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SPLA CONTROL NUMBER: 193

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".

- (1) Program Number (to be filled in by SPLA)..... 360D-05.1.023
- (2) System Type (machine)..... IBM 360/370 OS/MVT
- (3) Search Key..... TEXAS INTERACTIVE PROGRAMMING SYSTEM  
( TIPS )
- (4) Programming Systems/Languages..... ALC
- (5) Author's Name and Address..... TOM WORSHAM and GARY COHEN
- (6) Direct Technical Inquiries to Name & Address (if different than Author)  
Gary Smith  
The University of Texas  
5601 Medical Center Drive  
Dallas, TX 75235
- (7) Title of Program..... TEXAS INTERACTIVE PROGRAMMING SYSTEM ( TIPS )
- (8) Submitter's Installation Membership Code..... UTR
- (9) Submitter's Own Program Identification and Suffix(Optional)..
- (10) Primary Subject Code..... 051
- (11) Minimum System Requirements see description
- (12) New or Revision Code (if revision, show prior Program Number in Item 1) NEW
- (13) Year Completed..... 1976
- (14) Date of Submittal..... 4/20/76
- (15) Documentation (number of original pages submitted)..... 9
- (16) 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.

# SHARE PROGRAM LIBRARY SUBMITTAL FORM

## Subject Guide:

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

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## ABSTRACT

TIPS, the Texas Interactive Programming System, is both an on-line application monitor and a generalized utility system. TIPS is currently being run on an IBM 370/155 under OS/MVT. No OS modifications are required for its installation.

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## ON-LINE APPLICATION SYSTEM

The on-line system can run as a MILTEN subsystem or using BTAM for terminal I/O. The BTAM version, which is no longer run at UTRCC, supports only a single terminal type (distributed for 2741 correspondence). TIPS provides easy user interfaces through the CALL facility for: terminal I/O, in-core work area access, disk work area access, ENQ/DEQ routines, and disk data set open routines. An Applications Programmer Guide is provided. TIPS uses multi-tasking to allow for concurrent program execution. Applications may use all standard OS access methods. An interface is provided to allow TIPS transactions to be entered from the operator's console. The region requirement for TIPS is 14k plus 1k per user, plus a dynamic area for loading and executing user programs.

(Please attach additional pages if necessary).....Total pages attached 1

## Permission to Publish

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

- (17) Signature of Submitter and Date Gary Cohen, Thomas P. Worsham 4/21/76
- (18) Signature of Installation Addressee Setty Madhwal

## TIPS UTILITY SYSTEM

A powerful batch utility program is provided with comprehensive documentation. It has been successfully run on a MVT and a MFT system. It offers the following advantages over standard OS utilities:

1. Concise and flexible control language
2. No user JCL is required
3. Ideally suited to a batcher or express environment
4. Consolidates the most frequently used functions into a single program
5. Provides capabilities not available in standard IBM-OS utilities
6. Built-in data set security
7. Provides interactive execution in a MILTEN or BTAM environment

### AVAILABLE FUNCTIONS

A	allocate a data set
AL	add an alias for a member of a PDS
BLDG	build a generation index
C	catalog a data set
CALC	decimal / hexadecimal calculator
CONN	connect control volumes
DCONN	disconnect control volumes
DLTX	delete a catalog index
DSCB	display or modify a DSCB
DUMP	display memory
FIND	find a data set
I	display the attributes of a data set
L	locate a data set via the catalog
LISTLIB	list a partitioned data set
LM	list the directory of a PDS
PRINT	print a data set
PUNCH	punch a data set
PURGE	purge a PDS
R	rename a data set
RM	rename a member of a PDS
RPT	calculate required disk storage
S	scratch a data set
SM	scratch a member of a PDS
SPACE	display available disk storage
U	uncatalog a data set
ZAP	invoke IMASPZAP

# TEXAS INTERACTIVE PROGRAMMING SYSTEM

## INSTALLATION GUIDE

TIPS is distributed as an IEHMOVE tape containing 6 partitioned data sets. The contents of the tape are summarized below:

Data Set Name	File	RECFM	BLKSIZE	LRECL	3330 trks
TIPS.XEQLIB	1	U	1024	0	5
TIPS.SORLIB	2	FB	800	80	28
TIPS.PGMLIB	3	U	1024	0	32
TIPS.APPSOR	4	FB	800	80	110
TIPS.RTNLIB	5	U	1024	0	22
TIPS.DOCUMENT	6	FB	800	80	32

TIPS.XEQLIB contains the executable modules required to run TIPS. The system was assembled with the sysgen options given in the SAMPLE SYSGEN PARAMETERS writeup. Brief descriptions of the modules included in the data set are given below:

TPSUP	TIPS supervisor
PGMCTL	Program controller (reentrant subtask)
TIPS	TIPS interface subroutine
TPWTO	Dynamic console support module
TPSIM	TIPS batch simulator
SPAFMT	Disk work area data set formatter
LOGSIM	Batch logon simulator (linked with TPSIM)
others	Run time modules used by TIPS applications

TIPS.SORLIB contains the source code for the modules in TIPS.XEQLIB plus the macros needed to assemble the source. This data set also contains the member TPGLOBAL containing the TIPS sysgen parameters.

