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Title:

RC3600 DATA ENTRY
RELEASE 2
USERS GUIDE, PART 2

A/S REGNECENTRALEN

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Abstract:

This manual describes the activities performed by the Supervisor in a Data Entry System and includes the descriptions of all standard supervisor functions and programs.

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Foreword

The present second edition is mostly an extension of the first edition of RC3600 Data Entry Release 2, Users Guide, Part 2 (November 1976).

The pending supervisor programs DISCTABLE and SHORTEN has been described.

Some new supervisor programs have been included, i.e.

CREATE	create a disctable
FORMFEED	print a heading sheet with date and time
GET	copy a discfile to magnetic tape or papertape
LISTDATA	list the contents of batches (compressed format)
LISTERROR	list the contents of the invalid records in batches
OUTIMAGE	print an image in internal representation
RESTABLISH	change the contents of batchheads
SAVEJOB	save jobs for backup
VOLUME	prepare new magnetic tape for HEAD and/or DUMP

The supervisor program LOAD has been changed in order to load all items in a backup.

In addition some small changes have been made in the receipts from the programs, e.g. OUTPUT ERROR has been changed to PRINTOUT ERROR.

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1. INTRODUCTION

Supervisor commands are entered from a key station designated as supervisor by means of the command SUPERVISOR (see section 9 in part 1 of this Users Guide).

When a command is entered a supervisor function or a supervisor program is activated. After executing the action specified by the command, the system will be ready to accept the next supervisor command.

Supervisor functions are commands working on the environment of supervisor programs the latter mentioned performing the actual processing of data.

Only one key station can be supervisor at a time. To leave supervisor mode the operator activates a supervisor function thereby permitting another key station to become supervisor.

This part of the Users Guide describes the administration around supervisor program running and contains also a detailed description of the functions and programs available.

Sections 2 and 3 serve to give a summarized description of the activities performed in supervisor mode.

Section 4 which describes the storing of supervisor programs and their loading into memory is included to give the supervising operator and idea of the internal software organization also with respect to key stations used for registration.

Section 5 describes the general syntax for supervisor command entering and is thereby also a guide for the programmer of supervisor programs.

Section 6 features the display screen layout and contains a list with explanations concerning the various states of the supervisor.

Section 7 outlines the possible ways in which printouts can be produced together with hints and advices for the supervising operator concerning the administration of the printouts. The section also includes a detailed description of the commands used in connection with output on the key station display screen.

Section 8 concerning receipts and error messages are divided into two: a detailed description of the messages from supervisor (i.e. the system) and a general description of messages concerning the command execution.

Section 9 contains detailed descriptions of all standard supervisor functions and programs . Each description also comprising the keying of the command in question and its possible receipts and error messages. The descriptions are ordered alphabetically after function/program name. Appendix 1 may be used as a key to the section to ease finding a specific command.

Appendix 1 contains an outlining list of all supervisor functions and programs ordered in the different categories. Appendix 2 through appendix 8 contain the error codes concerning devices used by the data entry system. These error codes are used by the supervisor functions and programs in error messages.

Appendix 13 contains a survey of the supervisor commands and may be used as a quick-reference guide in keying a command.

2. SUPERVISOR FUNCTIONS

The supervisor functions are used to:

- stop the execution of an active supervisor program before its normal completion.
- administrate printouts from supervisor programs.
- close down registration on other keystations due to certain errors.
- leave supervisor mode and reenter login mode.

Appendix 1 outlines the supervisor functions and section 9 contains the detailed descriptions of the functions.

Please note that some of the supervisor functions can be executed simultanously with an active supervisor program.

3. SUPERVISOR PROGRAMS

The standard supervisor programs fall into seven categories:

1. Format Operations

   These programs are used to create new formats, subprograms and tables and to list the batches used for the creation in a way that resembles the data entry programming sheets.

2. Sorting Operations

   This group of programs is used to sort the contents of completed databatches. The programs are not described here but in seperate publications.

3. Transfer Operations

   This category of programs is used for transferring completed jobs or batches to computer-compatible magnetic tape or, in remote job entry fashion, to a central computer for processing. RJE terminal operations are supported by the standard simulation packages available with the RC 3600 and described in separate publications.

4. Statistics

   The system collects a large quantity of statistical information from which the supervisor can extract various reports using these programs.

5. Housekeeping Operations

   The housekeeping programs are used in the data batch supervision and general system management.

6. System Messages Operations

   These programs are used when replacing the standard messages used by the system for operator receipts and alarm messages by user-defined texts possibly using a local language.

7. Miscellaneous Operations

   These programs are used in connection with error recovery.

   Some of the programs may change vital system functions, such programs must therefore only be used on appointment with

Regnecentralen (see the description of the various programs).

Appendix 1 outlines the supervisor programs listed in above mentioned categories. Section 9 contains the detailed descriptions of the programs.

4. SUPERVISOR PROGRAM STORING AND LOADING

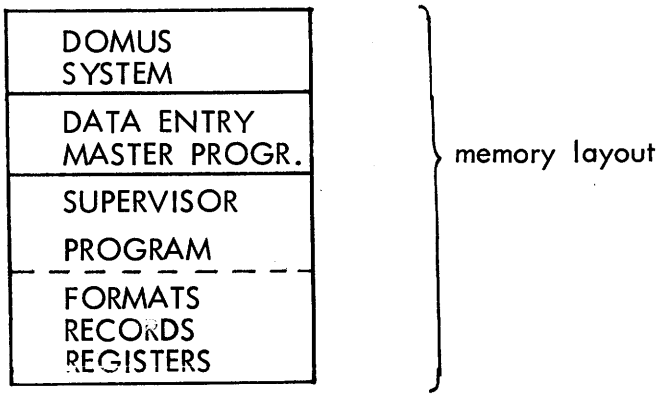
Supervisor programs are relocatable application programs which are stored on disc and loaded into memory being started as independent MUS-processes when required by a supervisor command. Upon completion of its action the program is removed from memory again.

This structure makes it easy to extend the system with new supervisor programs.

Supervisor functions are included in the data entry master program and do not require memory space to be activated.

The memory position to contain a supervisor program depends on the actual data entry system configuration:

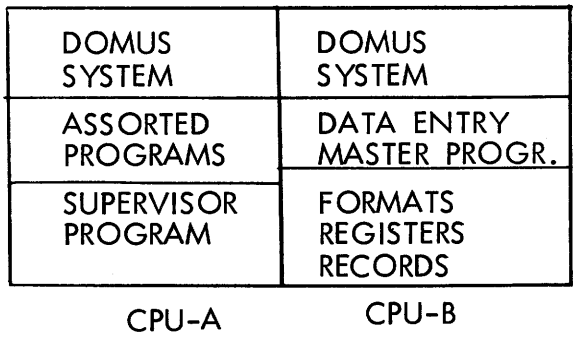
4.1 SINGLE PROCESSOR SYSTEMS



In this configuration the high part of memory is shared between
- supervisor programs and
- formats, registers and records used by registrating keystations.

