

CHAPTER 8

ERROR DIAGNOSIS

8.1 INTRODUCTION

The system manager is responsible for the operation of ETOS. The previous chapters deal with what you do with standard ETOS processing when everything is going right. This chapter discusses non-standard processing off of non-system drives, diagnosing ETOS problems, crash recovery and bug reporting and resolution. Since computer processing often follows Murphy's Law, it is as important to know what to do when things go wrong as it is to know what to do when things go right.

8.2 ADDITION AND REMOVAL OF TERMINALS

The program TTYSET provides an easy method for physically removing or adding a terminal to ETOS, without shutting the system down. This change of terminals assumes that you are plugging into or unplugging from a cable which is attached to the interface. No interface changes may be made without shutting the system down. TTYSET can also be used to reactivate a terminal which is not responding, free a console slot for a detached job or disable a user who is abusing the system. All changes made with TTYSET are lost when ETOS is shut down. Permanent terminal configuration changes are made with the CONFIG program (see 3-9).

To run TTYSET, LOGIN to a privileged account and enter R TTYSET<RET>. The system responds with a dollar sign (\$). At this point, you can enter one of the valid TTYSET commands. After all commands have been specified, enter Q to exit the program.

Table 8-1 contains a list of TTYSET commands and their meanings.

Table 8-1
TTYSET Commands

<u>Command</u>	<u>Meaning</u>
B n[,m]	To print a console's current BREAK mask (see 3.7.5, System User's Guide), enter <u>B n</u> , where "n" is the console number. To change the BREAK mask, enter <u>B n,m</u> , where "n" is the console number and "m" is the new BREAK mask.
E n,m[,o]	This command enables terminals which were killed or were not specified in the CONFIG program. To enable a terminal, which runs off of a KL8-E, KL8-JA or DKC8-AA, enter <u>E n,m</u> , where "n" is the console number and "m" is the teleprinter code of the terminal interface. To enable a terminal, which runs from a KL8-A, enter <u>E n,m,o</u> , where "n" is the console number, "m" is the device code of the KL8A and "o" is the KL8A line number.
K n	Disable console "n". Any characters typed on this console are ignored after this command is entered. Do not disable your own console.
L	Lists all consoles, their teleprinter code and their line numbers (for KL8As). All KL8As are noted with an asterisk (*). This information is obtained from the IOT TABLE (see 3.9). Any console number which has an entry of 0 in the IOT TABLE does not have a terminal associated with it. These dummy consoles are used for DETACHED jobs. The DETACH command disassociates the current job with the original console number and associates it with the first available dummy console. Consoles being used for DETACHED jobs are indicated on the listing.
R n	Rescues console "n", which is not responding to any terminal input. The console's KSTAT word is set to 7377 and the BREAK mask is set to 4000. If this command does not reactivate a console, shut down the system and reinitialize to activate it.
S n[,m]	To print a console's KSTAT word (see 3.7.6, System User's Guide), enter <u>S n</u> , where "n" is the console number. To change the KSTAT word, enter <u>S n,m</u> , where "n" is the console number and "m" is the new KSTAT value.

Figure 8-1 contains a sample run of TTYSET.

Figure 8-1
Sample Run of TTYSET

.R TTYSET
'TTYSET' V2.025

\$ L

CONSOLE	DEVICE CODE	LINE NUMBER
0	04	
1	40	0
2	40	1
3	40	2
4	40	3
5	DETACHED	
6	DUMMY	
7	DUMMY	
10	DUMMY	
11	DUMMY	
12	DUMMY	
13	DUMMY	
14	DUMMY	
15	DUMMY	
16	DUMMY	
17	DUMMY	

\$E 6,47

(enable KL8JA board with output code 47)

\$K 4

(kill console 4)

\$L

CONSOLE	DEVICE CODE	LINE NUMBER
0	04	
1	40	0
2	40	1
3	40	2
4	DUMMY	
5	DETACHED	
6	47	
7	DUMMY	
10	DUMMY	
11	DUMMY	
12	DUMMY	
13	DUMMY	
14	DUMMY	
15	DUMMY	
16	DUMMY	
17	DUMMY	

\$Q

.

When TTYSET is run, it sets your PRIV word to 4040. When TTYSET is exited, it sets your PRIV word to 0040. A list of all possible TTYSET error messages follows.

?BAD ARG

A console number greater than 17 has been entered as an argument to one of the commands

?BAD IOT TABLE - PROGRAM INCOMPATABILITY

An entry in the IOT table is not in the form 6XX5 or 0XXY. The IOT tabel is verified in TTYSET initialization. If this error is printed, you must SHUTUP the system and run CONFIG (see 3.9) to fix the IOT TABLE error.

?INACTIVE CONSOLE

An inactive (dummy) console was entered as an argument to a B,K,R or S command.

?INVALID ENTRY

When listing the IOT table, an entry was found, which was not in the form 6XX5 or 0XXY. This error is usually detected on TTYSET initialization. The only time this error is printed is if the IOT table is changed via the POKE command (see 6.2.2) after the TTYSET program was started. If this error is printed, you must SHUTUP the system and reinitialize ETOS.

?PROTECTION VIOLATION

The TTYSET program was run from a non-privileged account. You must LOGOUT of the current account, LOGIN to a privileged account and run TTYSET.

?SYNTAX

A non-octal digit was typed as an argument or two many arguments were specified for one of the TTYSET commands

?UNKNOWN COMMAND

A command was specified which was not B, E, K, L, R or S.

8.3 RUNNING FROM NON-SYSTEM DRIVES

For System Industries ETOS installations, ETOS always runs from the fixed disk in port 0. There is no way to change this procedure. For RK05 ETOS installations, ETOS usually runs from the RK05 pack in drive 0. It is possible to modify ETOS to run on an RK05 pack in drive 1, 2 or 3. This is normally done only when drive 0 is not operating due to a hardware problem. A general procedure for modifying ETOS to run on any drive follows.

- 1) Bootstrap an ETOS system pack in the drive you wish to run from. If this drive number is 0, use the procedures outlined in 2.2. If this drive number is 1, 2 or 3, use the procedure outlined in the OS/8 Handbook, page 1-27. If you do not have a front panel, you must bootstrap OS/8 in another peripheral and type in the multi-drive RK05 bootstrap with ODT.
- 2) Enter the commands of Figure 8-2 under stand-alone OS/8.

Figure 8-2
Running ETOS from Non-System Drives

```
.R CONFIG  
'CONFIG' V3.10  
*RMON,0564=70XX  
*RMON,11633=640Y  
*RMON,12640=640Y  
*RMON,12730=640Y  
*DMON,00037=640Y  
*EXIT
```

.