TIPS.PGMLIB contains the executable modules of all the UTRCC written utility applications.

TIPS.APPSOR contains the source code and required macros for the programs in TIPS.PGMLIB.

TIPS.RTNLIB contains the individual load modules for the executable modules in the program library.

TIPS.DOCUMENT contains documentation on TIPS including this installation guide. All the members of this data set except INSTALL, APPSOR, and APPLINK have ASA carriage control characters in column 1. Documentation is printable with either the PN or TN print train. Short descriptions of the members of this data set are given below:

INSTALL	Jobs to aid in installing TIPS
USRGUIDE	TIPS user's guide
INSGUIDE	TIPS installation guide
PGMGUIDE	TIPS application programmer's guide
SYSDESC	TIPS system description
APPGUIDE	TIPS applications description
APPSOR	Job to assemble an application
APPLINK	Job to link-edit applications into the program library

In order to install TIPS, IEHMOVE should be used to restore the distribution tape. After the tape is restored, the TIPS batch simulator should be able to run without any modifications. The TIPS system itself may require a re-assembly due to installation dependent parameters. Member TPGLOBAL of TIPS.SORLIB contains the parameters set as they are in the distributed system. If they must be changed, TPGLOBAL should be updated appropriately, and members TPSUP and PGMCTL should be assembled and linked into TIPS.XEQLIB. Member INSTALL of TIPS.DOCUMENT contains sample jobs and procs that will aid in the installation of TIPS. A sample job for restoring the TIPS data sets and punching the INSTALL member is given below:

```
//jobname JOB 'acct # etc'
//RESTORE EXEC PGM=IEHMOVE
//SYSPRINT DD SYSOUT=A
//SYSUT1 DD UNIT=SYSDA,SPACE=(CYL,(1,1))
//TODISK DD UNIT=disk,VOL=SER=volume,DISP=SHR
//TAPE DD UNIT=TAPE,VOL=(PRIVATE,RETAIN,SER=TIPS),
// DCB=(RECFM=FB,BLKSIZE=800,LRECL=80),DISP=OLD
//SYSIN DD *
COPY PDS=TIPS.XEQLIB,TO=disk=volume,FROM=TAPE=(TIPS,1)
COPY PDS=TIPS.SORLIB,TO=disk=volume,FROM=TAPE=(TIPS,2)
COPY PDS=TIPS.PGMLIB,TO=disk=volume,FROM=TAPE=(TIPS,3)
COPY PDS=TIPS.APPSOR,TO=disk=volume,FROM=TAPE=(TIPS,4)
COPY PDS=TIPS.RTNLIB,TO=disk=volume,FROM=TAPE=(TIPS,5)
COPY PDS=TIPS.DOCUMENT,TO=disk=volume,FROM=TAPE=(TIPS,6)
/*
//GEN EXEC PGM=IEBGENER
//SYSPRINT DD SYSOUT=A
//SYSIN DD DUMMY
//SYSUT1 DD DSN=TIPS.DOCUMENT(INSTALL),DISP=SHR,
// UNIT=disk,VOL=SER=volume
//SYSUT2 DD SYSOUT=B,DCB=BLKSIZE=80
//
```

The jobs and procs in the member INSTALL have comments describing their functions. There is a sample job for assembling each module in the TIPS system showing the link-edit parameters required. Also included is a job to allocate and format the disk work area data set required by TIPS, a test job for the batch simulator, and a job to print out other TIPS documentation. Finally, sample procs for TIPS and the TIPS batch simulator are given. The jobs and procs in INSTALL assume that the data sets restored from the distribution tape are cataloged.

# TEXAS INTERACTIVE PROGRAMMING SYSTEM

## NOTES ON INSTALLATION

TIPS is currently being run on UTRCC's 370/155 under release 21.8 of OS/MVT with Stanford's MILTEN and WYLBUR. TIPS has not been tested on any other system at this time. Feedback on installation problems or other problems with TIPS would be greatly appreciated by the authors.