The limit between the two categories is dynamically adjusted by the system but the following facts should be noticed:
- invoking a large supervisor program may prevent other keystations from registration start-up until the supervisor command has been executed. Already active keystations will not be affected.
- a large number of active keystations may prevent the loading of a large supervisor program.

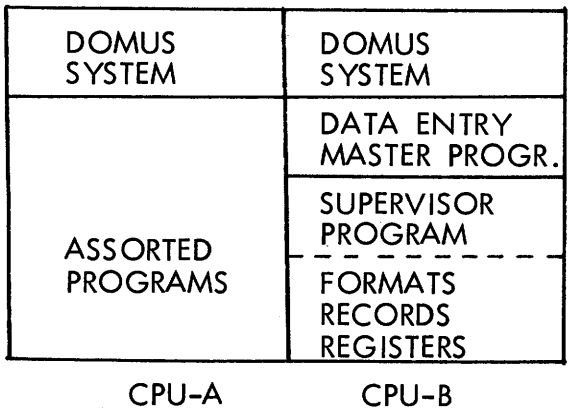
4.2 PROCESSOR EXPANSION SYSTEMS (1)



In this configuration the supervisor programs share memory with non-data entry programs (e.g. conversion and transmission programs).

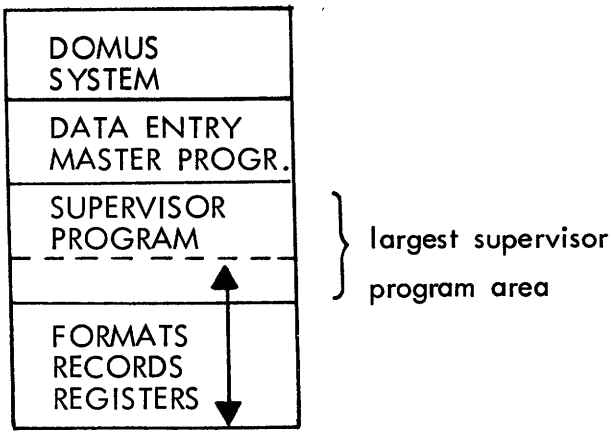
This means that large non-data entry programs may prevent loading of supervisor programs and vice versa.

4.3 PROCESSOR EXPANSION SYSTEMS (2)



The same considerations as for single processor systems concern this configuration.

4.4 MEMORY EXPANSION SYSTEMS

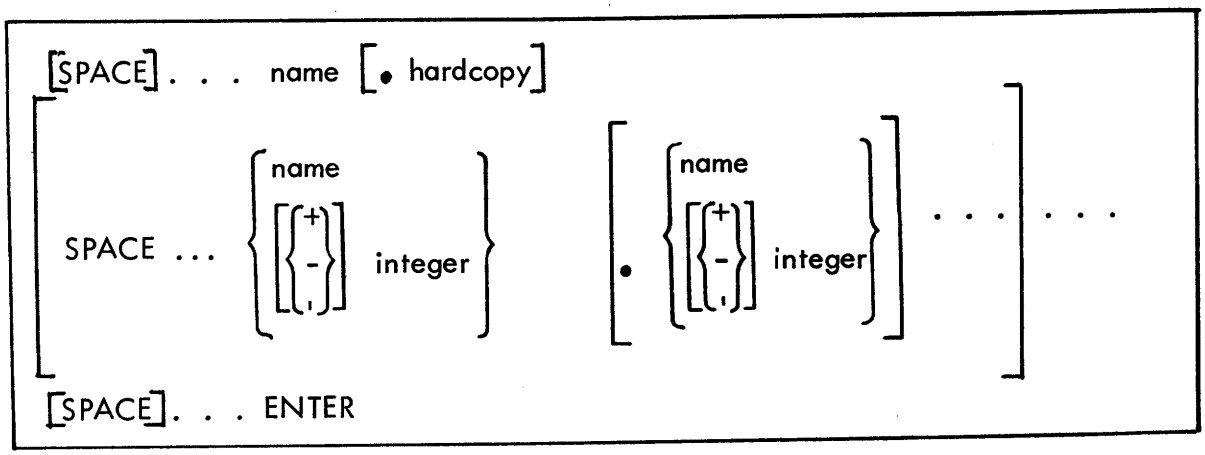


A memory expansion is connected to the processor containing the data entry master program and is only used for formats, registers and records and can not contain supervisor programs or part of these.

Notice: A memory expansion can be used as a single processor system or as CPU-B in a processor expansion.

5. SUPERVISOR COMMAND SYNTAX

The following general syntax holds for supervisor commands:



The notation used is described in section 3.4 of 'Data Entry Format Language Guide'.

EXAMPLES:

1) TRANS
2) SAVE ID001 MT0.NEW JOB.I0001
3) LIST BATCH.B0001 25.36

name:

A name consists of a letter or a letter followed by letters and/or digits.

The first name in a command is the name of a supervisor program or supervisor function.

Only the first five characters of a name are checked and used by the system.

EXAMPLES:
1) P
2) LIST
3) LISTF
4) LISTFORMAT
5) J0001

3) is equivalent to 4) but not to 2)

hardcopy:

Specifies that the output from a supervisor program is delivered on hardcopy form. If the item is omitted the output will be delivered on the supervisor keystation screen.

Hardcopy can be specified in two ways:

L	Hardcopy directly on hardcopy device
S	Hardcopy on hardcopy device via a spoolfile.

For further information, please consult section 7.

integer:

An integer is either a decimal numeric constant or an octal numeric constant.

The characteristics of a decimal numeric constant are:

- contains at least one and at most five of the digits 0 - 9.
- may be preceeded by a sign (+ or -)
- specifies a value in the range - 32768, + 32767.

EXAMPLES:

1) 100
2) +100
3) 00100
4) -37

1), 2) and 3) are equivalent.

An octal numeric constant is characterized by the following:

- contains at least one and at most six of the digits 0 - 7.
- is preceeded by an apostrophe (').
- is unsigned.
- specifies a value in the range 0, 177777.

EXAMPLES:

1) '0
2) '135
3) '77777

The operator is free to choose whether to use a decimal or an octal constant when keying an integer.

However, octal constants are normally only used for programs in the group 'miscellanous operations' for example to ease specification of coreaddresses when printing a coredump.

