEPLIB    DD    DSN=U.ULAPF,DISP=SHR
//READER1    DD    UNIT=01C,DCB=(RECFM=F,LRECL=80,BLKSIZE=80)
//PRINTER1   DD    SYSOUT=A,DCB=(RECFM=FM,LRECL=133,BLKSIZE=133)
//PUNCH1     DD    SYSOUT=B,DCB=(RECFM=F,LRECL=80,BLKSIZE=80)
//FILTAPl    DD    UNIT=280
//INCTAP1    DD    UNIT=AFF=FILTAPl
//OUTTAP1    DD    UNIT=AFF=FILTAPl
//TPLINE     DD    UNIT=021
//
```

If the above JCL is added to the procedure library under the name TP, the following operator command could be used to start the workstation in partition one. (Start TP.P1)

Real Storage

The workstation program requires real storage for the communication supervisor routines and for the teleprocessing line buffers. The distributed workstation requires 4K for the communication supervisor and 15K for TP buffers.

Virtual Storage

STSVS1 requires 60K of virtual storage for the version included here. As more processors are added, an additional 2K plus the largest buffer size expected should be added to the virtual size.

Installation

The source code for the workstation is in macro form. Each macro is added to a library called CSP.STSSCR. The first job adds the source macros. The final job is a link of the default workstation to our authorized library U.ULAPF.