At UTRCC we have the TOTAL database system. To handle TIPS applications using TOTAL, we have an additional library concatenated to the TIPS steplib containing the TOTAL modules required by the user applications. These modules include the TOTAL data base generation modules. Also dynamic COBOL modules are required to handle the PARM=ENDJOB facility for COBOL programs and these modules have also been put into this library. Each installation can handle these problems either by setting up a special library to be concatenated, by putting the modules in TIPS.XEQLIB, or by concatenating appropriate data sets such as SYS1.COBLIB to the TIPS steplib.

The TIPS batch simulator, TPSIM, should run after the distribution tape is restored with no modifications at all. A minor modification for the default volume for data set allocation can be made by re-assembling TPSIM after TPGLOBAL has been modified for the volume desired. It is important to note that WYLBUR and MILTEN are not required to run TPSIM. If running TIPS with MILTEN, the RTB and RTCB DSECTS used by TIPS should be compatible with the actual MILTEN control blocks.

To enable the TIPS-WYLBUR interface a one card modification is required to MILTEN. The modification is required only if this facility is desired and is given below for STANFORD's MILTEN:

After instruction in TCP with label SYSLGN2 add the following

```
MVC    RTBTEXT(2),WCSAVE
```

```
SAVE DATA LENGTH
```

# TEXAS INTERACTIVE PROGRAMMING SYSTEM

## SYSGEN PARAMETER DESCRIPTION

The member TPGLOBAL in TIPS.SORLIB contains the TIPS sysgen parameters. Before assembling the TIPS system these parameters should be examined and set as desired. The available parameters are described below:

&STARTUP	This parameter controls the operator's console support logic. A value of 'CONSOLE' will cause console support to be genned. A value of 'BATCH' will cause omission of the console support facility.
&DISKA	Default volume for the TIPS allocate command.
&PRINT	Macro print option for assembly listings. Value should be either 'GEN' or 'NOGEN'.
&ACNTING	A value of 'YES' generates UTRCC accounting code. 'NO' bypasses the accounting SVC call.
&OBUFSIZ	The desired size of output buffers. This value will be the maximum amount of output allowed for any one program execution. The UTRCC written applications can require up to 600 byte output buffers. The TIPS system requires one output buffer per line.
&NUMLINS	The number of users that TIPS can support concurrently. If console support is also genned, one is added to this number to include the operator's console. This value can be less than the number of lines on MILTEN.
&NUMTSKS	The number of PGMCTL tasks to run. This will be the number of application programs that can be run concurrently.
&USERTIM	The default CPU time limit per transaction in seconds. If an application program exceeds this time limit, it will abend with a user code of 0322.
&BNCTIME	The amount of elapsed time in minutes used by TIPS to display inactive users.
&NUMJCBS	The maximum number of users that TIPS can support. This value should be equal to the total number of lines supported by MILTEN.
&SVCNIL	The number of the MILTEN SVC.



# TEXAS INTERACTIVE PROGRAMMING SYSTEM

## SAMPLE SYSGEN PARAMETERS

The following parameters show the current configuration of TIPS as distributed:

GBLC	&STARTUP	
GBLC	&DISKA	
GBLC	&PRINT	
GBLC	&ACNTING	
GBLA	&OBUFSIZ	
GBLA	&NUMTSKS	
GBLA	&NUMLINS	
GBLA	&USERTIM	
GBLA	&BNCTIME	
GBLA	&NUMJCBS	
GBLA	&SVCML	
&STARTUP	SETC	'CONSOLE' GEN OS CONSOLE SUPPORT
&DISKA	SETC	'SYS256' DEFAULT DISKA VOL IS SYS256
&PRINT	SETC	'GEN' PRINT MACRO EXPANSIONS
&ACNTING	SETC	'NO' NO UTRCC ACCOUNTING
&OBUFSIZ	SETA	600 600 BYTE OUTPUT BUFFERS
&NUMLINS	SETA	8 8 CONCURRENT TIPS USERS
&NUMTSKS	SETA	2 2 PGMCTL SUBTASKS
&USERTIM	SETA	2 2 SEC. APPLICATION TIME LIMIT
&BNCTIME	SETA	5 USER INACTIVE AFTER 5 MINUTES
&NUMJCBS	SETA	20 TOTAL MILTEN LINES
&SVCML	SETA	251 MILTEN SVC NUMBER AT UTRCC

# TEXAS INTERACTIVE PROGRAMMING SYSTEM

## B T A M INSTALLATION GUIDE

TIPS was originally developed at UTRCC as a TP monitor using the BTAM telecommunication access method. After obtaining MILTEN and WYLBUR, TIPS was re-written as a MILTEN subsystem. Code was also cleaned up in the MILTEN version. Since UTRCC no longer uses the BTAM version, no effort has been made to clean up the code of that version. In order to install the BTAM version, the MILTEN version should first be installed as described in the documentation. Extra steps for the BTAM version are listed below:

1. Restore TIPS.BTAM.XEQLIB and TIPS.BTAM.SORLIB from the distribution tape. (Files 7 and 8)
2. Members TPSUP and PGMCTL of TIPS.BTAM.XEQLIB and TIPS.BTAM.SORLIB replace the MILTEN version modules.
3. Macros for assembling TPSUP and PGMCTL are in TIPS.BTAM.SORLIB.
4. Member BTGLOBAL of TIPS.BTAM.SORLIB contains the generation parameters for the system. Four additional parameters are required and are described below:

&IBUFSIZ	TP input buffer size
&MBUFSIZ	Message buffer size
&DSPASIZ	Maximum blocksize for device where SPALIB dataset is allocated.
&TRKSCYL	Tracks per cylinder for SPALIB device

5. IECTTRNS from SYS1.RELCMLIB must be included with TPSUP.
6. DD cards are required for the teleprocessing devices to be supported. There must be &NUMLINS DD cards of the type UNIT=XXX. They must be concatenated with a DDNAME of T2741. An example of the DD cards for 8 lines is shown below:

```
//T2741 DD UNIT=030
//      DD UNIT=031
//      DD UNIT=032
//      DD UNIT=033
//      DD UNIT=034
//      DD UNIT=035
//      DD UNIT=036
//      DD UNIT=037
```

Included in the BTAM version are several additional applications which are now handled by MILTEN at UTRCC. KILL, MSG, MOD, and SETMOD should be copied from TIPS.BTAM.XEQLIB to TIPS.PGMLIB.

After bringing the BTAM version up, do the following from the operator's console:

```
F TIPS,LOGON      :   logon and privilege the operator
                  :
R XX,'SETMOD'     :   initialize the message of the day
                  :
R XX,'LOGOFF'     :   suppress the wtor
```

#### LOGGING ON

LOGON userid password

The userid is an account number. It must begin with a letter and may be 4-8 characters long. 'password' is optional and is ignored in the distributed version. The source for LOGON clearly indicates where code should be added to validate the account/password combination.

#### LOGGING OFF

LOGOFF HOLD

HOLD is optional. IF specified, the line is not dropped. A subsequent LOGON may be issued. The source for LOGOFF clearly documents where an accounting routine should be placed. CPU time, connect time, and transaction count are available to the accounting routine.

#### FORCING A LOGOFF

KILL userid

The user's session is terminated, and the LOGOFF program is executed. 'ALL' may be coded for the userid field to force all active users off.

#### RESTARTING A LINE

KILL relative-line-number

This command causes a HALT I/O to be done on the line. The STATUS LINES command can be used to determine if this is necessary, and to see if the KILL command cleared up the condition.

## SENDING A MESSAGE

MSG userid message-text

This command may be used to send a message to another terminal user. He will receive this message following his next output line. A privileged user may code 'ALL' for the userid field to send the message to all active users.

## MESSAGE OF THE DAY

A message of the day may be set or displayed. This message is printed after each logon.

## SETTING THE MESSAGE OF THE DAY

SETMOD message-text

## DISPLAYING THE MESSAGE OF THE DAY

MOD

## Additional STATUS commands

STATUS LINES

This reports all lines in a peculiar state. The relative line number, operation type, and last activity time are printed.

STATUS MSGS

This reports all users who have not received a message which has been sent to them.

NOTE: Various other STATUS commands report slightly different information than that shown in the USER'S GUIDE.

## Additional TIPS commands

TIPS MSGS (yes or no)

This value indicates whether non-privileged users are permitted to send messages. The default is yes.

TIPS LOG (yes or no)

This value indicates whether logons and logoffs are shown on the operator's console. The default is yes.

PLEASE FILL OUT AND RETURN TO: GARY COHEN  
UNIV. OF TEXAS REGIONAL COMP. CENTER  
5501 MEDICAL CENTER DRIVE  
DALLAS, TEXAS 75235

INSTALLATION: \_\_\_\_\_ DATE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_

MACHINE: \_\_\_\_\_

OPERATING SYSTEM: \_\_\_\_\_ RELEASE: \_\_\_\_\_

DASD DEVICES: \_\_\_\_\_

MILTEN (YES OR NO) \_\_\_\_\_ VERSION: \_\_\_\_\_

DID YOU HAVE ANY PROBLEMS INSTALLING TIPS?

DID ALL COMMANDS AND FUNCTIONS WORK AS DESCRIBED?

DID YOU HAVE ANY PROBLEMS UNDERSTANDING THE DOCUMENTATION?

GENERAL COMMENTS: