Turbo-Plus V1.41 User's Guide

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Features and Facilities

BB	Utility with which users may submit jobs, with an optional schedule time, to the batch processor queue.
BBCANCEL	Cancels and logs the currently active batch job.
BBDEL	Deletes a pending job from the batch queue, if executed by the user who submitted the job.
BBLIST	Lists all jobs running in the batch processor and pending on the batch queue.
DIRDUMP	Gives master directory of any disk, sorted by user area.
GO	Moves user to a user area specified by a user-defined name.
GONAME	Allows users to define names for user areas on the system, and to list these area names sorted alphabetically or by user area number.
HELP	On-line help facility providing help on all TurboDOS and Turbo-Plus commands. Additionally, users may add their own help files to this global function.
LOCATE	Searches certain or all system drives for a given file or template.
LOG	Allows user to make time-stamped entries in a daily log file - particularly useful for .DO files submitted to the batch processor.
LOGOFF	Enhanced version of system logoff notifying users of pending mail, and displaying system bulletins.
LOGON	Enhanced version of system logon notifying users of pending mail, displaying system bulletins, and providing additional levels of privilege.
MAIL	TurboDOS mail facility to allow electronic mail to be sent between users on the system.
MASTER	Enhanced version of the system 'MASTER' command, providing better control of access to the master processor.
PROFILE	Menu-driven utility to maintain system USERID.SYS file.
RESET	Program to reset a slave from another slave.
STATUS	TurboDOS facility to continuously monitor activity of system users, printers, and buffers.

TWX	TurboDOS TWX facility to allow users to send immediate single or multi-line messages to other consoles on the system.
USER	Allows user to change user areas on the current disk drive. Performs the same function as the former TurboDOS command of the same name.
WHO	TurboDOS system status facility to display all current users on the system, the processes which they are running, and other current system characteristics.

OVERVIEW

Turbo-Plus is a set of utilities and function calls which enhance the TurboDOS Operating System, making extensive use of the User Defined Function, (TurboDOS call 29H) in the process. This manual is designed to provide all of the necessary information to fully utilize these commands and functions.

The manual is divided into sections providing an overview of the package, instructions on using each command, and information about all of the new function calls.

Theory of Operation

Turbo-Plus consists of two primary divisions: the background batch processor, and the inter-user oriented utilities.

The background batch processor (BB) enables an extra slave board, not attached to any console, to run jobs submitted by other users on the system, thus allowing the other users to keep their terminals from being tied up by long-running jobs. BB accepts any valid TurboDOS command line as a command, suffixed, if desired, by a schedule time. Each submitted job is placed on a disk-resident queue which is then serviced by the batch processor. All users on the system are able to monitor the status of the processor, and any user may delete a job which he submitted while it is still in the pending state, or abort a job while it is running.

Most of the remaining utilities in Turbo-Plus use the extensions to the TurboDOS function calls included in Turbo-Plus. These functions maintain lists in memory containing information about each station on the system as well as the master. This information creates the ability to have additional commands, such as the WHO command, to find out who is currently logged onto each station; the MAIL command, a complete inter-user mail facility; the TWX command, to send messages to other users on the system, the RESET command, to reset stations which are down (like the RESET command of TurboDoS Version 1.1x)*, and a new MASTER command, limiting the number of stations simultaneously attached to the master processor to one, and thus eliminating any contention problems that may currently occur. Turbo-Plus also adds the ability to restrict users to specified disk drives on the system, providing an additional level of system security.

*

Note: The RESET and BBCANCEL commands will not work on certain hardware configurations. If you are having difficulty using these commands, consult your dealer.

COMMANDS

BB Command

The BB command enables you to enter a job onto the batch queue.

Syntax

```
BB command
BB command @hh:mm
BB command @hh:mm+d
```

Explanation

The 'command' argument is any legal TurboDOS command which will not require any console input. Such input would cause the batch processor to reset itself, providing that the CONBB module has been included in your slave generation. (See Installation guide to Turbo-Plus).

The second form of the command is used for scheduling jobs. hh:mm is the time which the job should run in 24 hour time. The +d is a further option, shown in the third form of the command, which specifies the number of days later that the job is to be run. (e.g. @00:00+2 means 'Run the job at midnight tomorrow night.').

A multi-command string may be entered onto the batch queue. This command's format should be similar to a multiple command entered directly onto the Command Line Interpreter, except that the vertical bar character (|) should be substituted for the back-slash character (\) expected by TurboDOS.

Examples

```
0A}BB DO REPORT @00:00+1
BATCH JOB 0308 QUEUED-WAITING 02 TO RUN
0A}BB PRINT FILE|DO PRINT
BATCH JOB 1969 QUEUED-WAITING 01 TO RUN
```

Error Messages

```
Command line is empty
Bad format in schedule time
Bad format in schedule day
```

Parameters

USER = 01	User number where BB processor resides.
DRIVE = 01	Drive (0=A, 1=B, etc.) where BB processor resides.

BBCANCEL Command

The BBCANCEL command enables you to stop the execution of an **active** job in the batch processor.

Syntax

```
BBCANCEL
```

Explanation

Since there is at most one job running at any time, no job number is required on the command line.

This command must be issued by either a privileged user or by a user under the userid from which the job was queued. Otherwise, the warning: "***User Unauthorized to Delete Job" will be issued. If the deletion is successful, a message will appear on the console stating the job number and user area from which is was queued.

Examples

```
2F}BBCANCEL
JOB #: 1120  QUEUED BY SYSTEM FROM 08-J ---- CANCELLED
```

Error Messages

```
User Unauthorized to delete job
There is no job currently running
```

Parameters

USER = 01	User number where BB processor resides.
DRIVE = 01	Drive (0=A, 1=B, etc.) where BB processor resides.
BSLAVE = 01	Slave number (0=A, 1=B, etc.) of BB processor.

BBDEL Command

The BBDEL command enables you to delete a pending job from the batch queue.

Syntax

```
BBDEL nnnn
```

Explanation

The 'nnnn' argument is the job number to be deleted (leading zeroes may be left off).

This command must be issued by either a privileged user or by a user under the userid from which the job was queued. Otherwise, the warning: "***User Unauthorized to Delete Job" will be issued. If the deletion is successful, a message will appear on the console stating the job number and userid and area from which is was queued.

Examples

```
10F}BBDEL 46
JOB #: 0046 QUEUED BY SYSTEM FROM 10-F: ----- DELETED
```

Error Messages

```
Illegal job number
Job not found
User unauthorized to delete job
```

Parameters

USER = 01	User number where BB processor resides.
DRIVE = 01	Drive (0=A, 1=B, etc.) where BB processor resides.

BBLIST Command

The BBLIST command enables the user to list the current and pending jobs on the batch queue.

Syntax

```
BBLIST {;options}
```

Explanation

The report consists of two sections. The first, only present when there is a job currently running, lists that job. The second half lists all jobs waiting on the batch queue.

For all jobs, it lists the job number, the id of the user who requested it, the user area from which it was queued, and the request time. For the current job it also includes the time the job began running, and for the pending jobs it includes the time for which the job is scheduled.

Options

Option	Explanation
;F	The report will include with each job line, the command string which was queued.

Examples

```
5F}BBLIST
BACKGROUND BATCH: 26-Mar-84 AT 11:32

CURRENT PROCESS:
JOB # 045 QUEUED BY RJ FROM 2-J AT 09:06:12 - BEGAN:09:06:47

PENDING PROCESSES:
JOB # 046 QUEUED BY JG FROM 10-F AT 10:00:01 FOR 10:00
```

```
5F}BBLIST ;F
BACKGROUND BATCH: 26-Mar-84 AT 11:32

CURRENT PROCESS:
JOB # 045 QUEUED BY RJ FROM 2-J AT 09:06:12 - BEGAN:09:06:47
      *  DO STAM101

PENDING PROCESSES:
JOB # 046 QUEUED BY JG FROM 10-F AT 10:00:01 FOR 10:00
      *  DO REPORT
```

Parameters

USER = 01	User number where BB processor resides.
DRIVE = 01	Drive (0=A, 1=B, etc.) where BB processor resides.

DIRDUMP Command

The DIRDUMP command enables you to get a master directory of a disk drive.

Syntax

```
DIRDUMP d: {;options}
DIRDUMP {;options}
```

Explanation

If you specify a drive letter, as in the first example, the master directory will be obtained for that drive. Otherwise, the current drive will be listed.

The report will have a heading consisting of the disk's label and the current date and time. Following this it will list the user areas in order from 0 to 31, omitting any which are empty, producing in each area a directory sorted alphabetically. It will give the total disk usage for each area consisting of number of files, and number of K in use.

The program will take a few minutes to sort the directory. Once the sort is complete, it will send the report either to the screen or the printer, as specified by the option. If sent to the screen, it will pause after each screenful for you to press the RETURN key.

Options

Options	Explanation
;L	The directory listing is to be sent to the printer instead of the console.

Examples

```
6D}DIRDUMP

...(display of all files on drive D)...
```

Parameters

CLSCR = 1,1A	This may be a string of up to 10 bytes for the terminal clear-screen sequence. The first byte specifies the length of the string.

GO Command

The GO command enables you to move around between user areas whose names were predefined using the **GONAME** utility. (cf. GONAME Command).

Syntax

```
GO argument
```

Explanation

The argument is the predefined name of a user area, up to eight characters in length. If the argument is not matched, GO will look for any area name whose first n letters agree with 'argument', where n is the length of 'argument'. If no such name exists, GO will return the message 'No Such User Area Defined'. If a non-privileged user attempts to use this command, the same message will be printed.

Example

```
6F}GO SYSTEM

0A}GO JJJ
No Such User Area Defined

0A}GO TURBO

5F}GO SY

0A}
```

Error Messages

```
No Area on Command Line
No Such User Area Defined
```

Parameters

```
SDRIVE = 01        System search drive
                   (1=A, 2=B, etc.)
```

GONAME Command

The GONAME command enables you to establish names for various user areas on the system.

Syntax

```
+-----------------------------------------+
|                                         |
|  GONAME                                 |
|                                         |
+-----------------------------------------+
```

Explanation

The program, which is menu driven, enables you to create area names, delete area names, and produce listings of the user areas and their names, both in user number order and in alphabetical order.

Upon issuing the GONAME command, the user will be presented with the following menu:

1) Enter User Area Names
2) Delete User Area Names
3) List Areas Alphabetically
4) List Areas in User Number Order
5) Exit

If the user specifies choice 1, he will be prompted for the user number, then the drive, and finally the assigned name. Pressing the return key for either of the first two prompts will return the user to the main menu. If a duplicate name is given, an error message will be returned.

If the user specifies choice 2, he will be prompted for the name to delete. Pressing the return key will return him to the main menu. Giving a name will result in either the name being deleted, or, if it is not found, an error message being returned.

If the user specifies choice 3 or 4, he will be asked whether the output should go to the Terminal or the Printer. Following this choice, the areas will be listed in two columns, where the first is the user area (e.g. 11-G) and the second is the name associated with it. For choice 3, the order will be alphabetical by name. For choice 4, the order will be by user area, which means that first all of A drive will be listed in user number order, then all of B drive, etc.

If the user specifies choice 5, he will be returned to the operating system.

Parameters

SDRIVE = 01	System search drive (1=A, 2=B, etc.)
CLSCR = 1,1A	This may be a string of up to 10 bytes for the terminal clear-screen sequence. the first byte specifies the length of the string.

HELP Command

The HELP command enables you to obtain information about various TurboDOS and Turbo-Plus commands.

Syntax

```
HELP
HELP command
```

Explanation

The 'command' argument is optional, and if present indicates the command for which you require assistance.

If the argument is omitted, HELP will provide a list of all the topics for which help is available. Any of these topics may then be used as an argument to obtain more specific information.

When an argument is present, HELP will provide the information on all topics matching the string provided.

After each screenful of information is printed, HELP will pause and wait for a carriage return input from the console before continuing. To abort at this point, press 'X'.

Note: If you wish to add your own help files to the facility, simply create a file called command.HLP on user zero of your search drive; set the global attribute on the file, and it will be included in future HELP listings.

Parameters

SDRIVE = 01	System search drive (1=A, 2=B, etc.)

LOCATE Command

The LOCATE command enables you to search one or more active drives on the system for a given file or files.

Syntax

```
LOCATE filename {;options}
LOCATE {;options}
```

Explanation

If "filename" contains wild-cards, the LOCATE command can be used to find more than one file on the system.

The "options" argument may be any combination of the letters A-P, S, or '*'. A-P and '*' specify the drives on which to search, and the order in which to perform the search. S means that the program should stop after it finds the first match. The default setting is to search every drive on the system, and not stop, i.e. ';*'.

If "filename" is omitted from the command line, then the LOCATE command operates in an interactive mode. It accepts commands from the console, prompted by an asterisk, until a null command is entered. The commands in interactive mode do not accept options of their own, but rather obey the options set in the initial program invocation.

Examples

```
0A}LOCATE *.PRN;GD*

????????.PRN

Searching Drive G
SYSTEM   .PRN      5-G
PROGRAM  .PRN     21-G
Searching Drive D
STAM     .PRN      2-D
Searching Drive A
CON96    .PRN      0-A
Searching Drive B
Searching Drive C
Searching Drive E
Searching Drive F
LOCATE   .PRN      3-F
Searching Drive H
Searching Drive I
```

```
0A}LOCATE;S

* TEST.BAS

TEST     .BAS

Searching Drive A
Searching Drive B
Searching Drive C
Searching Drive D
TEST     .BAS      10-D

* LAB*.PAS

LAB?????.PAS

Searching Drive A
Searching Drive B
Searching Drive C
Searching Drive D
Searching Drive E
Searching Drive F
LAB2A    .PAS      13-F

*

0A}
```

LOG Command

The LOG command enables you to log the progress of a job in a special file.

Syntax

```
LOG comments
```

Explanation

This command will get the system date, and create a file of the name mmddyy.LOG if it does not already exist. Then it will append your comments, preceded by the date and time to the end of the file, as well as printing them on the console.

This command is particularly useful for a job running in a batch processor as part of a .DO file. It is possible to insert LOG commands at various points in the file so that as the job passes each critical point, it can log its progress into the file, allowing another user to check on it.

Example

```
10F}LOG STARTING JOB
10/19/83  09:12:54  STARTING JOB
      .
      .
      .
10F}LOG JOB COMPLETE
10/19/83  10:23:38  JOB COMPLETE

10F}TYPE 101983.LOG
10/19/83  09:12:54  STARTING JOB
10/19/83  10:23:38  JOB COMPLETE

10F}
```

LOGOFF Command

The LOGOFF command is used in multi-user configurations of TurboDOS to terminate your session.

Syntax

```
LOGOFF
```

Explanation

The LOGOFF command sets the user number to a reserved value (31), selects the system drive as the default disk, and makes the TurboDOS function call to log the user off. The user will then, under normal configurations, have the WARMSTRT.AUT file, containing LOGON.COM, automatically, loaded, prohibiting further activity until a successful LOGON has been accomplished.

If there is a BULLETIN.OFF file on user 0 of the system search drive, its contents get printed on the screen prior to logoff. The file must have the global attribute set in order for non-privileged users to receive it. Also, if the user logging off has any mail pending, he will receive a message stating so and will be asked whether he wants to log off. If he says no, he remains on the system and may receive his mail. (Cf. MAIL Command)

If the library for user 31 on the system drive also contains a file named "SYSLOG.SYS", then the LOGOFF command will automatically record your log-off in that file, and will display the information going into the file on your screen.

Note: The SYSLOG.SYS file maintained by Turbo-Plus has a format different from that maintained by TurboDOS. If you are running any programs which read this file, expecting the normal structure, they should be modified. Figure 2-1 shows a typical SYSLOG.SYS file.

Example

```
5C}LOGOFF

Logged Off...
```

LOGON Command

There are substantial differences between this command and the LOGON command as supplied with TurboDOS. Please read this section carefully. The LOGON command provides password-type security in multi-user configurations of TurboDOS. The purpose of this command is to prevent unauthorized access to the system and to protect private file libraries.

Syntax

```
+-----------------------------------------------+
|                                               |
|  LOGON                                        |
|                                               |
+-----------------------------------------------+
```

Explanation

LOGON is normally used as a WARMSTRT.AUT file on user 31 of the system boot disk, rather than as a explicit command. Upon entering LOGON, you are prompted to enter your user-ID from the console keyboard. The user-ID is validated against the file USERID.SYS in the user 31 library. USERID.SYS is an ASCII text file containing entries of the form:

```
userid, [password], usno[P], [drv], [cmd], [acc]
```

where "userid" and "password" are up to 8 characters in length, "usno" is a user number 0...30, "drv" is a drive letter A...P, "cmd" is any valid TurboDOS command line, and "acc" is a string of up to sixteen drive names. The password, drive, command line and access fields are optional.

If your user-ID has an associated password specified in USERID.SYS, then LOGON prompts you to enter a password, and validates it. The log-on succeeds only if you enter both the user-ID and password correctly, in which case your console is logged onto the specified user number, and the specified drive is selected as the default disk. If the "cmd" field is present, that command line is executed. If your entry in USERID.SYS has the user number suffix "P", you are logged-on as a "privileged" user, enabling you to access various protected facilities of TurboDOS.

The access field is optional and, if present, should be a string between one and sixteen bytes long, containing any combination of the letters A-P. Any letters present indicate disk drives to which that user may have

access. The list should include the system search drive and spool drive, as well as any other drives desired. If the field is absent, the user may access all drives.

If the user 31 library also contains a file named SYSLOG.SYS, then the LOGON command will automatically record your log-on in that file.

Note: The SYSLOG.SYS file maintained by Turbo-Plus has a format different from that maintained by TurboDOS. If you are running any programs which read this file, expecting the normal structure, they should be modified. Figure 2-1 shows a typical SYSLOG.SYS file.

If user 0 on the system search drive contains a file named BULLETIN.ON, then the contents of that file will be printed on the screen following a successful logon. This facilitates the broadcast of announcements about the system. The file must have the global attribute set in order for non-privileged users to receive it.

If the userid logging on has any new mail pending, LOGON will print a message on the screen stating: "*** You have new mail ***". He may then use the MAIL Facility (Cf. MAIL Command) to receive his mail.

Parameters

SDRIVE = 8	System search drive (1=A, 2=B, etc.)
LOGMSG = 'x...x'	User-specified logon message, terminated with '$'
CLSCR = 1,1A	This may be a string of up to 10 bytes for the terminal clear-screen sequence. The first byte specifies the length of the string.

Figure 2-1
Sample Turbo-Plus SYSLOG.SYS

The structure of SYSLOG.SYS is:

First Column	Last Column	Contents
1	9	Date
11	18	Time
20	27	Userid
29	29	Station Letter
32	34	User Number
36	36	Drive
42	64	Activity

```
19 Oct 83 06:51:50 LV      (I) 2P  K *** ON:
19 Oct 83 06:57:26 LV      (I) 02    *** ------ LOG OFF -----
19 Oct 83 08:26:14 JG      (C) 3P  F *** ON:
19 Oct 83 08:49:36 SKA7    (F) 12  E *** ON:
19 Oct 83 09:28:49 RJ      (I) 8P  L *** ON:
19 Oct 83 09:35:31 LV      (A) 2P  K *** ON:
19 Oct 83 09:40:31 JG      (C) 10    *** ------ LOG OFF -----
19 Oct 83 10:48:47 SKA7    (F) 12    *** ------ LOG OFF -----
19 Oct 83 10:49:03 LV      (A) 08    *** ------ LOG OFF -----
19 Oct 83 10:49:30 JG      (C) 3P  F *** ON:
19 Oct 83 10:52:01 LV      (A) 2P  K *** ON:
19 Oct 83 11:03:29 LV      (A) 02    *** ------ LOG OFF -----
19 Oct 83 11:03:35 LV      (A) 2P  K *** ON:UPSYS
19 Oct 83 11:05:33 SKA1    (H) 12  E *** ON:
19 Oct 83 11:51:01 SKA1    (F) 12  E *** ON:
19 Oct 83 11:58:59 SKA1    (F) 12    *** ------ LOG OFF -----
19 Oct 83 12:00:20 SKA1    (F) 12  E *** ON:
19 Oct 83 12:01:05 JSG     (G) 10P E *** ON:GEN PRINTS ON 9E
19 Oct 83 12:36:22 HB      (H) 12  E *** ON:
19 Oct 83 12:58:01 HB      (H) 12    *** ------ LOG OFF -----
19 Oct 83 12:58:26 SKA     (H) 14  E *** ON:
19 Oct 83 13:05:43 LV      (A) 2P  K *** ON:
19 Oct 83 13:14:21 LV      (I) 2P  K *** ON:
19 Oct 83 13:16:11 SKA1    (F) 12    *** ------ LOG OFF -----
19 Oct 83 13:18:20 SKA1    (F) 12  E *** ON:
19 Oct 83 13:21:16 LV      (A) 2P  K *** ON:
19 Oct 83 14:13:41 SKA1    (F) 12    *** ------ LOG OFF -----
19 Oct 83 14:23:10 ML      (H) 2P  M *** ON:
19 Oct 83 14:42:18 SKA1    (F) 12  E *** ON:
19 Oct 83 14:46:09 JG      (C) 10    *** ------ LOG OFF -----
19 Oct 83 16:06:24 RJ      (C) 8P  L *** ON:
19 Oct 83 16:50:12 JG      (G) 3P  F *** ON:
19 Oct 83 17:04:27 SKA1    (F) 12    *** ------ LOG OFF -----
19 Oct 83 17:09:53 RJ      (C) 02    *** ------ LOG OFF -----
```

MAIL Command

The MAIL command enables you to send mail to and receive mail from other users on the system.

Syntax

```
MAIL
MAIL userid
```

Explanation

The userid parameter is optional. If it is absent, the program will put you into command mode, with a prompt of 'Mail>>>'. In this mode, you have eight valid commands:

D — Gives you a directory of all of your pending mail. The directory includes the letter number, a '*' if it is unread, the userid of the sender, the date and time when it was sent, and the subject of the letter.

L — This will give you a list, sorted alphabetically, of all the users on the system who have mailboxes.

R — This will read your next new letter. The letter will appear on the screen with a header telling you who sent it, and when it was sent. The letter will then be marked as having been read.

S — This permits you to send a letter to another user. You will first be prompted for the userid of the person to whom you are sending the letter. You will then be prompted for the subject of the letter and for the letter itself. The letter may be aborted with a control-Q, and ended with a control-E.

Kn — This command will kill letter number 'n', as specified by the directory letter numbers.

n — This command displays letter number 'n' on the screen in the same format as the 'R' command. It enables you to reread old mail which has not been killed.

H — This displays a brief help menu for the command options. '?' will also produce this menu.

X This takes you out of MAIL, and returns you to the operating system.

A This is a privileged command. It puts you into an administrative sub-command mode, with a prompt of 'Admin>>>', which has the following options:

  C This will prompt you for a userid, and create a mailbox for the specified user.

  D This will prompt you for a userid, and delete that user's mailbox if it exists. You may not delete a mailbox unless it is empty.

  Q This returns you to the main command mode.

  H This displays a brief help menu for the administrative options. '?' will also produce this menu.

  X This takes you out mail MAIL, and returns you to the operating system.

If a userid is present in the initial command line, the program will go directly into send mode, asking you for the subject, and then the remainder of the letter. Upon completion of the letter, you will be returned to the TurboDOS command level.

If the user receiving mail is logged onto the system when the mail is sent, he will receive a message on his screen saying '*** You have mail from XXXXXXXX', where XXXXXXXX is the userid of the person who sent the mail.

Error Messages

Corrupt mail directory file
Letter number out of range
That mail box does not exist
That mail box already exists
No letter number specified
System file I/O error
Unauthorized user

Parameters

SDRIVE = 01	System search drive (1=A, 2=B, etc.)
CLSCR = 1,1A	This may be a string of up to 10 bytes for the terminal clear-screen sequence. The first byte specifies the length of the string.
ECHAR = '^E'	The character used for indicating the end of a letter on input for the send command.
QCHAR = '^Q'	The character used to abort a letter on input for the send command.

MASTER Command

The Turbo-Plus MASTER command replaces the TurboDOS command of the same name. In a networking configuration of TurboDOS which has a remote master console, the MASTER command allows you to attach your console to the master processor.

Syntax

```
+-----------------------------------------+
|                                         |
|  MASTER                                 |
|                                         |
+-----------------------------------------+
```

Explanation

This command attaches your console to the master processor. To detach from the master processor (and resume normal local console operation), enter an Attention-Abort sequence <CTRL-S><CTRL-C>.

While attached to the master, you can make attention requests of the master processor by using CTRL-A (instead of the usual CTRL-S).

In order to use the MASTER command, it is necessary that the master operating system be generated with the remote console driver module (CONREM).

The Turbo-Plus master command differs from that which it replaces because it does not allow more than one user into the master at once, and it keeps track of who is in the master for the WHO command. (Cf. WHO Command) Furthermore, if you attach to the MASTER while it is in the process of executing a job, you will receive a warning giving you the name of the program which is running, so that you do not accidentally give it any unwanted console input. If no job is running, you will receive the normal TurboDOS prompt.

Example

```
3B}MASTER

Console attached to master processor

OA}BACKUP A: B:
    .
    .
    .
OA}
<CTRL-S CTRL-C>


Console detached from master processor
3B}
```

Error Messages

```
Non-privileged user
Remote console driver not present
Master processor is busy
```

PROFILE Command

The PROFILE command enables privileged users to add and delete userid's from the system user file in a menu-driven environment.

Syntax

```
PROFILE
```

Explanation

Upon issuing the PROFILE command, the user will be presented with the following menu:

```
        User Identification Maintenance
        -------------------------------

          A    Add a System User
          D    Delete a System User
          L    List All System Users
          E    Exit Program

               Enter Choice >>>
```

If the user specifies choice 1, he will be asked a series of questions about the new user, as follows:

```
Enter Userid (Max 8 characters): ACCOUNT
Enter Password (Optional: If present, max 8 characters): MYPASS
Enter User Number (0-31) : 10
Is the user to be privileged (Y/N)? N
Drive to log on to (Optional: If present, A-P)? D
Command to execut upon logon (Optional: If present,
up to 40 ASCII character)? WHO
Drives to restrict user to (Optional: If present, combinations
of A-P)? ADHI
```

To exit from this mode, the user must press the return key when prompted for a userid.

If the user specifies choice 'D', he will be prompted for the userid to delete. Pressing the return key will return him to the main menu. Giving a userid will result in either that userid being deleted, or, if it is not found, an error message being returned.

If the user specifies choice 'L', the USERID.SYS file will be displayed in five columns: userid, password, user number,

default drive, and access, with the command line, if any, appearing on a separate line immediately below. The program will pause after each screenful, and wait for the return key to be depressed before continuing.

If the user specifies choice 'E', he will be returned to the operating system.

Error Messages

Duplicate Userid
Non-priveleged user
Userid not present in file
There is no USERID.SYS file on the system disk

Parameters

CLSCR = 1,1A	This may be a string of up to 10 bytes for the terminal clear-screen sequence. The first byte spcifies the length of the string.

RESET Command

The RESET command is a privileged command which enables you to reset any station on the system.

Syntax

```
RESET station
RESET
```

Explanation

The "station" parameter is optional, and, if present, identifies the station to be reset. If absent, the program prompts the user for the station to be reset: "Station to reset (A-P)? ". The user must respond with a valid station letter or he will be asked again.

Once the station to be reset has been determined, the user is prompted for verification, with the question: "Okay to reset station x (Y/N)?" If the user says that the station is to be reset, then that station is downloaded by the master. If not, he is simply returned to the operating system, and nothing happens.

Example

```
8L}RESET C

Okay to reset station C (Y/N)? Y
8L}
```

Error messages

```
Non-Privileged user
Illegal Station Letter
```

STATUS Command

The STATUS command enables you to continuously monitor the system status. It will maintain on your screen a list of who is currently logged onto the system, what each of the users is currently doing, and obtain status reports on the system buffers and printers.

Syntax

```
+-------------------------------------------+
|                                           |
|  STATUS                                   |
|                                           |
+-------------------------------------------+
```

Explanation

STATUS gives a report showing all system activity. It then continually updates the report at a specified time interval.

The header line shows the current date and time, and the last time the system was reset.

Each other line in the report describes one user on the system. It shows what station that user is working on, the userid of that user, the time and date when he logged on, the .COM file which he is currently executing, and the user area from which he ran that program. A star appears to the left of the line displaying the user who typed the command. If the Master is logged on, it shows all of the same information, as well as the station to which it is currently attached.

Below this table, a line appears displaying the number of I/O buffers currently active in the system.

Finally, there is a list of each printer defined for the station running the program, both local and remote, and from what queue, if any, that printer is despooling.

After five seconds, the screen will be cleared, and an updated report will appear. The program will continue running until aborted with a <ctrl-X> character.

Example

```
30F}STATUS

Turbo+ V1.41 - 01-Apr-85 18:21 Last System Reset:10:23:42 26-Mar-85

    Station    Userid      Loc.     Time On    Date On      Process
    -------    ------      ----     -------    -------      -------
      MST                                                   --idle--
       A         LV         02-J     08:51:13   13-Jul-84    ED
       B         BB-1248    08-K     14:38:19   13-Jul-84    REACT
       C         JIM        30-F     13:57:51   13-Jul-84    GEN
       F         NB         02-M     09:30:12   13-Jul-84    WSTN
     * I         RON        05-L     10:05:15   13-Jul-84    STATUS

                 Number of Buffers: 14

       Printers:
          Printer A: Queue A
          Printer B: Queue B
          Printer D: Queue C

0A}
```

Parameters

TDELAY = 5	The number of seconds to wait between screen refreshes.
CLSCR = 1,1A	This may be a string of up to 10 bytes for the terminal clear-screen sequence. The first byte specifies the length of the string.

TWX Command

The TWX command enables you to communicate instantly with other users who are logged onto the system.

Syntax

```
TWX destid
TWX destid message
```

Explanation

The message parameter is optional. If it is absent, the program will prompt you with asterisks for each line of a multi-line message to send to the specified user. Pressing the return key at the prompt (i.e. giving it a null line) will terminate the program.

The destid parameter must specify the user who is to receive the message. This may be either in the form of a userid, a station letter, preceded by an exclamation mark (e.g. !A for station A), or ALL, for everybody who is logged onto the system.

If a userid and message are both present, TWX will send a single line message to the specified userid and automatically terminate.

Once a message is sent, it will immediately appear on the console(s) of the intended receiver(s). If a userid is specified, the message will be sent to all stations which the specified userid is logged on to. The message will never be sent to the user sending it, whether or not he is the specified userid or it is a TWX ALL. If the user attempts to send a message to a station which is not logged onto the system, he will receive an error message.

When a user receives a message, it will be preceded by a header line of the form "*** FROM srcid:" where srcid is the userid of the user sending the message. If that user does not have a userid, (i.e. he is running TWX from a station or MASTER which has an AUTUSR specified) the header line will read "*** FROM STAT. x:" where x is the correct letter, or "*** fROM MASTER:" in that case.

If a user wishes to disable his station from receiving TWX messages while he is working, he may issue the 'TWX .OFF' command. Anybody

who tries to send him a message will receive a message that 'Station X has disabled messages'. To resume receiving messages, issue the 'TWX .ON' command.

Examples

```
13F}TWX RJ
*RON: MEETING At 1.
*CAN YOU MAKE IT?
13F}***From RJ      : YES, SEE YOU THEN


0A}TWX ALL SYSTEM COMING DOWN IN 5 MINS
```

Error Messages

```
Station has disabled messages
No userid present in command line
Userid too long
Station unable to receive message
User is not currently logged on system
```

USER Command

The USER command lets you change the current user number.

Syntax

```
USER [nn]
```

Explanation

The "nn" argument specifies the desired user number (in the range 0 to 31). If "nn" is omitted, the command displays the current user number (which also appears in the command prompt).

The USER command is restricted to privileged log-ons only.

Examples

```
0A]USER 2

Current user number: 2

2A]USER 0

Current user number: 0

0A]
```

Error Messages

```
Invalid user number requested
Non-privileged user
```

WHO Command

The WHO command enables you to find out who is currently logged onto the system, what each of the users is currently doing, and obtain status reports on the system buffers and printers.

Syntax

```
+-----------------------------------------+
|                                         |
|  WHO                                    |
|                                         |
+-----------------------------------------+
```

Explanation

WHO gives a report showing all system activity. The header line shows the current date and time, and the last time the system was reset.

Each other line in the report describes one user on the system. It shows what station that user is working on, the userid of that user, the time and date when he logged on, the .COM file which he is currently executing, and the user area from which he ran that program. A star appears to the left of the line displaying the user who typed the command. If the Master is logged on, it shows all of the same information, as well as the station to which it is currently attached.

Below this table, a line appears displaying the number of I/O buffers currently active in the system.

Finally, there is a list of each printer defined for the station running the program, both local and remote, and from what queue, if any, that printer is despooling.

Example

```
12M}WHO

Turbo+ V1.41 - 26-Mar-85 13:12 Last System Reset:09:40:03 21-Mar-85

   Station     Userid       Loc.     Time On     Date On      Process
   -------     ------       ----     -------     -------      -------
     MST                                                      FORMAT
      A        RON          08-L     09:01:36    26-Mar-85    TIP
      B        BB-IDLE      30-H     12:24:36    26-Mar-85    -batch-
      C        JIM          04-F     08:30:13    26-Mar-85    MUASM
      D        LV           08-J     08:50:15    26-Mar-85    MONITOR
      E        HB           05-0     11:22:21    26-Mar-85    TWX
      F        NB           12-M     08:45:15    26-Mar-85    WHO
      G        SKA1         07-I     12:51:12    26-Mar-85    TFM
      H        ROBERT       06-F     12:00:01    26-Mar-85    MBAS

               Number of Buffers: 14

      Printers:
         Printer A: Offline
         Printer B: Queue H
         Printer D: Queue A
```

FUNCTIONS

Turbo-Plus makes extensive use of the TurboDOS user defined function call, in which the C register is set to 29H. Sub-functions are defined by the USRSUP protocol.

You may use your own user functions, as long as they conform with the USRSUP calling sequence protocol recognized by Software 2000 under V1.41 as the standard TurboDOS user function method. For a deatiled explanation on USRSUP, refre to appendix C of the **Turbo-Plus V1.41 8-bit installation guide**, which contains the original USRSUP proposal as sumbitted to Software 2000.

Turbo-Plus, consists of two modules: TPLUSM which is included in the master .GEN, and TPLUSS, included in the slave .GEN. Under the USRSUP scheme, both have the name 'T-PLUS ', since it is invalid to have them genned in a processor together. Their subfunctions, always defined (by USRSUP definition) in the L register, are defined as follows:

TPLUSM subfunctions

The following function calls all refer to the tables described above. The master contains five such tables: a 128 byte table of all users currently logged on, a 128 byte table of data about those users, a nine byte table keeping the master's ID, an eight byte table holding data about the master, and an eight byte table holding the system uptime. All of the tables are outlined in the section following the description of the function calls.

For the TPLUSM functions, under normal network configurations, the routing may be done explicitly, with 0FEH in the B register, and the master's address (generally 0000H) in the DE pair; or by default routing methods with the B register set to 0FFH when called from a slave, and 00H when called from the master.

Function 01H: Clear Master Userid Table

Called With: L = 01H

Function 02H: Return Master Userid

Called With: L = 02H

Notes: Upon return from the function call, the first eight bytes of the record buffer will contain userid of the person currently logged onto the master processor.

Function 03H: Change Master Userid

Called With: L = 03H
First eight bytes of record buffer contain new userid of master processor.

Function 0EH: Clear System Userid Table

Called With: L = 0EH

Function 0FH: Return System Userid Table

Called With: L = 0FH

Notes: Upon return from the function call, the record buffer will contain the 128 byte table containing the userids of every user currently logged onto the system.

Function 10H: Modify System Userid Table

Called With: L = 10H
H = Slave number (0-15) to which user is attached.
First eight bytes of record buffer contain userid of slave being modified.

Function 11H: Clear System Data Table

Called With: L = 11H

Function 12H: Return System Data Table

Called With: L = 12H

Notes: Upon return from the function call, the record buffer will contain the 128 byte table containing the data records of every user currently logged onto the system.

Function 13H: Modify System Data Table

Called With: L = 13H
D = Slave number (0-15) to which user is attached.
First eight bytes of record buffer contain data record of slave being modified.

Function 15H: Return Master Data Record

Called With: L = 15H

Notes: Upon return from the function call, the first eight bytes of the record buffer will contain the data record describing the current state of the master processor.

Function 16H: Change Master Data Record

Called With: L = 16H
First eight bytes of record buffer contain new data record of master processor.

Function 17H: Set System Reset Time

Called With: L = 17H
First eight bytes of record buffer contain time and date of last system reset.

Function 18H: Return Last System Reset Time

Called With: L = 18H

Notes: Upon return from the function call, the first eight bytes of the record buffer will contain the record containing the time and date of the last system reset.

Function 19H: Clear System Process Table

Called With: L = 19H

Function 1AH: Return System Process Table

Called With: L = 1AH

Notes: Upon return from the function call, the record buffer will contain the 128 byte table containing the current processes being run by every user logged onto the system.

Function 1BH: Modify System Process Table

Called With: L = 1BH
H = Slave number (0-15) to which user is attached.
First eight bytes of record buffer contain the process currently loaded in the slave indicated by the D register.

Master Information Tables

System Userid Table Organization:

Bytes	Field	Description
0..7	Userid A	The userid of the user currently logged onto slave A. If nobody is currently logged onto the slave, the first byte will be 0. If slave A is currently attached to the master processor, the first byte will have the high bit set.
8..15	Userid B	.
16..23	Userid C	.
24..31	Userid D	.
32..39	Userid E	.
40..47	Userid F	.
48..55	Userid G	.
56..63	Userid H	.
64..71	Userid I	.
72..79	Userid J	.
80..87	Userid K	.
88..95	Userid L	.
96..103	Userid M	.
104..111	Userid N	.
112..119	Userid O	.
120..127	Userid P	.

Master Userid Table Organization:

Bytes	Field	Description
0..7	Userid	The userid of the user currently logged onto the master processor. If nobody is currently logged onto the master, the first byte will be 0.
8	ID	Contains a byte corresponding to the slave number assigned to each slave. For the master, this entry is fixed at 10H.

System Data Record Table:

Bytes	Field	Description
0..7	A Data	The data record, as described below, for the user currently logged onto slave A. If nobody is currently logged onto the slave, this record is to be ignored, and may still contain the data pertaining to the last user logged onto the slave.
8..15	B Data	.
16..23	C Data	.
24..31	D Data	.
32..39	E Data	.
40..47	F Data	.
48..55	G Data	.
56..63	H Data	.
64..71	I Data	.
72..79	J Data	.
80..87	K Data	.
88..95	L Data	.
96..103	M Data	.
104..111	N Data	.
112..119	O Data	.
120..127	P Data	.

8 Byte Record:

| H | M | S | R | R | R | D | D |

H,M,S = Logon Time

R = Reserved Bytes

DD = Julian Logon Date

Master Data Record Table Organization:

Bytes	Field	Description
0..7	Data	The data record, as described above for the master processor. If nobody is currently logged onto the master, this record is to be ignored, and may still contain the data pertaining to the last user logged onto the master.

System Uptime Table Organization:

Bytes	Field	Description
0..7	Uptime	A data record, with a format the same as that described for the slaves, containing the time and date that the system was last reset.

System Process Table:

Bytes	Field	Description
0..7	A Proc.	The process currently loaded in memory in the user currently logged onto slave A. If nobody is currently logged onto the slave, this record is to be ignored, and may still contain the data pertaining to the last user logged onto the slave.
8..15	B Process	.
16..23	C Process	.
24..31	D Process	.
32..39	E Process	.
40..47	F Process	.
48..55	G Process	.
56..63	H Process	.
64..71	I process	.
72..79	J Process	.
80..87	K Process	.
88..95	L Process	.
96..103	M Process	.
104..111	N Process	.
112..119	O Process	.
120..127	P Process	.

TPLUSS subfunctions

The following function calls refer to the tables in the slave processors. Once again, the tables are outlined in the section following the description of the function calls.

For the TPLUSS functions, under normal network configurations, the routing must be done explicitly, with 0FEH in the B register, and the address of the slave being called in the DE pair. This is generally 0001 for slave A, 0002 for slave B, etc. In multi-circuit systems, you must refer to your slave table (TPSTBL), defined in appendix B of the installation guide. The tables set up for your system in the master .PAR file will show you the network address of each of your slaves, A through P, in that order.

Function 01H: Clear Local Userid Table

Called With: L = 01H

Function 02H: Return Local Userid

Called With: L = 02H

Notes: Upon return from the function call, the first eight bytes of the record buffer will contain userid of the person currently logged onto the slave board to which the function call was routed.

Function 03H: Change Local Userid

Called With: L = 03H
first eight bytes of record buffer contain new userid of slave processor to which the function call was routed.

Function 08H: Reset Local Slave

Called With: L = 08H

Notes: A successful return from this call indicates that the slave board to which the call was routed has been (or is being) downloaded by the master.

Function 09H: Send Message to Console of Local Slave

Called With: L = 09H
Record buffer contains up to 80 bytes which will be sent, through comm channel zero, to the console of the slave to which the call is routed, preceded by a shift-in character, and followed by a shift-out.

Notes: A successful return from this call indicates that the message sent in the record buffer was received by the slave, and displayed on the console of that slave. If that slave has a special TWX console manager genned in, (see Installation Guide to Turbo-Plus), the shift-in/shift-out bytes may cause the message to be displayed in a special manner on the screen.

Function 0AH: Enable Messages to Local Slave

Called With: L = 21H

Notes: A successful return from this call indicates that the slave to which the call was routed will one again be able to receive messages sent via function 20H, reversing the effects of function 22H.

Function 0BH: Disable Messages to Local Slave

Called With: L = 22H

Notes: A successful return from this call indicates that the slave to which the call was routed will ignore any subsequent calls of function 20H, until messages are enabled again, using function 21H.

Slave Information Tables

Slave Userid Table Organization:

Bytes	Field	Description
0..7	Userid	The userid of the user currently logged onto the slave processor. If nobody is currently logged onto the slave, the first byte will be 0.
8	ID	Contains a byte corresponding to the slave number assigned to each slave. For slave A, this will be 0, for slave B, it will be 1, etc.