

Burroughs Corporation



COMPUTER SYSTEMS GROUP
SANTA BARBARA PLANT

B1800/B1700 DC/AUDIT

2212 5421

PRODUCT SPECIFICATION

REV LTR	REVISION ISSUE DATE	APPROVED BY	REVISIONS
D	10/13/78	<i>J. Hale</i>	Changes to the Mark VIII.0 Release 8-1 Added a note on Output Formats

TABLE OF CONTENTS

INTRODUCTION	1-1
RELATED PUBLICATIONS	1-1
DC/AUDIT FILE IMPLEMENTATION	1-2
CREATION OF AUDIT FILE	1-2
WRITING TO THE AUDIT FILE	1-3
AUDIT DISK FILE	3-1
FILE DECLARATION	3-1
RECORD ZERO	3-1
IO DESCRIPTOR RECORD (TYPE 1)	3-4
CONTINUATION RECORD (TYPE 2)	3-5
COMMENT RECORD (TYPE 3)	3-5
RUN TIME PARAMETERS	4-1
PARAMETER DEFAULTS AND FORMATS	4-2
DEFAULT PARAMETERS	4-6
PARAMETER LIST ENTRY	4-7
OPERATING INSTRUCTIONS	5-1
FILES	6-1
INPUT	6-1
OUTPUT	6-1
CONSOLE PRINTER MESSAGES	7-1
OUTPUT FORMATS	8-1
OUTPUT FORMAT 1	8-2
OUTPUT FORMAT 2	8-4
OUTPUT FORMAT 3	8-5
OUTPUT FORMAT 4	8-6

INTRODUCTION

Data Comm Audit (DC/AUDIT) is a utility program written to monitor RJE, HASP, and NDL line activity. This audit mechanism is a valuable tool for initial installation of data comm systems and for detection and monitoring of line-oriented problems.

On the completion of each data comm IO, the handler writes information regarding the IO into a disk file that can be printed by DC/AUDIT. The audit option in RJE, HASP, and NDL may be set or reset dynamically through the console. For the syntax of the audit option in RJE, HASP, and NDL, refer to the MARK V.0, or higher, documentation of the respective program(s). This revision of the B1800/B1700 DC/AUDIT product specification supports the MARK VI.0 release of the program.

The audit file, DC/AUDIT.FILE, is maintained as a circular disk file. When this file gets filled, the oldest record is overwritten with the same new record. This approach optimizes disk space and at the same time allows the user to monitor all data comm I/O activity. Furthermore, if the data comm handler is aborted due to software or hardware malfunction, a permanent record of the last "n" records is still available on disk.

The utility program, DC/AUDIT, may be executed concurrently with the data comm handler and prints records written into the audit file. The data comm handler and DC/AUDIT maintain synchronization through a mailbox (record [0] of the audit file). DC/AUDIT accepts several input parameters. By varying these input parameters, the printed output may be structured so as to provide the most relevant information.

This product specification describes DC/AUDIT: its operating procedures along with the format of the audit file.

RELATED PUBLICATIONS

Name -----	Number -----
B1800/B1700 HASP	P.S. 2212 5256
RJE/TERMINAL (NDL)	P.S. 2212 5249
RJE/TERMINAL (SDL)	P.S. 2212 5231
B1800/B1700 RJE/DCH	P.S. 2212 5272
B1800/B1700 NDL (BNF)	P.S. 2212 5223
B1800/B1700 Software Operational Guide	1068731

DC/AUDIT FILE IMPLEMENTATION

CREATION OF AUDIT FILE

When a data comm handler receives a command to start monitoring data comm I/O, the audit file is opened in the following manner:

```
OPEN AUDIT INPUT, OUTPUT, LOCK;  
ON FILE.MISSING <STATEMENT>;  
ON FILE.LOCKED <STATEMENT>;
```

The FILE.LOCKED condition indicates that the file is inaccessible for output because another data comm handler has opened it with the LOCK option; under this circumstance the handler will display a message and ignore the audit command. No two data comm handlers may write to the same audit file at the same time. This is enforced through the LOCK option of the OPEN statement.

The FILE MISSING condition indicates that the file is not present. Each data comm handler is then responsible for the creation of a new audit file. This is accomplished with the following statements.

```
OPEN AUDIT INPUT, OUTPUT, NEW;  
WRITE AUDIT (0) (RECORD);  
WRITE AUDIT [LAST] (RECORD); % TO UPDATE EOF;  
CLOSE AUDIT LOCK;
```

The close with LOCK option ensures that the file has been entered in the system directory and that it is a permanent file. The handler then does another OPEN with the INPUT, OUTPUT, LOCK option.

If the OPEN is successful (neither on branch is executed), then the file is locked by the handler. This implies that no other handler has write access to it. However, DC/AUDIT may still access the audit file on a read only basis. If two audit sessions are initiated concurrently, then the two data comm handlers must access different audit files; this may be accomplished through file equation.

Record zero of the audit provides the mailbox between the handler and DC/AUDIT. It contains two pointers, START.POINTER and NEXT.AVAILABLE.RECORD. The first points to the oldest record in the file and the second points to the next available location in the audit file. Record zero also contains a count of all valid records (RECORDS.WRITTEN) in the file.

BURROUGHS CORPORATION
COMPUTER SYSTEM GROUP
SANTA BARBARA PLANT

1-3
COMPANY CONFIDENTIAL
B1800/B1700 DC/AUDIT (REV.D)
P.S. 2212 5421

On the first OPEN, the data comm handler initializes NEXT.AVAILABLE.RECORD and START.POINTER to one and RECORDS.WRITTEN to zero. On subsequent opens, record zero is not initialized.

The data comm handlers have options of opening and closing the audit file more than once during a data comm session. In this case the START.POINTER will be updated so that it will still indicate all records relevant to the current user of the file. When the audit file is closed, the fields in record [0] will delimit all records which the current user has placed in the file.

WRITING TO THE AUDIT FILE

When adding records to the audit file, the data comm handler will write the record to the location indicated by NEXT.AVAILABLE.RECORD. After each write, or group of writes, the data comm handler will update record [0] by rewriting it with NEXT.AVAILABLE.RECORD and RECORDS.WRITTEN updated. If the number of records written has caused the file to cycle (the number of records written is greater than the file size), the oldest record will have been overwritten and the START.POINTER is set equal to NEXT.AVAILABLE.RECORD to indicate that the file has cycled. In a cycled file START.POINTER will be updated each time the NEXT.AVAILABLE.RECORD is updated.

When NEXT.AVAILABLE.RECORD is greater than the size of the file, the data comm handler will detect an end of file condition when attempting to write the next record. The data comm handler will set NEXT.AVAILABLE.RECORD (and START.POINTER if they are equal) to one and write the record again.

AUDIT DISK FILE

FILE DECLARATION

The audit file is declared as follows:

```
FILE AUDIT
(LABEL = "DC"/"AUDIT.FILE",
DEVICE = DISK, RANDOM
RECORDS = 180/1,
AREAS = 10/100);
```

With the above declaration, the audit file can hold 1000 records. After the 1000th record, the next record overwrites the first record in the file and the file begins to cycle. On execution, DC/AUDIT opens the audit file named DC/AUDIT.FILE as an input file.

```
OPEN AUDIT INPUT;
```

```
ON-FILE.MISSING <STATEMENT>;
```

If the file is missing, then it displays an appropriate message and terminates. The user may direct DC/AUDIT to read a different audit file through a file equate card. This will be required in the situation where two handlers audit to two different files at the same time.

RECORD ZERO

The first record of the file, record [0], contains pointers that describe the state of the file. The format of record [0] is as follows:

01	DISK.HEADER	CHARACTER	(180),
02	NEXT.AVAILABLE.RECORD	BIT	(024),
02	START.POINTER	BIT	(024),
02	RECORDS.WRITTEN	BIT	(024),
02	FILLER	CHARACTER	(171);

NEXT.AVAILABLE.RECORD points to the next available location in the audit file. RECORDS.WRITTEN contains the total number of valid records in the audit file.

BURROUGHS CORPORATION
COMPUTER SYSTEM GROUP
SANTA BARBARA PLANT

3-2
COMPANY CONFIDENTIAL
B1800/B1700 DC/AUDIT (REV.C)
P.S. 2212 5421

DC/AUDIT formats and prints all records from the START.POINTER to the next pointer. Since the audit file is cyclical, an end of file condition merely causes DC/AUDIT to initialize its record number to one and then to continue printing, up to the next record pointer.

DC/AUDIT may be run concurrently with the data comm handler. If DC/AUDIT catches up with the handler, it waits for "n" seconds. On being awakened, DC/AUDIT, will access record zero to determine if there are any records to be printed. If there are no records, DC/AUDIT will wait once again. This allows the system to gain control when DC/AUDIT has no work. Figure 3.1 illustrates the audit file cycle.

DATA COMM HANDLER writes
 into this area

DC/AUDIT prints all records
 in the shaded area

```

*****
*           *
*           *
NEXT  ---->*//////////*
*//////////*
*           *
*           *
START ---->*-----*
*           *
*           *
*****
  
```

```

*****
*//////////* <---|
*//////////* |  |
*//////////* |  |
*//////////* V  |
NEXT  ---->*           *  /|
*           *           |
*           *           |
START ---->*//////////* |  |
*//////////* |  |
*//////////* |--->|
*****
  
```

```

*****
*           *
*           *
START ---->*-----*
*           *
*           *
*           *
NEXT  ---->*//////////*
*//////////*
*****
  
```

```

*****
*           *
*           *
*           *
*           *
START ---->*//////////* |
*//////////* |
*//////////* V
NEXT  ---->*           *
*           *
*****
  
```

```

*****
*           *
*           *
START ---->*//////////*
AND NEXT *//////////*
ARE EQUAL,*           *
RECORDS *           *
WRITTEN *           *
NOT EQUAL *           *
ZERO *           *
*****
  
```

```

*****
*           * |<---|
*           * V  |
*-----* |
START ---->*           * |  |
AND NEXT *           * |  |
ARE EQUAL,*           * |  /|
RECORDS *           * |  |
WRITTEN *           * |  |
NOT EQUAL *           * |  |
ZERO ***** |--->|
  
```

Figure 3.1 DC/AUDIT Disk File Management

ID DESCRIPTOR RECORD (TYPE 1)

The ID descriptor record contains one entire ID descriptor, and if applicable, its buffer. If there is not enough room for the entire buffer, the remaining portion of the buffer will follow in continuation records.

Descriptor and their related buffers are written to the file in order they were executed and written only after they have completed.

The format of the ID descriptor record is as follows:

```

01 IO.DESRIPTOR.RECORD,
      02 TYPE                               BIT (004), X (VALUE IS 1)
      02 HEADER,
          03 TIME.START                     BIT (020),
          03 TIME.FINISH                     BIT (020),
          03 PORT                             BIT (003),
          03 CHANNEL                         BIT (004),
          03 ADAPTER                         BIT (004),
          03 FILLER                           BIT (016),
          03 DESCRIPTOR.DATA.ADDRESS        BIT (024),
          03 DISPATCH.BIT                    BIT (001),
      02 DESCRIPTOR                           BIT (272),
      02 DATA.FIELD,
          03 DATA.LENGTH                     BIT (024),
          03 DATA                           CHARACTER (131);
  
```

RESERVED WORD

MEANING

TYPE	marks this record as a IO.DESRIPTOR.RECORD.
TIME.START	is the time that the descriptor was initiated.
TIME.FINISH	is the time that the descriptor is completed.
DESCRIPTOR.DATA.ADDRESS	is the absolute address of the Result Field (RS) of the ID descriptor.

BURROUGHS CORPORATION
COMPUTER SYSTEM GROUP
SANTA BARBARA PLANT

3-6
COMPANY CONFIDENTIAL
B1800/B1700 DC/AUDIT (REV.0)
P.S. 2212 5421

The format of the record is as follows:

01 COMMENT.RECORD,

02 TYPE BIT (004) X VALUE IS 3
02 HEADER,

03 COMMENT.TIME BIT (020),
03 FILLER BIT (072),

02 FILLER BIT (272),
02 DATA.FIELD,

03 DATA.LENGTH BIT (024),
03 DATA CHARACTER (131);

TYPE which has a value of three, marks this record as a comment record.

DATA.LENGTH is the number of bytes in DATA.

DATA is the comment.

Comment records may not have continuation records.

RUN TIME PARAMETERS

Upon execution of DC/AUDIT, the program will look for a disk file labeled "DC/PARAMETERS" which contains the run time parameters for DC/AUDIT. DC/AUDIT will read this file and process the parameters. If an error is found in the file, the message: "PARAMETER FILE NOT VALID" will be displayed and the file ignored, requiring manual entry of the run time parameters. If an exception condition was realized when trying to read the file the message: "PARITY ERROR ON DISK FILE "DC/PARAMETERS" FILE NOT USED" will be displayed and the file ignored, requiring manual entry of the run time parameters.

The file labeled "DC/PARAMETERS" on disk can be ignored at execute time by setting switch 0 to any value other than zero.

EXAMPLE:= EX DC/AUDIT SW 0 = 1;

The parameter entry, whether from a card reader or console printer, is free form. Parameters must not have imbedded blanks and parameters with equal signs must end with a blank.

If the file "DC/PARAMETERS" is not on disk or the file is in error or DC/AUDIT has been instructed to ignore the file the following message will be displayed, indicating the manual entry of run time parameters to DC/AUDIT.

"DEFAULT PARAMETERS?"

The operator can now enter run time parameters or use default run time parameters.

The following are acceptable response to "DEFAULT PARAMETERS?":

<job-number>AX [PARAMETER LIST] is a list of run time parameters.

<job-number>AXEND means all run time parameters entries from console printer are complete. This message may be entered on the same lines as [PARAMETER LIST].

<job-number>AXR means read the run time parameters from card file "CARDS" labeled "DC/PARAMETERS".

<job-number>AXYES means use all DEFAULT PARAMETERS.

The error message INVALID PARAMETER DETECTED will be displayed if either of the following occurs:

1. PARAMETERS LIST from the console printer, the card reader or the disk file contained an invalid parameter.
2. Neither "R", "YES", "END" nor (PARAMETER LIST) was entered.

Following the error message, an additional field indicating the last group of characters scanned by DC/AUDIT is also displayed, to assist a user in correcting the error.

If run time parameter entry is from the console printer, DC/AUDIT will display the following message after validating the previous entries:

ENTER FURTHER PARAMETERS OR "END".

If run time parameter entry is complete, the operator enters "END". Otherwise, the operator can enter more parameters.

NOTE: "R", "YES", and "END" must immediately follow the AX when responding.

PARAMETER DEFAULTS AND FORMATS

The following is an alphabetized list of default run time parameters. Specific run time parameters defaults are overridden by entry of that parameter in the card file "DC/PARAMETERS" or by entry of that parameter list on the console printer.

PARAMETER and DEFAULT -----	MEANING -----
ADDRESS	Print port, channel and adapter that IO DESCRIPTOR was dispatched.
DEFAULT :	"ADDRESS"
ALL.LINES	Processes records in the audit file from all data comm lines included in the file.
DEFAULT:	"ALL.LINES"

BUFFERS

Output all buffers associated with IO descriptor and the continuation records.

DEFAULT: "BUFFERS"

DEL.LINE=(P:C:A, P:C:A, . . .)

While a valid run time parameter, this is essentially designed to be used while DC/AUDIT is executing. The parameter defines specific lines which are not to be audited. DC/AUDIT will delete the entry for the lines entered from its list of lines to be audited.

The format is similar to the "LINE =" parameter below.

DEFAULT: All lines are audited.

DISPATCH.BIT

Indicates whether IO DESCRIPTOR was dispatched by the MCP or by resetting the complete bit of the IO DESCRIPTOR.

DEFAULT: "NO-DISPATCH"

DOUBLE

Double space each output line.

DEFAULT: Single.

ERROR=(1, 2, 3, orXXXXXX)

If ERROR=1, then output all operations.

If ERROR=2, then ignore all operations that completed with exceptions.

If ERROR=3, then ignore all operations that completed without exceptions.

If ERROR=XXXXXX, then use XXXXXX, which will be the hex representation of a result descriptor, as a mask to output only the XXXXXX result descriptor operations.

DEFAULT: "ERROR=1"

HEADER

Print a header at the top of each page.

DEFAULT: Header.

IO.DESC=(1, 2)

If IO.DESC=1, then print the entire IO DESCRIPTOR in hex with each field separated by blanks.

If IO.DESC=2, then print just the Result Field. The result will be interpreted and printed in English.

DEFAULT: IO.DESC=2. All good result descriptors will be printed.

LENGTH=NNNN

NNNN is a decimal number 1 to 4 characters in length, which indicates the maximum number of characters in a buffer to print.

DEFAULT: The entire buffer will be output.

LINE=(P:C:A, P:C:A,...)

This parameter defines specific lines which are to be audited. P:C:A are the port, channel and adapter address of each line. Up to 16 lines may be entered (P, C and A must be two decimal digits in length and colons are required).

It is not possible to enter all sixteen lines on one parameter record; consequently, additional parameters are entered through the "LINE=" option. If more than sixteen lines in total are entered into the DC/AUDIT line list, an error condition will occur.

Example: LINE=07:12:00, 07:07:00

DEFAULT: All lines are audited.

NO. ADDRESS

Suppresses printing of the address to which an I/O descriptor was dispatched.

DEFAULT: "ADDRESS"

NO. BUFFERS

Do not print buffers associated with

IO DESCRIPTOR

DEFAULT: Print all buffers.

NO.DISPATCH

Does not print the manner in which a particular I/O descriptor was dispatched.

DEFAULT: "NO.DISPATCH"

NO.HEADER

Do not print header at the top of each page.

DEFAULT: Header.

OPS=(1, 2 OR YY)

Of OPS=1, then output all operation codes.

If OPS = YY, then use the hex mask indicated by (YY) to output the types of operation code that the user wishes to have monitored.

YY BIT SETTINGS:

7	6	5	4	3	2	1	0
-	-	-	-	-	-	-	-
R	W	B	T	S	R	R	R
E	R	R	E	T	E	E	E
A	I	E	S	O	S	S	S
D	T	A	T	P	E	E	E
	E	K			R	R	R
					V	V	V
					E	E	E
					D	D	D

Example : If the user wishes to display read, write and break ops enter "EC".

DEFAULT: "OPS=1"

OUTPUT=(H OR A)

Output=H will cause DC/AUDIT to display all buffers with an EBCDIC representation of the hexadecimal code.

Example: 201A82 will be printed "01A8".

Output=A will cause DC/AUDIT to print

all buffers in alpha format. All graphics are printed, all special characters are printed in EBCDIC representation of their hex code.

Example: 201C1C2C335032 will be printed <SOH>ABC[35]<ETX>

DEFAULT: "OUTPUT=A"

SINGLE

Single space each output line.

DEFAULT: Single

TIME=(HH:MM or HH:MM, HH:MM)

Time gives a start for the audit run. Any record entered with a time less than specified here will be ignored.

HH:MM represents hours and minutes in military representation.

A second time is a stop time. File will be audited from first HH:MM to second HH:MM.

DEFAULT: All the records from the last session are printed.

DEFAULT PARAMETERS

The following is the list of run time parameters that will be specified if the response to USE DEFAULT? IS "YES".

ALL.LINES
BUFFERS
ERROR=1
HEADER
IO.DESC=2
NO.ADDRESS
NO.DISPACH
OPS=1
OUTPUT=A
SINGLE

There will be no indication of how IO was dispatched or port, channel and adapter that IO was dispatched to. All lines and buffers will be output.

PARAMETER LIST ENTRY

If the operator desires to override one or more of the default run time parameters, he enters "R" or [PARAMETER LIST] in response to "DEFAULT PARAMETERS?".

If the entry is through a [PARAMETER LIST] on the console printer, the operator can enter up to 72 characters containing one or more parameters to override the DEFAULT PARAMETERS. A parameter entry must be contained wholly in the console printer response. Additional entries can be entered after DC/AUDIT displays:

ENTER FURTHER PARAMETERS OR "END"

If entry is through a card reader or a disk file, each card can contain one or more parameters, but each parameter entry must be contained wholly on one card or one record.

The parameter entry, whether from a card reader or console printer is free form. Parameters must not have imbedded blanks and parameters with equal signs must end with a blank.

If an error is detected (invalid keyword or value) the parameter scan is ended and the following error message is displayed:

INVALID PARAMETER DETECTED

The operator must re-submit the entire list of parameters again.

OPERATING INSTRUCTIONS

Upon execution of DC/AUDIT, the following message will be displayed after the regular system messages.

DEFAULT PARAMETERS?

Run time parameters are entered at this time. After verifying the parameters, DC/AUDIT will access the audit file. If the audit file is not present, DC/AUDIT will display:

FILE DC/AUDIT.FILE NOT PRESENT

and go to end of job.

If the file is present DC/AUDIT will read record zero and start to output the audit file per the run time parameters.

If running in the offline mode, DC/AUDIT will itself go to end of job when it has processed the entire file (as defined by record zero). When running in the online mode and no new entries have been made to the audit file for a period of one minute, DC/AUDIT will interrogate the file; and if no other program is using the file (an indication that the generating program has gone to EOJ), DC/AUDIT will itself go to EOJ.

The operator can stop DC/AUDIT or interrogate DC/AUDIT with the following commands:

<job-number>AXWY causes DC/AUDIT to display a summary accounting of records read and written. DC/AUDIT continues to output the audit file.

<job-number>AXTO causes DC/AUDIT to display all the parameters and their settings under which DC/AUDIT is running.

<job-number>AXST causes DC/AUDIT to print a summary accounting of records read and written. DC/AUDIT then goes to end of job.

BURROUGHS CORPORATION
COMPUTER SYSTEM GROUP
SANTA BARBARA PLANT

5-2
COMPANY CONFIDENTIAL
B1800/B1700 DC/AUDIT (REV.D)
P.S. 2212 5421

<job>AX<PARAMETER LIST>

causes DC/AUDIT to change its run time parameters while processing the audit file. The format of the parameters are the same as the parameters entered at the beginning of job, with the exception that the TIME parameter will not be accepted. If the new parameters entered are different enough from those previously entered, DC/AUDIT will skip to the top of a new page and print a new page header, if the HEADER parameter is set. The LINES= parameter when entered will add additional lines to the list of those checked by DC/AUDIT. In order to delete lines from this list, the ALL.LINES parameter must be first entered and then the new line list with the LINE= parameter.

BURROUGHS CORPORATION
COMPUTER SYSTEM GROUP
SANTA BARBARA PLANT

6-1
COMPANY CONFIDENTIAL
B1800/B1700 DC/AUDIT (REV.0)
P.S. 2212 5421

FILES

INPUT

RUN TIME PARAMETER FILE

CARDS LABELED "DC"/"PARAMETERS"
RECORD SIZE = 80
BLOCKING 1 RECORD PER BLOCK
DEVICE IS CARD

AUDIT FILE

AUDIT LABELED "DC/AUDIT.FILE"
RECORD SIZE = 180
AREAS = 10
BLOCKS PER AREA = 100
DEVICE IS RANDOM DISK

QUIPUI

PRINT FILE

OUT LABELED "DC/PRINT.FILE"
RECORD SIZE = 132
BLOCKING 1 RECORD PER BLOCK
DEVICE IS PRINTER OR BACKUP DISK

CONSOLE PRINTER MESSAGES

Console printer messages output by DC/AUDIT are as follows in alphabetical order:

DEFAULT PARAMETERS?

Enter run time parameters.

RESPONSE: Variable. See RUN TIME PARAMETERS.

"DC/AUDIT.FILE" NOT PRESENT

DC/AUDIT could not locate the audit file. DC/AUDIT will now go to end of job.

INVALID MESSAGE TYPE

Neither WY, ST, nor a valid parameter was entered after DC/AUDIT processing had started. The additional characters printed following this message are the last characters scanned by the program before the error was encountered.

RESPONSE: Enter WY, ST, or a valid parameter.

INVALID PARAMETER DETECTED

Error was detected while analyzing run time parameters. The additional characters printed following this message are the last characters scanned by the program before the error was encountered.

RESPONSE: Correct and re-enter parameters.

INVALID RECORD TYPE RECEIVED

A record was read from DC/AUDIT.FILE with a TYPE value not equal to 1, 2, or 3. DC/AUDIT will dump itself, print a summary report and go to end of job.

RESPONSE: none.

BURROUGHS CORPORATION
COMPUTER SYSTEM GROUP
SANTA BARBARA PLANT

7-2
COMPANY CONFIDENTIAL
81800/81700 DC/AUDIT (REV.D)
P.S. 2212 5421

NO RECORDS PRESENT IN FILE

Audit file was empty. DC/AUDIT will now go to end of job.

RESPONSE: none.

PARAMETER FILE ON DISK
NOT VALID

The disk file "DC/PARAMETERS" was in error. Run time parameters will be entered from card or the console printer. The additional characters printed following this message are the last characters scanned by DC/AUDIT before the error was encountered.

RESPONSE: Enter correct parameters from card or console printer, or correct disk file and re-execute DC/AUDIT.

PARITY ERROR ON DISK FILE
"DC/PARAMETERS" FILE NOT USED

DC/AUDIT obtained an error trying to read the disk file containing the run time parameters. The run time parameters will have to be entered from card or console printer. The additional characters printed following this message are the last characters scanned by DC/AUDIT before the error was encountered.

RESPONSE: Enter correct parameters from card or console printer, or correct the disk file and re-execute DC/AUDIT.

UNEXPECTED "EOF" FOUND
ON AUDIT FILE

EOF was returned on read of first record in audit file. A summary report is printed and DC/AUDIT will go to end of job.

RESPONSE: None.

BURROUGHS CORPORATION
COMPUTER SYSTEM GROUP
SANTA BARBARA PLANT

7-3
COMPANY CONFIDENTIAL
B1800/B1700 DC/AUDIT (REV.0)
P.S. 2212 5421

TYPE2 RECORD OUT OF SEQUENCE

A TYPE 2 record does not allow a
TYPE 1 record or another TYPE 2
record. A summary report is
printed and DC/AUDIT will go to
end of job.

RESPONSE: None.

QUIPUI FORMATS

There are four basic output formats with some additional fields printed depending on run time parameters selected. The four basic formats are:

- A. Format 1 Result descriptor is interpreted and output in English. Data written or read from operation is printed.
- B. Format 2 Result descriptor is interpreted and output in English. Data written or read from operation is not printed.
- C. Format 3 All fields of the IO DESCRIPTOR are output in hexadecimal representation. Data written or read from operation is printed.
- D. Format 4 All fields of the IO DESCRIPTOR are output in hexadecimal representation. Data written or read from operation is not printed.

With every output format, when an I/O descriptor record is being printed, columns 12 thru 18 of the printed listing will be used to indicate the type of I/O descriptor. There are four basic types: "READ", "WRITE", "STOP", and "TEST". A number of variants are possible. For a read I/O descriptor either "RD.NTIM" (Read No Time Out), "RD.APOL" (Read Autopoll), "RD.NEOT" (Read No EOT), or "READ" may be printed depending on the options set in the I/O descriptor. For a write I/O descriptor, either "WR.APOL" (Write Autopoll), "WR.NEOT" (Write No EOT), or "WRITE" may be printed. A stop I/O descriptor will have either "DISCONN" (Disconnect), "BREAK" or "STOP" printed. A test I/O descriptor will have "TESTRNG" (Test and Wait for a Ringing Phone), "TESTDSR" (Test and Wait for "DATA SET READY"), or TEST.

NOTE: When output formats 1 or 3 are used and the type of I/O descriptor is "WR.APOL", a "/" will be included in the data for the operation.

A slash indicates the station the operation (on AUTOPOLL) completed. The address is immediately to the left of the slash.

If no slash is printed, the operation completed on the last address in the printed data.

BURROUGHS CORPORATION
COMPUTER SYSTEM GROUP
SANTA BARBARA PLANT

8-2
COMPANY CONFIDENTIAL
81800/81700 DC/AUDIT (REV.D)
P.S. 2212 5421

In cases of a READ or WRITE I/O descriptor, if more than one variant had been set, only one will be indicated on the listing. The priorities of read and write variants are listed below.

READ	WRITE
RD.APOL	WR.NEOT
RD.NEOT	WRITE
READ	

If a simple "TEST" I/O descriptor is processed, an additional field will be printed on the listing namely "ADAPTER.ID = XX" indicating the type of adapter the descriptor was issued against.

QUIPUI EQBMAI 1

Output format 1 is generated when the run time parameter default of IO.DESC=2 is specified and NO-BUFFERS has not been specified. If the header parameter is specified each page will have the following header format:

***** 8 1700 DC/AUDIT <DATE TIME> *****			
TIME	OP	BUFFER	RESULTS

Records from the audit file will be output in the format described by Figure 8.1.

QUIPUI EQRMAT 2

OUTPUT FORMAT 2 generated when default run time parameter IO.DESC=2 is specified and NO.BUFFERS is specified. If the header parameter is specified each page will have the following header format:

```

***** B 1700 DC/AUDIT <DATE AND TIME> *****
TIME                OP                RESULTS
  
```

Records from the audit file will be output in the format described by Figure 8.2.

NN:NN:NN	AAAAAAA	NN:NN:NN	BBBBB	LENGTH=NNNN	CCCCC
-----	-----	-----	-----	-----	-----
*	*	*	*	Length of data	*
*	Op TYPE	If ADDRESS	*	read or written.	*
*		parameter,	*		*
*		this will be	*		*
		Port, Channel	*		*
For read op,		and Adapter	*		English inter-
time op com-		that IO des-	*		pretation of
pleted. All		criptor was	*		abnormal com-
other ops,		issued to.	*		pletions. Nor-
time ops were			*		mal completion
dispatched.			*		will be blank.
			*		
			*		

This field will appear if DISPATCH.BIT parameter was specified. If IO was initiated by resetting the IO complete bit "RESET" will be printed. If IO was initiated by a dispatch communicate to the MCP, "DISPATCH" will be printed.

Figure 8.2 Audit File: Output Format 2

INDEX

AUDIT DISK FILE	3-1
COMMENT RECORD (TYPE 3)	3-5
CONSOLE PRINTER MESSAGES	7-1
CONTINUATION RECORD (TYPE 2)	3-5
CREATION OF AUDIT FILE	1-2
DC/AUDIT FILE IMPLEMENTATION	1-2
DEFAULT PARAMETERS	4-6
FILE DECLARATION	3-1
FILES	6-1
INPUT	6-1
INTRODUCTION	1-1
ID DESCRIPTOR RECORD (TYPE 1)	3-4
OPERATING INSTRUCTIONS	5-1
OUTPUT	6-1
OUTPUT FORMAT 1	8-2
OUTPUT FORMAT 2	8-4
OUTPUT FORMAT 3	8-5
OUTPUT FORMAT 4	8-6
OUTPUT FORMATS	8-1
PARAMETER DEFAULTS AND FORMATS	4-2
PARAMETER LIST ENTRY	4-7
RECORD ZERO	3-1
RELATED PUBLICATIONS	1-1
RUN TIME PARAMETERS	4-1
WRITING TO THE AUDIT FILE	1-3