EXAMPLES:

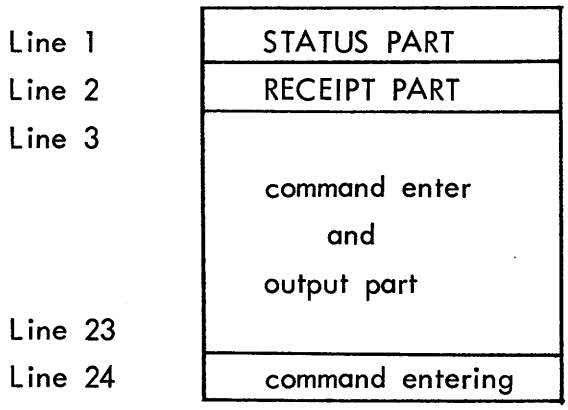
1) '0 equivalates 0
2) '77777 equivalates 32767
3) '10 equivalates 8
4) but '10 is different from 10

The maximum number of names and integers in a supervisor command is 10.

Please note that this general syntax applies to supervisor commands, i.e. the command entered when invoking a supervisor program or function. If a supervisor program after its activation initiates a dialog with the operator the syntax of this may differ from the above mentioned. The description of such programs will therefore contain a specification of legal input from the operator during the dialog.

6. DISPLAY SCREEN LAYOUT

The layout of the display screen of a keystation in supervisor mode is as follows:



Status Part

The statusline will show the text:

SUPERVISOR nnnnn

nnnnn indicates the state of the supervisor:

IDLE — No supervisor program is running and the system is ready for the next supervisor command.

RUNNING — A supervisor program is presently executing an entered command.

WAITING — A supervisor program has stopped to wait for the operator to key new information. Normally the receipt part will describe the kind of information to be keyed.

REPEAT — The operator has keyed new information to a WAITING supervisor program. The information should have fulfilled the general command syntax (see section 5) but contained syntax errors. Key the correct information.

KILLED — A supervisor program has been killed by the operator using the supervisor function KILL. The system is ready for the next supervisor command.

SPOOLING — A supervisor program has executed the command and has produced a printout which is now transferred to the spool-file. Or the supervisor function HARDCOPY has been activated to make a hardcopy of last produced printout.

DISPLAYING — The supervisor is presently displaying the output from a supervisor program on the output part of the display screen. See also section 7.1.

Receipt Part

Line 2 is used for system receipts and receipts from supervisor functions and programs. See also section 8.

Lines 3 - 24

Lines 3 - 24 are used for keying supervisor commands. The lines are used cyclically in the following way:

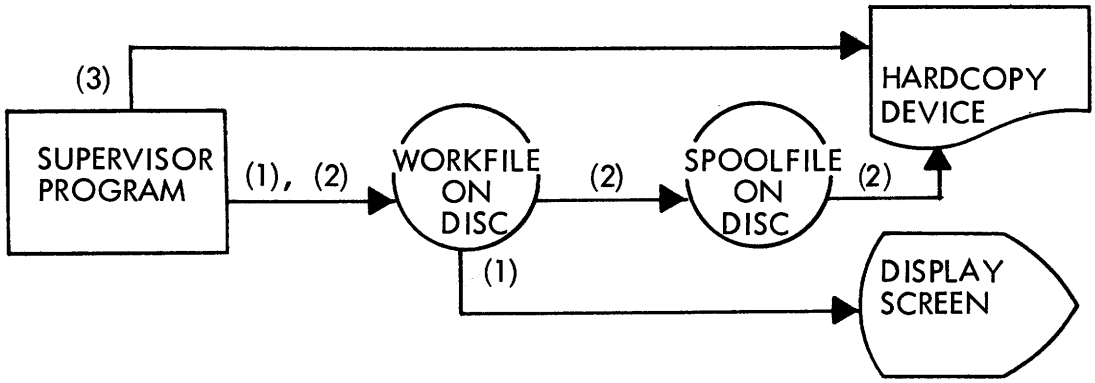
- the first supervisor command is keyed on line 3 and the cursor will be positioned after the last keyed character.
- when the system is ready for the next supervisor command the cursor is moved to the first position of the next line.
- after the execution of a command keyed on line 24 the command entering part of the screen will be blanked and the cursor will be moved to line 3.

In state DISPLAYING lines 3 - 23 are used to display the output from a supervisor program and line 24 to enter the display mode commands (see section 7.1).

7. PRINTOUTS FROM SUPERVISOR PROGRAMS

Almost every supervisor program produces some printouts in the form of surveys, logs, listings and the like. This section describes the administration of the printouts.

The printouts can be output in three ways:



(1) On the keystation display screen.
(2) On a hardcopy device (e.g. line printer or operator console device) via a so-called spoolfile.
(3) Directly on a hardcopy device.

The way output is to be produced is selected by the operator when the supervisor command is entered.

As can be seen from the figure the supervisor program delivers its printout either on a hardcopy device or in a workfile on disc. The system will automatically transfer the contents of the workfile to hardcopy device or display screen depending on what was selected by the operator.

The spoolfile can contain printouts from several supervisor programs and the operator can stop and start printing from the spoolfile. This means that the hardcopy device may be used for non-data entry functions (e.g. conversion) simultanously with production of some data entry printouts to be printed later.

7.1 KEYSTATION DISPLAY SCREEN

The default output device is the display screen, i.e. it is used when nothing else is specified when entering a supervisor command.

EXAMPLE:

SYSTEM DISC

This command will activate the program SYSTEM to print information about free disc space on the display screen.

When the program has delivered its output in the workfile the supervisor enters display mode indicated by the text DISPLAYING on the statuspart of the display screen.

When entering display mode the first part of the printout is displayed (i.e. the first 21 lines) and the cursor will be positioned on the buttom line ready for a display mode command.

7.1.1 Display Mode Commands

The display commands are used in display mode to display the next or the previous part (if any) of a printout, and to leave display mode.

Spaces in front of and characters following a display command are ignored by the system.

7.1.1.1 FORWARD, display next part of printout.

1. Key: F
2. Press the ENTER key

This command will display the next part of a printout (i.e. the next 21 lines).

If the printout does not contain more parts the last part will be displayed.

The cursor will be moved to the buttom line ready for the next display command.

7.1.1.2 BACKWARD, display previous part of printout.

1. Key: B
2. Press the ENTER key.

The command will display the previous part (i.e. the previous 21 lines) of the printout.

Please note that some time will elapse between the command entering and the display of the part: a short time in the beginning of the printout and a longer time at the end of it.

The cursor will be moved to the buttom line ready for the next display command.

7.1.1.3 END, leave display mode.

1. Key: E
2. Press the ENTER key.

The supervisor remains in display mode until this command is entered.

The command entering part of the display screen is blanked, the cursor will be placed at line 3, and the system is ready to accept new commands.

7.1.2 Error Messages in Display Mode

In case of syntax error in a display command the receipt line of the display screen will show the text:

SYNTAX

The system will be ready for the next display command.

7.2 HARDCOPY VIA SPOOLFILE

Hardcopy output via spoolfile is selected by keying the text .S in connection with the program name.

EXAMPLE:
SYSTEM.S DISC

This command will activate the program SYSTEM to print information about free disc space on hardcopy device via the spoolfile.

When the program has delivered its output in the workfile supervisor state SPOOLING is entered and the contents of the workfile is moved to the spoolfile from where the system will output it on hardcopy form.

The spooling has finished when the supervisor enters IDLE state and the system is now ready to receive new supervisor commands to be executed simultanously with the spoolfile printing.

7.3 DIRECTLY IN HARDCOPY FORM

Output directly on a hardcopy device is selected by keying the text .L in connection with the program name.

EXAMPLE:
SYSTEM.L DISC

This command will activate the program SYSTEM to print information about free disc space directly on hardcopy device.

The supervisor remains in state RUNNING until the program has finished printing.

7.4 HINTS AND ADVICES

This section deals with the considerations to be done by the supervising operator in the selection of the output device for printouts.

When output on keystation display screen is selected the printout will be produced in the workfile. The workfile is not destroyed when the operator has looked at it in state DISPLAYING.

This means that the operator can make a hardcopy of the workfile as many times as he wants without reactivating the supervisor program and that he can re-display it using the supervisor functions HARDCOPY and DISPLAY.

The workfile is not destroyed until a new supervisor program is activated or until the operator leaves supervisor mode.

When output in spoolfile is selected the printout is also produced in the workfile and the operator has the already mentioned possibilities. I.e. he is able to display the workfile using the DISPLAY function after the transfer to the spoolfile and before it has been printed on the hardcopy device. This also means that the operator does not have to wait for the printing to be finished until he enters the next supervisor command.

When output directly in hardcopy form is selected the operator has to wait for the printing to finish until entering of next command is allowed. This way of producing printouts is used in the following two cases:

- when the disc capacity has run short, so that the workfile can not be extended by the system to contain the entire printout.
- when large printouts are to be produced (e.g. of 20 or more pages) to save discspace and time.

Please note that when producing printouts directly on the hardcopy device the possibility of extra hardcopies and displayings does not exist.

If the hardcopy device is to be used for non data entry printing or in case of hardcopy device malfunction the operator has the following possibilities:

- close the spoolfile using the supervisor function SPOOL so that printing from it stops and so that printouts can still be produced in it. Printouts can now be produced for keystation display screen or spoolfile and the spoolfile printing can be restarted later when the hardcopy device is available.

- select a new hardcopy device also using the supervisor function SPOOL. The device may for example be the operator console device (TTY). All three ways of producing output can now be used. When the normal hardcopy device is available again it can be selected by the operator.

The spoolfile capacity corresponds to 10 - 14 pages of output depending of its layout. When the file runs full the transfer to the workfile is halted for a moment waiting for space to be released due to printing. When free space is available the transfer continues.

During the transfer of the workfile to spoolfile the supervisor will be in state SPOOLING. If this state persists for a very long time the spoolfile may have run full due to a stopped printing caused by an error or the issuing of a SPOOL STOP command. If it is impossible to start the printing (e.g. hardcopy device used by a conversing program) at the moment the operator can stop the transfer of the workfile using supervisor function KILL and instead display it on the display screen using the supervisor function DISPLAY.

Please notice that error messages, concerning the hardcopy device when printing from spoolfile will appear on the operator console device (see part 1 of this Users Guide, section 13.5).

8. RECEIPTS AND ERROR MESSAGES

The receipts and error messages from the supervisor, the supervisor functions and the supervisor programs are displayed on the receipt part of the supervisor keystation.

The messages fall into two categories:

1. Messages from supervisor, i.e. system messages concerning the loading and running of supervisor programs and functions. These messages are preceeded by the text **SUPV.

2. Messages from supervisor functions and supervisor programs. The messages indicate the result of the execution of the entered command.

8.1 FROM SUPERVISOR

** SUPV SYNTAX

This message means that an entered command does not fulfill the general supervisor syntax rules (see section 5). Enter the correct command.

** SUPV STATE

The operator has entered a command at a time when a supervisor program or function is already being executed (supervisor state RUNNING, SPOOLING).

Or the operator has entered a KILL command at a time when there is nothing to kill (supervisor state IDLE, KILLED).

** SUPV NOT NAME

The entered command does not specify an existing supervisor function or program.

** SUPV NO ROOM <Code>

This message means that the memory space available for the supervisor is insufficient at the moment (see section 4).

Code	Meaning
1	A supervisor program can not be loaded into memory.
2	When entering state DISPLAYING a memory area (a zone) for communicating with the disc can not be reserved. The printout is still situated in the workfile and can be displayed using supervisor function DISPLAY.

Wait for one or more keystations to stop keying, rekeying or editing and reenter the command.

** SUPV DISC <Code>

Disc error when accessing one of the following files:

- the file containing the supervisor program.
- the workfile containing a printout from a supervisor program.
- the spoolfile when the contents of the workfile is transferred to the spoolfile.

The meaning of <Code> is described in appendix 2.

If the code is 001000 or 011000 the error has possibly occured because the workfile was not properly released by a previously activated supervisor program. If this error persists the system must be closed down and restarted.

The code 044000 may mean that a supervisor program has terminated specifying that a prinout has been produced in the workfile without really having done so.

** SUPV LOAD ERR <Code>

A supervisor program can not be brought into memory because of defects on it.

Code	Meaning
4	end medium, the end of the discfile containing the program has been reached before the end of the program. Maybe because the file does not contain a program but for example a batch.
10	reservation, the discfile containing the program is being reserved by another system function. Maybe because the file does not contain a program but for example a batch.

20 no space for pages, the program is a so-called paged program and the system file containing the pages of all paged programs is filled. If the error persists please contact REGNECENTRALEN to get a new software configuration.

21 illegal program, i.e. the contents of the discfile containing the program does not correspond to the format of relocatable binary programs. Maybe because the file does not contain a program but for example a batch.

23 checksum error, the relocatable binary program contains checksum error. See also code 21.

24 virtual address error, the program is a so-called paged program which contains some illegal coding. If reloading the supervisor programs does not help then please contact REGNECENTRALEN.

Try to reenter the command. If the error persists the supervisor programs should be reloaded by running a disc initialization.

