PUBLICATION CHANGE NOTICE

CRAY RESEARCH, INC.

January, 1979

TITLE: CRAY-1 Data General Station (DGS) Operator's Guide

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Please replace the following pages:

Title page and record of revision
vii and viii
3-3 and 3-4
3-7 and 3-8
3-9 and 3-10
3-17 and 3-18
3-19 and 3-20
3-23 and 3-24
3-33 and 3-34
3-47 and 3-48
3-57 and 3-58
3-67 and 3-68
6-3 and 6-4
C-3 and C-4
C-5
Comment sheet

Please add:

3-66.1

CRAY-1®

COMPUTER SYSTEM

DATA GENERAL STATION (DGS)
OPERATOR'S GUIDE

2240006

RECORD OF REVISION

CRAY RESEARCH, INC.

PUBLICATION NUMBER 2240006

Each time this manual is revised and reprinted, all changes issued against the previous version in the form of change packets are incorporated into the new version and the new version is assigned an alphabetic level. Between reprints, changes may be issued against the current version in the form of change packets. Each change packet is assigned a numeric designator, starting with 01 for the first change packet of each revision level.

Every page changed by a reprint or by a change packet has the revision level and change packet number in the lower righthand corner. Changes to part of a page are noted by a change bar along the margin of the page. A change bar in the margin opposite the page number indicates that the entire page is new; a dot in the same place indicates that information has been moved from one page to another, but has not otherwise changed.

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CRAY RESEARCH, INC.,
1440 Northland Drive,
Mendota Heights, Minnesota 55120

Revision	Description
	Feb. 1976 - Original distribution
A	July 1976 - Reprint incorporating change packets 01 through 04.
B	July 1977 - Reprint with revision. This publication has been completely rewritten and obsoletes all previous editions. Changes are not noted by change bars.
C	Sept. 1977 - Reprint with revision. This edition obsoletes all previous editions. Significant changes and additions have been made to the command language.
D	Jan. 1978 - This revision adds the DELAY, REFRESH, STATION, and STATUS commands and deletes the JOBQ command. Disk initialization has been rewritten and is now located in Appendix C. Other, miscellaneous changes are also included. This revision reflects the January, 1978 release of the station.
D-01	April 1978 - Changes in this revision include the addition of the POLL and STORAGE commands, additions and changes to messages, and other minor technical changes.
D-02	July 1978 - This change packet adds descriptions of the INTERRUPT station command and the ED and RDF CLI commands, and notes technical changes reflecting Version 1.02 of the Station.
E	Oct. 1978 - This revision adds the DELETE, DISCONNECT, MESSAGE, PARITY, SAVE, SET, SUBMIT and SWITCH commands and replaces the INPUT command with the BLOCK command. The operator stations have been redefined as system or local stations. A new section, Station Error Termination, has been included. Other miscellaneous changes are also included.
E-01	Jan. 1979 - This change packet adds the description of the SYSDUMP station command and notes the implementation of the RECEIVE and TRANSMIT commands. Miscellaneous technical changes are also included.

The fourth line from the bottom of the display is normally unused. The three bottom lines of the display are for command entry and response. Through the SCROLL command, this area can be expanded to encompass all but the top two lines. As each command is interpreted, it appears on the bottom line of the display. Entries are rolled up to the other lines and eventually disappear off the screen as responses and additional commands appear. The symbol > appears on the bottom line when the system is ready to process the next entry from the keyboard. A colon precedes each command processed from an indirect command file.

INDICATORS

Sixteen indicators form a vertical column to the right of the display screen. The station turns on these indicators under the conditions shown in figure 3-3.

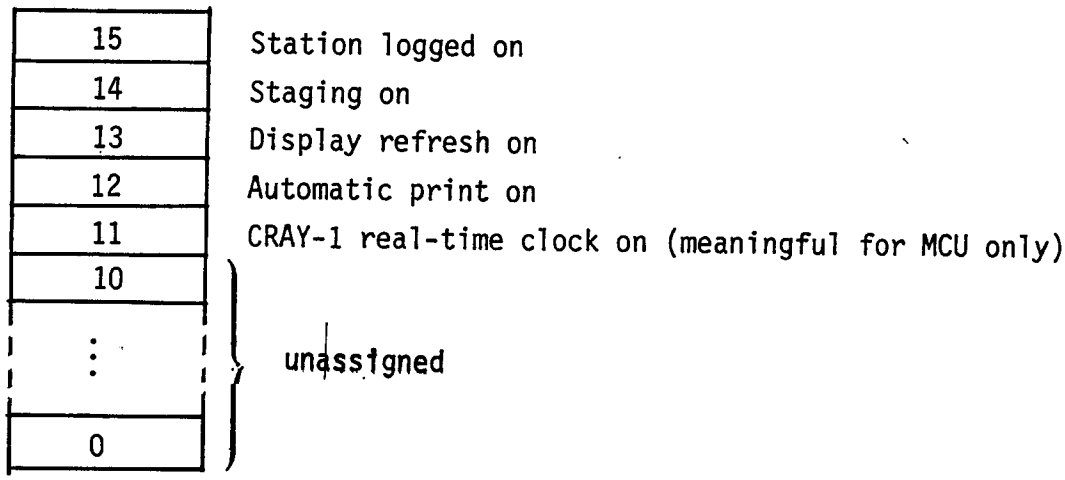

Figure 3-3. Display indicators

STATION KEYBOARD

The console keyboard (figure 3-4) provides coded signals to the station for transmittal to the CRAY-1 for processing. The operator controls station operation by entering station commands. The use of special keys is summarized in Table 3-1.

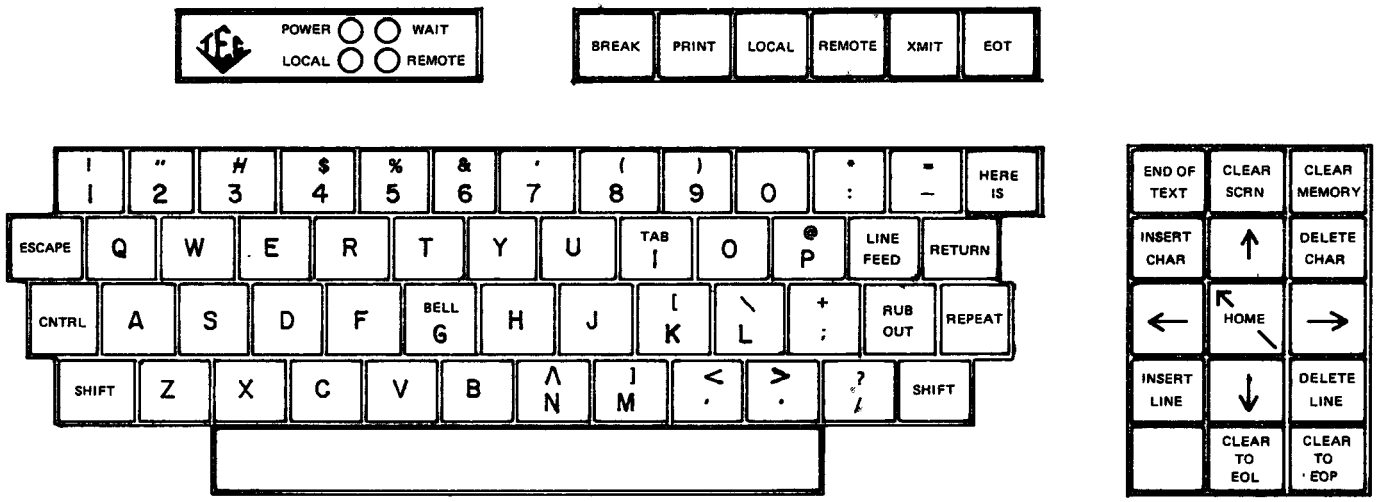

Figure 3-4. Console keyboard

Table 3-1. Use of special Keys

Key	Function
RETURN (↵)	Transmits the command.
RUBOUT	Backspaces and erases one character on the entry line.
\	(Shift and L keys) Deletes an entire line.
+ or >	Rolls STATUS or LINK display forward one frame.
- or <	Rolls STATUS or LINK display backward one frame.
CNTRL-A	Discards unprocessed keyboard input.

A command file may itself contain a call to another indirect command file. Control passes to the new file and does not return to the file that issued the command.

NOTE

When the station is activated, the file $STAT.CM is executed as an indirect file if it exists.

A PAUSE command embedded in an indirect command file or a CNTRL-A at the keyboard causes processing of commands in the file to halt. The operator may then transfer command processing to the console by entering a command or may resume processing of commands in the indirect file by sending a null line (RETURN only).

Example of indirect command file contents:

File A1, summoned by the command @A1@ contains the following commands:

```
START
LOGON DG
SUBMIT JSYSDIR
DELAY 20
LIMIT 1
```

TYPES OF STATION COMMANDS

Station commands described in this publication are of five types:

- MCU commands,
- Batch entry commands,
- Operator commands,
- Display and status response commands, and
- Communication commands.

These general classes of commands are briefly summarized in the following paragraphs, after which each command is described in detail.

MCU COMMANDS

When the Data General Eclipse is linked tb the MCU channel of the CRAY-1 (either on-site or remotely through an on-site Eclipse), the operator can issue the commands summarized in table 3-2.

Table 3-2. MCU command summary

Command	Function
STARTUP	Begins CRAY-OS operation based on COS source file and parameter file.
DUMP	Dumps a selected portion of CRAY-1 memory to an Eclipse file. A STARTUP must follow this command.
INTERRUPT	Enables or disables CRAY-1 real time clock interrupts.
PARITY	Enables or disables CRAY-1 parity error scan.
SYSDUMP	Loads DDC utility into CRAY-1 memory and initiates execution.

If STARTUP is issued from a remote Eclipse, the files required for starting up the CRAY-1 must be on the on-site Eclipse disk.

Similarly, if the DUMP command is issued at a remote Eclipse, the information returned will reside on the on-site Eclipse disk.

The PARITY command enables or disables parity error scan at the on-site station or concentrator only.

BATCH ENTRY COMMANDS

Entry of batch jobs at the Eclipse station is provided through the commands summarized in table 3-3. General functions include station activation, staging control, and input/output control. In addition, there are a number of specialized commands.

Station activation commands

The station activation commands (LOGON and LOGOFF) turn on or turn off the communication link between the Eclipse and the CRAY-1. When the station is logged on, the operator can issue commands to be processed at the CRAY-1 rather than just at the Eclipse.

Staging control

Staging is the process of transferring jobs and data in the form of CRAY-1 datasets from the Eclipse disk to CRAY-1 mass storage or of transferring datasets from CRAY-1 mass storage to the Eclipse disk. When the Eclipse station is logged on and entries are present in either the station input staging queue or the CRAY-1 output staging queue, staging of datasets

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Table 3-3. Batch entry command summary

Command	Function
Station activation	
LOGON	Establishes communications between the station and the CRAY-1.
LOGOFF	Terminates communications between the station and the CRAY-1
Staging control	
STAGE	Suspends or resumes staging of datasets between the CRAY-1 and the Eclipse.
QUEUE	Enters an Eclipse-resident file into the staging input queue for the CRAY-1.
SUBMIT	Queues a job dataset for staging to the CRAY-1.
SAVE	Queues a permanent dataset for staging to the CRAY-1.
Input/output control	
BLOCK†	Formats a dataset into CRAY-1 blocked format and queues the dataset for staging to the CRAY-1.
PRINT†	Enables or disables automatic printing of queued output datasets.
Miscellaneous control	
SNAP	Copies screen contents to a file or the printer.
PAUSE	Suspends indirect command file processing and allows operator to abort it or resume it.
END	Terminates station and returns control to RDOS.
DELAY	Suspends processing of a command for a specified time interval.
POLL	Sets the rate at which control messages are exchanged with the CRAY-1.
SET	Modifies the default value associated with a parameter.

† Deferred implementation

automatically begins. The operator can suspend staging through the STAGE OFF command and can subsequently resume staging through the STAGE ON command.

Names of files to be staged to the CRAY-1 are contained in the input queue file DPØ:$STAT.IQ. Each file created via the BLOCK command is assigned a filename with the format $STAT*nnn*.IF, where *nnn*=001 through 240. When a file has been staged to the CRAY-1, it is deleted unless it was queued by the QUEUE, SUBMIT, or SAVE command

The output queue file, DPØ:$STAT.OQ, contains names of files to be printed. Each file is assigned a filename with the format $STAT*nnn*.OF, where *nnn*= 001 through 240. After being printed, the file is deleted.

To delete $STAT.IQ or $STAT.OQ, the operator can use the RDOS DELETE command. This will clear the files from the input or output queue.

The operator may explicitly enter an existing file into the staging queue through the SAVE, QUEUE, or SUBMIT commands. Such a file must be already in CRAY-1 blocked format, possibly having been processed by the BLOCK program as an RDOS off-line function.

The normal method for entries to be made in the input staging queue, however, is through the BLOCK command, as described under Input/output control.

The CRAY-1 maintains the queue of datasets to be staged out to the Eclipse. The operating system makes an entry in this queue for the list output dataset for each job and for any permanent dataset routed to the Eclipse to be saved on the Eclipse disk. Datasets with the disposition code PR (print) are entered into the print queue. If the disposition code is not PR, the dataset is entered into an Eclipse file.

Input/output control

Through the BLOCK command, the operator can make entries in the input staging queue. The jobs entered are blocked into the CRAY-1 dataset format as determined by the station input directives (section 5) accompanying data in the deck. Directives also describe whether the dataset is a job input dataset or a staged permanent dataset. The resulting dataset is entered into the input staging queue at the Eclipse.

at the remote station may be activated explicitly by the LINE ON command or implicitly by the DELETE, DUMP, INTERRUPT, LOGON, RECEIVE, STARTUP, and TRANSMIT commands.

Table 3-6. Communication command summary

Command	Function
LINE	Turn remote link for specific station on or off.
TRANSMIT	Send file to concentrator.
RECEIVE	Receive file from concentrator.
DELETE	Delete a file from the concentrator disk.

TRANSMIT and RECEIVE are entered at a remote station. TRANSMIT sends a file from the remote station to the concentrator. Conversely, RECEIVE transfers a file from the concentrator to the remote station.

NOTE

Except for file length, the characteristics of the source file (the file type and file attributes) are not conveyed to the destination file. The destination file is created as a random file and no attributes are assigned to the file

To retain the file type (e.g. contiguous) or file attributes (e.g. save file):

1. Use the DUMP utility to create an intermediate file from the source file,
2. Transfer the intermediate file to the concentrator or remote station, and
3. Use the LOAD utility to create the destination file.

The intermediate file created by the DUMP can contain more than one source file.

For example, to send FILE1 and FILE2 to the concentrator retaining their file characteristics, the following sequence of commands could be used.

1. Under RDOS at the remote station, create the intermediate file IFILE:

   DUMP/V IFILE FILE1 FILE2

2. Use the remote station to send the file to the concentrator:

   TRANSMIT IFILE

3. Under RDOS at the concentrator, create the destination files:

   LOAD/V/R IFILE

This creates files FILE1 and FILE2 whose characteristics are the same as those of the source files at the remote station.

DELETE is entered at a remote station only. The DELETE command deletes a file from the concentrator disk.

COMMAND DESCRIPTIONS

The remainder of this section contains a detailed description of each command. Command descriptions are in alphabetical order according to verb.

COMMAND FORMATS

UPPER CASE	Identifies the command verb or literal parameter.
UNDERLINED UPPER CASE	Specifies the minimum number of characters required for the verb or parameter to be recognized.
Italics	Define generic terms which represent the words or symbols to be supplied by the user.
[ ] Brackets	Enclose optional portions of a command format.
{ } Braces	Enclose two or more literal parameters when only one of the parameters must be used.
↵ Arrow	Indicates the RETURN key.

BLOCK - FORMAT AND QUEUE DATASET†

FUNCTION: Formats a job or permanent dataset and queues it for staging to the CRAY-1.

See section 5 for a description of blocking directives and the source file layout. The dataset created has the name $STAT*nnn*.IF (*nnn*=ØØ1-24Ø) and is deleted after the dataset has been staged to the CRAY-1.

FORMAT: BLOCK,*file*

file - Name of file containing directives and data

TYPE: Input/output control

PREREQUISITES: None

†Deferred implementation

CHANNEL - TURN CHANNEL ON OR OFF

FUNCTION: Turns the specified channel pair on or off.

FORMAT: CHANNEL,*channel*, $\left\{\begin{matrix}\underline{ON}\\ \underline{OFF}\end{matrix}\right\}$ ↵

channel	Number of channel pair; decimal number in the range 1 through 12. Consult a system analyst for specific channel assignments.
ON	Turns on channel pair
OFF	Turns off channel pair

TYPE: Operator station; channel control subtype

PREREQUISITES: Eclipse is a system operator station and is logged on.

DATASET - DISPLAY DATASET STATUS

FUNCTION: Returns one of the following dataset status messages in the command/response area:

COS DATASET *dsn* WITH ID = *id* AND ED = *ed* DOES EXIST

COS DATASET *dsn* WITH ID = *id* AND ED = *ed* DOES NOT EXIST

FORMAT: DATASET,*pdn* [,*userid*] [,*ed*] ↵

pdn Permanent dataset name of dataset for which status is requested; 1-15 characters (A-Z, 0-9, or $ % or @). Of these, only the numeric characters cannot be used for the first character.

userid User ID of permanent dataset for which status is requested; 1-8 alphanumeric characters. If not specified, null is used.

ed Edition number of requested dataset; 1-4095. If *ed* is not specified, the status of the latest edition is returned. If *ed* is nonzero, the status of the requested edition is returned.

TYPE: Display and status response

PREREQUISITES: Eclipse station logged on

DELAY - SUSPEND COMMAND PROCESSING

FUNCTION: Suspends command processing for the time interval specified.

FORMAT: DELAY,*sec*)

sec Number of seconds (1-60) by which processing of the next command is delayed.

TYPE: Batch entry; miscellaneous subtype

PREREQUISITES: None

JOB - DISPLAY JOB STATUS

FUNCTION: Returns job status message in command response area.

FORMAT: JOB, *jobname* [,*jsq*] ↓

jobname Name of job for which status is requested; 1 to 7 alphanumeric characters, the first of which must be alphabetic (A-Z).

jsq Job sequence number by which job is identified in CRAY-OS system. The JSQ of a job can be obtained through the STATUS command.

TYPE: Display and status response

PREREQUISITES: Eclipse is logged on.

The job status message returned by this command has the following general form:

COS JOB *jobname* *(job status)*
(last logfile message)

where job status reports one of the following conditions:

AWAITING CPU
AWAITING MEMORY
DOES NOT EXIST
DORMANT
EXECUTING
QUEUED FOR EXEC
ROLLED OUT
ROLLING IN
ROLLING OUT
SUSPENDED
WAITING FOR I/O

The last logfile message is displayed unless the job status is DOES NOT EXIST or QUEUED FOR EXEC.

KILL - KILL JOB

FUNCTION: Depending on the status of the job, either deletes its input dataset from the input queue if processing has not yet begun, terminates processing if processing has begun, or deletes the job's output dataset from the output queue if processing has completed. KILL (unlike DROP) does not cause processing of EXIT control statements that may be in the job deck.

FORMAT: KILL, *jsq* ↵

jsq — Job sequence number by which job or its output dataset is identified. The JSQ for the job can be obtained through the STATUS command.

TYPE: Operator station; job control subtype

PREREQUISITES: Eclipse is operator station and is logged on

RECEIVE - RECEIVE FILE FROM CONCENTRATOR

FUNCTION: Transfers specified file from the concentrator to the remote station. See Section 3 for restrictions.

FORMAT: RECEIVE,*cfile* [,*rfile*]

cfile Name of the concentrator file which is to be transferred to the remote station.

rfile Name to be assigned to the file at the remote station. If not specified, *cfile* is assumed.

TYPE: Communications

PREREQUISITES: Remote station only

REFRESH – SET DISPLAY REFRESH RATE

FUNCTION: Sets the interval between display refreshes.

FORMAT: REFRESH [, ON / OFF [; *rate*]]

ON	Enables display refresh; default is on.
OFF	Disables display refresh.
rate	Specifies refresh interval in seconds (1-60). If *rate* is not specified, the rate previously in effect is assumed.

TYPE: Display and status response

PREREQUISITES: None

STAGE - HALT OR RESUME STAGING

FUNCTION: Halts or resumes dataset staging between the Eclipse station and the CRAY-1. Staging is normally on when the station begins operation. When staging is on, the Eclipse is transmitting files listed in the input staging queue to the CRAY-1 and the CRAY-1 is transmitting files listed in the output staging queue to the Eclipse.

FORMAT: STAGE [,ON / OFF]↓

OFF Halt staging; staging in process is completed, no new staging is initiated.

ON Resume staging; default.

TYPE: Batch entry; staging control subtype

PREREQUISITES: None

STARTUP - COS SYSTEM STARTUP

FUNCTIONS: Initiates CRAY-1 execution and causes it to follow one of three Startup procedures: Install, Deadstart, or Restart. The type of startup is determined by a parameter file sent to the CRAY-1 by the command. The command also identifies the file containing the binary of the CRAY-OS operating system and causes it to be sent to the CRAY-1.

FORMAT: STARTUP[,*sysfile*][,*parfile*]

sysfile Name of file containing the CRAY-OS binary. The file name COS is used if this parameter is omitted from the command. Refer to the CRAY-OS System Programmer's Handbook for details of COS file generation.

parfile Name of file containing system parameters to be used by the operating system. If this parameter is omitted, a file named COSPAR is used. Refer to the CRAY-OS System Programmer's Handbook for details of COSPAR file generation.

Regardless of whether the STARTUP command is issued at a remote or an on-site Eclipse station, both *sysfile* and *parfile*, used by STARTUP, must reside at the on-site Eclipse.

Note that the first 8 64-bit words of *sysfile* are not included in the data written to the CRAY-1.

TYPE: MCU

PREREQUISITES: On-site Eclipse must be connected to CRAY-1 MCU channel.

SYSDUMP - EXECUTE DDC UTILITY

FUNCTION: Loads the DDC utility into the CRAY-1 memory and initiates execution. The DDC utility dumps CRAY-1 memory to a preallocated area of the DD-19 disk. A subsequent STARTUP causes the dump to be copied to permanent dataset called CRAY1SYSTEMDUMP. After the dump, the CRAY-1 must be restarted with STARTUP.

FORMAT: SYSDUMP)

TYPE: MCU

PREREQUISITES: Eclipse is connected to the MCU channel directly or through an on-site Eclipse. The DDC utility binary exists in the file DPØ:DDC.

CAUTION

When DDC has been used to create a system dump, the Startup of the COS system requires significantly longer to complete, due to the necessity of copying the dump from the preallocated area to another dataset for saving. If output queue datasets exist and are recovered by Startup, SCP currently allows them to begin staging to the station before Startup completes this copying operation. This may result in a system crash if the output queue dataset completes staging before Startup creates the log manager task. Similarly, some operator functions (notably DATASET) will also result in system crash if entered too soon. Therefore, when DDC has been used, the operator should specify STAGE OFF before logging on, and should refrain from entering commands until Startup completes. Startup completion may be verified by examining location DSFIN in STP (Startup is complete when DSFIN is non-zero).

SWITCH - MANIPULATE JOB SENSE SWITCHES†

FUNCTION: Sets or clears a job sense switch.

FORMAT: SWITCH,*jsq*,*ssw*, {ON / OFF}

jsq	Job sequence number by which the job is identified. The JSQ for the job can be obtained through the STATUS display.
ssw	Sense switch number (1-6)
ON	Sets the switch designed by *ssw*
OFF	Clears the switch designated by *ssw*

TYPE: Operator station; job control subtype

PREREQUISITES: Eclipse is operator station and is logged on

†Deferred implementation

TRANSMIT - TRANSMIT FILE TO CONCENTRATOR

FUNCTION: Sends specified file from a remote station to the concentrator. See section 3 for restrictions.

FORMAT: TRANSMIT,*rfile* [,*cfile*]

rfile Name of file at the remote station to be sent to the concentrator.

cfile Name to be assigned to the file at the concentrator. If not specified, *rfile*

TYPE: Communications

PREREQUISITES: Remote station only

Table 6-1. Error code descriptions

Code†	Meaning	Causes, solutions
03*nnn* 04*nnn* 05*nnn*	Error opening, reading, or closing the command file COM.CM (FCOM.CM for foreground station)	1. CLEAR/A and reboot system 2. Disk errors
06*nnn*	Error opening the station overlay file, *stat*.OL	1. Not linked to stat.OL file 2. File *stat*.OL linked to itself 3. File *stat*.OL not contiguous 4. CLEAR/A and reboot system
07*nnn*	Error initiating a task	1. Station generated improperly (RLDR) See a systems analyst
10*nnn*	Error defining the 455 Data Screen interface	1. CLEAR/A and reboot system
12000	Invalid real time clock rate	1. Boot proper RDOS system
14*nnn*	Error opening DPO:$STAT.IQ or DPO:$STAT.OQ file	1. File linked to itself 2. Disk nearly full so that files cannot be created 3. Files in use by another program 4. CLEAR/A and reboot system
15*nnn*	Error reading or writing DPO:$STAT.IQ or DPO:$STAT.OQ during initialization	1. File not contiguous 2. File less than 241 blocks (123392 characters) in length 3. File read or write protected 4. Disk errors
16000	Invalid identifier in file DPO:$STAT.IQ or DPO:$STAT.OQ (First word of file must be IQ or OQ respectively)	1. Delete DPO:$STAT.IQ or DPO:$STAT.OQ
00403	Insufficient buffer space	1. Boot proper RDOS system 2. Station generated improperly (RLDR) 3. Foreground program running with the background station

†*nnn* - RDOS error code. Refer to RDOS User's Handbook (093-000145) for error code descriptions.

Table 6-1. Error code descriptions (cont.)

Code†	Meaning	Causes, solutions
40*nnn*	Error reading a station overlay	1. *stat*.OL not a contiguous file 2. Disk errors
37*nnn*	Error reading or writing DPO:$STAT.IQ or DPO:$STAT.OQ	1. File not contiguous 2. File less than 241 blocks (123392 characters) 3. File read or write protected 4. Disk errors

† *nnn* - RDOS error code. Refer to RDOS User's Handbook (093-000145) for error code descriptions.

FORMATTING AN ECLIPSE DISK PACK

Data General programs provide for formatting and flaw testing of a disk pack. The current formatting program is the RDOS Rev. 6 program, DKINIT. If this program fails, the RDOS Rev. 4 program, DPDF may need to be run.

REV 6 FORMATTING PROCEDURE

This procedure assumes that the Power On procedure has been performed.

1. Mount the current RDOS tape onto magnetic tape unit 0 and press LOAD and ONLINE.
2. Mount the pack to be formatted and power on the disk drive.
3. At the Eclipse:
   a. Flip up the RESET/STOP switch.
   b. Set the Eclipse panel switches to 100022_8.
   c. Flip up the PR LOAD switch.

      The tape moves slightly when the first file is loaded into Eclipse memory.
4. The following dialog then occurs at the 1440 display terminal.

	Message	Operator response	
a.	FROM MTO:	4)	
b.	DISK INITIALIZER - REV. 06.20 DISK DRIVE MODEL NUMBER?	4057)	
c.	4057 DRIVE TYPE DISK UNIT?	DPO)	
d.	COMMAND?	FULL)	
e.	COMMAND DESTROYS ANY PREVIOUS DISK STRUCTURE RDOS INIT/F MUST BE DONE ON DISK AFTER COMMAND TYPE CONTROL-A NOW TO ABORT WITHOUT LOSS. NUMBER OF PATTERNS TO RUN (1-5)?	1)	Enter 5 if formatting new pack.
	*** PATTERN # 1 (155555) *** Formatting begins and takes about 10 minutes per pattern. If any bad blocks are discovered, a message appears on the screen and the bad block address is recorded by the program in the bad block table.		

NOTE

If a large number of flaw messages appears or if the message DRIVE UNSAFE OR ADDRESS ERROR appears, refer to Rev 4 formatting procedure.

	Message	Operator response
f.	DO YOU WISH TO DECLARE ANY BLOCKS BAD THAT ARE NOT ALREADY IN THE BAD BLOCK TABLE?	NO ↵
g.	DEFAULT REMAP AREA SIZE IS 12 BLOCK(S) LONG IT NEEDS TO BE AT LEAST 0 BLOCK(S) LONG REMAP AREA SIZE (TYPE RETURN FOR DEFAULT)?	↵
h.	REMAP AREA START BLOCK NUMBER (TYPE RETURN FOR DEFAULT)?	↵
i.	DEFAULT FRAME SIZE IS 83, MIN IS 1, AND MAX IS 4060 DISK FRAME SIZE (TYPE RETURN FOR DEFAULT)?	↵
j.	FULL DISK INIT COMPLETE COMMAND?	STOP ↵

REV 4 FORMATTING PROCEDURE

An apparent deficiency in the Rev 6 Disk Initializer may cause it to abort with the message DRIVE UNSAFE OR ADDRESS ERROR. This necessitates running the Rev 4 Formatter, DPDF, followed by repeating the Rev 6 procedure.

1. At the Eclipse panel:
   a. Set the panel switches to 100022_8.
   b. Flip up the RESET/STOP switch.
   c. Flip up the PR LOAD switch.
   d. Reset the panel switches to 000000.
2. At the 1440 display terminal, the message FROM MTO appears. Respond with 10.

3. At the Eclipse panel:
   a. Set the panel switches to 000000.
   b. Flip down the START/CONT switch.
   c. The message TYPE UNIT NUMBER appears, respond with 0↵

      Formatting begins and takes about 8 minutes after which the message FORMATTING DONE appears.
4. Repeat the Rev 6 formatting procedure.

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