The messages **SUPV SYNTAX, ** SUPV NOT NAME, ** SUPV NO ROOM, ** SUPV DISC and ** SUPV LOAD ERR may also be issued during the running of a supervisor program without the operator having entered a new command. In this case the supervisor program which was activated by the command typed by the operator has finished and has asked the supervisor to load a new program. This strategy is for example used in connection with the programs used for log-file processing. The message ** SUPV SYNTAX in this case is a programming error and REGNECENTRALEN should be contacted.

8.2 FROM SUPERVISOR FUNCTIONS AND PROGRAMS

OK

The entered command has been executed successfully.

SYNTAX

The entered command can not be executed due to syntax errors. Consult the description of the supervisor function or program in question (section 9).

PRINTOUT ERROR <Code>

This receipt is given when an error occurs during production of a printout.

If the printout is produced for the keystation display screen (e.g. SYSTEM DISC) or for hardcopy via spoolfile (e.g. SYSTEM.S DISC) the code describes a disc error, see description of disc errors in appendix 2. The error concerns the workfile for supervisor program printouts.

Otherwise if the printout is produced directly on hardcopy device (e.g. SYSTEM.L DISC) the code describes an error on the device currently being used as hardcopy device, see appendix 4, 5, or 6 concerning respectively lineprinter, serial printer and charaband printer.

Device Errors.

Device errors are indicated by receipts of the form:

<name> ERROR <Code>

The device name is given by <name>(e.g. MAGTAPE or DISC) and <code> describes the error. All error codes are listed in appendixes 2 - 8.

Other receipts.

Please consult the descriptions of the supervisor functions and programs in section 9.

9. DESCRIPTION OF SUPERVISOR COMMANDS

This section contains an alphabetic list of supervisor functions and programs.

Each supervisor function is described using the following layout:

FUNCTION	Name of the supervisor function together with an outline.
CONDITION	Lists the supervisor states in which the function can be activated together with possible other conditions.
KEYING	Description of how to key the supervisor command.
DESCRIPTION	Detailed description of the function.
EXAMPLES	One or more examples
RECEIPTS	A list of possible receipts (except OK and SYNTAX) also including error messages.

The supervisor programs are described in a similar way:

PROGRAM	Name and outline
KEYING	As above
DESCRIPTION	Detailed description of the program, its input and output.
EXAMPLES	As above
RECEIPTS	As above

PROGRAM: CHANGEENTRY - change the name, attributes, or length of a discfile.

KEYING:

1. Key: CHANGEENTRY
2. Key: name of catalog entry (discfile)
3. If the name is the name of a workbatch
   key: . and
   key: WORK
4. If the name is to be changed
   key: NAME and
   key: . and
   key: new name
5. And if new name is to be a workbatch name
   key: . and
   key: WORK
6. If length of file is to be changed
   key: LENGTH and
   key: . and
   key: new length (number of discsectors)
7. If attributes is to be changed
   key: ATTR and
   key: . and
   key: new attributes (see below)
8. Press the ENTER key.

DESCRIPTION: This program is used to change the characteristics of an entry in the disc-catalog. The characteristics of a discfile are contained in a catalogue entry accessed by using the name of the file.

The program must only be used on appointment with REGNECENTRALEN as it may change vital system components on the disc.

The following attributes are used presently:

1	the file may be extended
2	the file is a filedescriptor entry
4	entry only, file length = 0
8	the file is write-protected
16	the file is permanent

The new attributes entered in the command may be a sum of several attributes.

EXAMPLES:

1) CHANGEENTRY B0015.WORK NAME.B0015
2) CHANGEENTRY B0015 NAME.B0015.WORK
3) CHANGEENTRY SPRG NAME.SPRG1 LENGTH.1 ATTR.17

RECEIPTS:

NOT NAME	The specified name does not exist in the catalog.
DISC ERROR <Code>	Consult appendix 2.

FUNCTION: CLEAN - close down another keystation.

CONDITION: IDLE, KILLED

The keystation to be cleaned must be keying, rekeying or editing.

KEYING:

1. Key: CLEAN
2. Key: the keystation number to be cleaned (1 - 24)
3. Press the ENTER key.

DESCRIPTION: This function is used to close down a registration on another keystation. The keystation enters login mode and the work on the batch may continue by reentering the key, rekey or edit command as the batch has been made temporarily closed.

The command is used in case of hard- or software malfunction concerning a single keystation.

The SURVEY program may be used to check if the batch was properly closed. If this is not the case a system restart or the supervisor program RESCUE may be used as means to repair the batch.

As an example of a software-malfunctioning keystation can be given the following situation: A keystation operates with an un-debugged format program which has entered a subformat consisting of only a not keyed field. If the field does not select another subformat the system will reselect the same subformat resulting in an endless loop.

The keystation number given in the command corresponds to keystation numbers indicated on restart logs and operator logs.

EXAMPLES: CLEAN 7

RECEIPTS:

STATE ERROR — The keystation is not keying, rekeying or editing.
Or the terminal has already been cleaned but has not closed down yet.

PROGRAM: COPY - create a new batch by copying an existing one.

KEYING:
1. Key: COPY
2. Key: Name ot batch to be copied.
3. Key: Name of job to which the batch is to be copied.
4. Key: Name of new batch.
5. Press the ENTER key.

DESCRIPTION: The COPY program is used to create a new batch by making a copy of an existing one. If the job specified in the command does not exist it will be created. The original batch is left unchanged.

The program may for example be used if it is wanted that the same batch should exist in more than one job. Or to preserve a single or a few batches when a job is going to be deleted by the DELETE command.

EXAMPLES: COPY A0001 BJOB B0001

RECEIPTS:

NOT NAME	The specified batchname is not the name of a discfile.
NOT BATCH	The specified batchname is not an existing batch.
NOT JOB	The jobname specifies a discfile which is not a job.
BATCH IN USE	The batch to be copied is used by another keystation.
JOB IN USE	The job which the batch is to be copied from or to is used by another keystation.
LIBRARY IN USE	The joblibrary containing the jobnames of the system is used by another keystation.
NAME EXIST	The name specified as new batch name already exists as a discfile.
STATE ERROR	The batch is not in a state to be copied (must be closed, see section 11 in part 1 of this Users Guide).

DISC ERROR <Code> Consult appendix 2.

PROGRAM: CREATE - create a disctable.

KEYING:
1. Key: CREATE
2. Press the ENTER key.

DESCRIPTION: This program creates a new disctable by asking the operator some questions about the size and the structure of the table. The table itself is input by the DISCTABLE program.

The dialog takes place as follows:

WHAT IS THE NAME OF THE NEW DISCTABLE?

1. Key: name of disctable (the name to be referenced from format programs).
2. Press the ENTER key.

WHAT IS THE MAXIMUM NUMBER OF ENTRIES?

1. Key: the number of tableentries to be made room for in the discfile to contain the table.
2. Press the ENTER key.

WHAT IS THE NUMBER OF FUNCTIONS PER ENTRY?

1. If the table is single-entried
   key: 0
   If the entries contain one or more functions (columns)
   key: number of functions per entry (max. value = 6).
2. Press the ENTER key.

WHAT IS THE TYPE OF THE ARGUMENTS?

1. If the type of arguments is unsigned numeric
   key: N

If the type is alphanumeric
key: AN

2. Press the ENTER key.

WHAT IS THE LENGTH OF THE ARGUMENTS?

1. Key: the length of arguments (min. value = 1,
   max. value = 80).
2. Press the ENTER key.

The following two questions concern the type and length of each function and will not be asked, if the table is single-entried:

WHAT IS THE TYPE OF FUNCTION <function number>?

1. If the type of function given by <function number> (1,2,...,6) is unsigned numeric
   key: N
   If the type is alphanumeric
   key: AN
2. Press the ENTER key.

WHAT IS THE LENGTH OF FUNCTION <function number>?

1. Key: the length of the function in question (min. value = 1,
   max. value = 80).
2. Press the ENTER key.

The discfile to contain the table will be created as a fixed-length file containing a table of which all entries are empty. If used by format programs before having been initalized by the DISCTABLE program, then any search in the table will be unsuccessful.

EXAMPLES: CREATE

RECEIPTS: WHAT IS .....? See above.

ILLEGAL ANSWER, <question>
The question given by <question> was not answered properly. Type the correct answer.

NO ROOM — No room on the disc for creating the discfile to contain the table.

IDENT EXIST — A discfile with the name specified as tablename already exists.

DISC ERROR <Code> Consult appendix 2.

PROGRAM: DELETE - delete jobs, batches, formats, subprograms, tables from disc.

KEYING:

1. Key: DELETE
2. It a batch is to be deleted
   key: BATCH
   If a job and its batches is to be deleted
   key: JOB
   If a format is to be deleted
   key: FORM
   If a subprogram is to be deleted
   key: SUBPROGRAM
   If a core-table is to be deleted
   key: TABLE
   If a disc-table is to be deleted
   key: DISCTABLE
   If a supervisor program is to be deleted
   key: SUPV
3. Key: The name of the batch, job, format, subprogram, coretable, disctable, or supervisor program to be deleted.
4. If protection is to be released
   key: RELEASE
5. Press the ENTER key.

DESCRIPTION: The DELETE program is used to delete jobs and batches no longer needed in the system. Formats, subprograms, and tables can be deleted when (new) versions with the same names are to be introduced by using the programs TRANSLATE and DISCTABLE.

The DELETE SUPV command can besides deleting supervisor programs, also be used for deletion of discfiles which are not in a library. However this must only be performed in special cases and on agreement with REGNECENTRALEN.

The following messages may occur on a printout:

1. BATCH <batchname> NOT DELETED, STATE ERROR.
   The batch is not in a state to be deleted. Use the SURVEY

command to check batch status and consult section 11 in part 1 of the Users Guide. The batch can be released for deletion by using the RELEASE parameter.

2. BATCH <batchname> NOT DELETED, IN USE
   The batch is being used by another keystation.

3. BATCH <batchname> NOT DELETED, NOT BATCH
   The first part of the batch (batch description) is destroyed due to fatal system error.

4. <library>: LIBRARY ERROR
   An entry in a library on disc (e.g. format library) contains the name of a discfile which does not exist. The name is removed from the library.

EXAMPLES:

1) DELETE BATCH B0005
2) DELETE JOB J0007
3) DELETE JOB J0007 RELEASE
4) DELETE FORM FRM2
5) DELETE TABLE TAB17
6) DELETE SUBPROGRAM S0025
7) DELETE DISCTABLE DT1
8) DELETE SUPV PRGX

RECEIPTS:

NOT NAME	The specified name is not a discfile.
NOT JOB	The specified name is not a job.
NOT BATCH	The specified name is not a batch.
NOT FORMAT	The specified name is not a format.
NOT SUBPROGR	The specified name is not a subprogram.
NOT TABLE	The specified name is not a table.
NOT DISCTABL	The specified name is not a disctable.
STATE ERROR	The batch is not in a state to be deleted. (See part 1 of the Users Guide section 11). The parameter RELEASE will release protection if desired.
BATCH IN USE	The batch is being used by another keystation.
JOB IN USE	The job is being used by another keystation.

LIBRARY IN USE	The library holding a format, subprogram, table, or disctable to be deleted is presently being used by another keystation. Or the joblibrary holding the names of the jobs is used by another keystation, when access is required to delete a job.
FORMAT IN USE	The format to be deleted is presently used by another keystation (in progress to being loaded into memory).
SUBPR IN USE	The subprogram to be deleted is presently required by another keystation.
TABLE IN USE	The table to be deleted is presently used by another keystation (e.g. the table PASSW containing passwords).
DISCTAB IN USE	The disctable to be deleted is presently used by another keystation.
FILE ERROR	A DELETE SUPV command tries to remove a library or a discfile mentioned in a library (e.g. a batch or a format)
CF LIST	A printout has been produced. Please confer this to check errormessages.
LIBRARY ERROR	The specified name occurred in the library (e.g. a job or the format library), but not as a discfile (fatal system error). The name is removed from the library.
DISC ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: DISCTABLE - update a disctable from a batch or magnetic tape.

KEYING:

1. Key: DISCTABLE
2. If table text is stored in a batch.
   key: BATCH
   If table text is stored on magnetic tape (unit 0)
   key: MT0
   If table text is stored on magnetic tape (unit 1)
   key: MT1
3. Key: .
4. If table text is stored in a batch.
   key: name of batch.
   If table text is stored on magnetic tape
   key: file number (first file = 1)
5. If magnetic tape is ASCII encoded
   key: ASCII
   If magnetic tape is EBCDIC encoded
   key: EBCDIC
6. Press the ENTER key.

DESCRIPTION: This program is used for translating table text into table entries to be stored in a disctable created by supervisor program CREATE. The table text must be structered in accordance with the structure defined in the dialog with CREATE. The table text itself contains the name of the disctable.

The table text is either stored in a batch keyed under control of the standard format TABLE or in a magnetic tape file. For further information, See Format Language Guide.

The table text consists of a number of records, which may order new table entries to be inserted and existing ones to be updated or deleted. The program is thus used for first-time installing the table as well as for updating it.

The program produces a printout if the table text contains errors. In the printout, the term 'transaction' stands for the sequence of records necessary to insert a new entry, to update an existing one or to delete an entry, respectively.

The following messages are all headed by the text TRANSACTION NO <number>, where <number> refers to the transaction number within the table text:

1. UNKNOWN TRANSACTION
   The first part (record) of a transaction can not be recognized, i.e. does not contain the text I,U,D, or E.

2. <Operation> ARGUMENT DOES NOT EXIST
   The argument specified in a transaction to update or delete an entry does not specify an existing entry. <Operation> may be UPDATE or DELETE.

3. INSERT ARGUMENT ALREADY EXISTS
   The insertion of a new table entry can not be performed as an entry with same argument already exists.

4. INSERT NO ROOM
   The table is full and new entries can not be inserted.

5. <Operation> ILLEGAL LENGTH OF ARGUMENT
   The length of an argument is not equal to the length specified at the creation of the disctable.
   <Operation> may be INSERT, UPDATE, or DELETE.

6. <Operation> ILLEGAL LENGTH OF FUNCTION <number>
   The length of a function is not equal to the length specified at the creation of the disctable. The illegal function is pointed out by <number> representing the function number within the entry (1-6)
   <Operation> may be INSERT, or UPDATE.

7. <Operation> ILLEGAL TYPE OF ARGUMENT
   The argument type of the table is numeric and an argument in the tabletext contains characters different from digits.
   <Operation> may be INSERT, UPDATE, or DELETE.

8. <Operation> ILLEGAL TYPE OF FUNCTION <number>
   The function identified by <number> (function number within entry) is of numeric type, but the table text contains characters different from digits.
   <Operation> may be INSERT or UPDATE.

These messages will end by the text SKIP TO NEXT TRANSACTION, meaning that all records belonging to the transaction in which the error was detected are skipped.

If the table text is not properly terminated the following message will be printed:

TRANSACTION FILE DOES NOT END WITH AN 'E'

and the program will terminate.

EXAMPLES:
1) DISCTABLE BATCH. BDT03
2) DISCTABLE MT0.1 ASCII
3) DISCTABLE MT1.6 EBCDIC

RECEIPTS:

NOT NAME	The specified name is not a discfile.
NOT BATCH	The specified name is not a batchname.
THE TABLE DOES NOT EXIST	The tablename specified in the table text does not correspond to an existing disctable.
ILLEGAL BATCH FORMAT	The batch has not been created by the standard format TABLE, or the type of the table text does not correspond to disctable type.

ILLEGAL TAPE FORMAT	The tape format is not in accordance with the tape format described in Format Language Guide section 5.
MAGTAPE ERROR <Code>	Consult appendix 3.
DISC ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult appendix 8.2

FUNCTION: DISPLAY - display supervisor program printout

CONDITION: IDLE, KILLED

The latest activated supervisor program must have produced a printout in the workfile.

KEYING: 1. Key: DISPLAY

2. Press the ENTER key.

DESCRIPTION: This function displays the printout from the latest activated supervisor program on the keystation display screen.

Supervisor state DISPLAYING is entered , the first part of the printout is displayed and the system is ready to receive a display mode command, see section 7.1.1

When display mode is left IDLE state is entered and the system is ready for the next supervisor command.

If the command is entered in order to display a printout which was produced for the spoolfile (example: SYSTEM.S DISC) the linelength in the printout may exceed the linelength of the display screen. Such lines are cut into two lines by the system when displayed.

EXAMPLES:

SYSTEM .S DISC	Print number of free disc-segments on hardcopy form via spoolfile.
DISPLAY	Display the printout.

RECEIPTS:

STATE ERROR	The workfile does not contain a printout (i.e. no supervisor program has been run, latest supervisor program was killed, or latest supervisor program produced printout directly in hardcopy form).

PROGRAM: DUMP - dump batches to magnetic tape in host computer format.

KEYING:

1. Key: DUMP
2. If all batches in a job should be dumped
   key: JOB
   If a single batch should be dumped
   key: BATCH
3. Key: .
4. Key: name of batch or job
5. If dump is performed on old tape
   key: OLD
   If dump is performed on new tape
   key: NEW
6. If not-rekeyed and/or INVALID batch(es) are to be dumped
   key: RELEASE
7. If already dumped batch(es) are to be dumped
   key: DUMPOK
8. Press the ENTER key.

DESCRIPTION: The DUMP program is used to dump batches to magnetic tape (unit 0) in host computer-compatible format.

Dump on OLD tape means that the batches dumped are appended to the previous contents of the tape. Dump on NEW tape is performed from the beginning of a tape possibly after a label.

If a batch has to be rekeyed and/or VALID and it has not been re-keyed yet or is INVALID or if it has been dumped once before, it will not be dumped, unless the parameters RELEASE and DUMPOK are used (see section 5 and 11 in part 1 of this Users Guide).

The DUMPED status is attached to the status information in all dumped batches, except for this the batches are left untouched.

The program produces a printout containing the following information about each dumped batch:

- name of batch
- name of format used for creating the batch
- number of records dumped

The printout also shows the total number of records dumped.

The following messages may occur on the printout:

1. <batchname>: NOT DUMPED, STATE ERROR
   The batch is not in a state to be dumped. Use the SURVEY program to check the state. If desired, the parameters RELEASE and DUMPOK may be specified.

2. <batchname>: NOT DUMPED, IN USE
   The batch is used by another keystation.

3. <batchname>: DOES NOT EXIST
   The batch is mentioned in the job, but the disc file containing the batch does not exist due to a fatal system error.

4. <batchname>: NOT BATCH
   The first part of the batch (batch description) has been destroyed due to a fatal system error.

The dump will be terminated after the last correctly dumped batch if an error not permitting the dump to be completed occurs (e.g. DISC ERROR or End of Tape in a program not supporting multi-reel files).

The various Data Entry standard dump programs are fully described in the RC3600 Program Catalog. Please note that the keying of the dump command, above mentioned printout, and below described receipts may differ slightly from one dump program to another.

EXAMPLES:

1) DUMP JOB.JBA10 OLD
2) DUMP BATCH.B0005 NEW
3) DUMP BATCH.B025 OLD DUMPOK
4) DUMP BATCH.BA030 OLD RELEASE DUMPOK

RECEIPTS:

NOT NAME	The specified job or batchname does not exist as a discfile.
NOT BATCH	The specified batchname does not exist.
NOT JOB	The specified jobname does not exist.
STATE ERROR	The batch is not in a state to be dumped. See above.
BATCH IN USE	The batch is used by another keystation.
JOB IN USE	The job is used by another keystation.
LIBRARY IN USE	The joblibrary containing all the jobnames of the system is used by another keystation.
	The dump is stopped.

MAGTAPE UNKNOWN	The tape does not contain the expected label. Check if correct tape is mounted.
CF LIST	The printout produced contains messages due to irregularities. Confer the printout.
DISC ERROR <Code>	Consult appendix 2.
MAGTAPE ERROR <Code>	Consult appendix 3.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: DUMPSTAT - dump log or operator statistics to magnetic tape. Or clear them.

KEYING:

1. Key: DUMPSTAT
2. If the operator log is to be dumped or cleared
   key: LOG
   If the operator statistics is to be dumped or cleared
   key: ACCOUNT
3. If dump is performed on old tape
   key: OLD
   If dump is performed on new tape
   key: NEW
   If no dump is performed (see below)
   key: CLEAR
4. Press the ENTER key.

DESCRIPTION: This program is used for transferring the operator log or operator statistics to magnetic tape (unit 0) from where they can be printed by using the LISTLOG and LISTACCOUNT programs.

The dump is performed from the beginning of a tape if NEW tape is specified. If OLD tape is specified the dump is appended to the previous contents of the tape. Please note that it is not possible to mix logs and operator statistics on the same tape. The discfile containing the log or the operator statistics respectively is cleared after a dump and is ready for creation of new records.

If no dump is wanted the discfile containing the log or the operator statistics may be cleared by using the CLEAR parameter. This is normally only performed in case of long duration magnetic tape station error.

The program produces a printout of the form at a dump:

LOG-FILE DUMPED or ACCOUNT-FILE DUMPED

PERIOD: date of first and last record dumped

If an error not permitting the dump to be completed (e.g. DISC ERROR) occurs already dumped records are erased so that the tape will have the same contents as before entering the DUMPSTAT command and so that the discfile containing the log or operator statistics is left untouched.

EXAMPLES:

1) DUMPSTAT LOG NEW
2) DUMPSTAT LOG OLD
3) DUMPSTAT LOG CLEAR - no dump, clear logfile
4) DUMPSTAT ACCOUNT OLD
5) DUMPSTAT ACCOUNT CLEAR - no dump, clear operator statistics

RECEIPTS:

MAGTAPE UNKNOWN	An OLD magnetic tape does not correspond to the DUMPSTAT format. Or it is attempted to mix logs and operator statistics on the same tape. Check if the correct tape is mounted.
DISC ERROR <Code>	Consult appendix 2.
MAGTAPE ERROR <Code>	Consult appendix 3.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: FORMFEED - print a heading sheet with date and time.

KEYING: 1. Key: FORMFEED
2. Press the ENTER key.

DESCRIPTION: This program prints a formfeed (top of form) and the date and time taken from the process TIME.

EXAMPLES: FORMFEED

RECEIPTS: PRINTOUT ERROR <Code> Consult section 8.2.

PROGRAM: GET - copy a discfile to magnetic tape or papertape.

KEYING:

1. Key: GET
2. Key: name of discfile to be copied.
3. If output on papertape with no parity
   key: PTP
   If output on papertape with parity
   key: PTP and
   key: . and
   key: EVEN or ODD (even parity or odd parity)
   If output on magnetic tape (program tape)
   key: MT and
   key: . and
   key: IDENT and
   key: name of fileident
   If output on magnetic tape in RC7000 compatible format.
   key: MTR
4. If output on magnetic tape
   key: . and
   key: filenumber (first file = 1)
5. If output on magtape (MT, only) with large blocks
   key: . and
   key: LARGE
6. Press the ENTER key.

DESCRIPTION: This program creates a papertape file or a magnetic tape file in program tape format or in RC7000 compatible format (tape unit 0) by copying the contents of a discfile.

In this way a supervisor program (or another relocatable program, e.g. a driver) may be extracted from the disc and installed on another Data Entry Installation using program PUT.

If output on papertape the program will make a copy (with or without parity) byte by byte.

Output in program tape format (MT) will start at the specified filenumber, and the first block will contain the fileident (from the beginning of the block, the rest of the block will be filled by nulls). The copy will start in the second block.

If the command is ended with the parameter LARGE each block will hold 512 bytes otherwise blocklength will be 80 bytes. This format can be used by PUT MTC.--- and PUT MT. ---; if blocklength = 80 bytes, it can be read by RC3600 Text Editor, too.

If output in RC7000 compatible format (MTR) the copy will start at the specified filenumber. Each block will hold 510 bytes copied from the discfile followed by 4 bytes informing about the filenumber.

EXAMPLES:
1) GET PRG03 PTP
2) GET PRG05 MT.IDENT.PR5.3.LARGE
3) GET PRG02 MT.IDENT.PRG02.1
4) GET PRG05 MT.IDENT.PR5.2
5) GET PRG03 MTR.1

These commands perform the opposite of the commands in examples 1) through 5) of program PUT.

6) GET TEXT PTP.ODD
7) GET ASCII PTP.EVEN

RECEIPTS:

DISC ERROR <Code>	Consult appendix 2.
PUNCH ERROR <Code>	Consult appendix 8.
MAGTAPE ERROR <Code>	Consult appendix 3.

FUNCTION: HARDCOPY - make hardcopy of supervisor program printout.

CONDITION: IDLE, KILLED

The latest activated supervisor program must have produced a printout in the workfile.

KEYING:
1. Key: HARDCOPY
2. Press the ENTER key.

DESCRIPTION: This function transfers the printout from the latest activated supervisor program to a hardcopy device via the spoolfile.

Supervisor state SPOOLING is entered during the transfer to spoolfile and IDLE state is reentered when it is completed.

The command is normally entered when a supervisor program has delivered its output on the keystation displaying screen and when the operator finds this output interesting enough to be copied to the hardcopy device. The HARDCOPY command is therefore used instead of reactivating the supervisor program.

The function may also be used to make extra hardcopies of the printouts.

EXAMPLES:

SYSTEM DISC	Print number of free disc-segments on display screen.
HARDCOPY	Make hardcopy of the printout.

RECEIPTS:

STATE ERROR	The workfile does not contain a printout (i.e. no supervisor program has been run, latest supervisor program was killed or latest supervisor program produced printout directly in hardcopy form).

PROGRAM: HEAD - prepare new magnetic tape for DUMP.

KEYING:
1. Key: HEAD
2. Press the ENTER key.

DESCRIPTION: The program is used to prepare a new magnetic tape for the DUMP program by checking and/or updating a label on the tape.

The program gets the information about the header from a dialog with the supervising operator.

The various Data Entry standard head programs are fully described in the RC3600 Program Catalog, where also the communication with the operator is described. Please note that below mentioned receipts may differ from one head program to another.

EXAMPLES: HEAD

RECEIPTS:

MAGTAPE UNKNOWN	The tape does not contain the expected label. Check if the correct tape is mounted.
MAGTAPE ERROR <Code>	Consult appendix 3.

FUNCTION: KILL - stop a supervisor program or hardcopying before completion.

CONDITION: RUNNING, WAITING, REPEAT, SPOOLING

KEYING:
1. Key: KILL
2. Press the ENTER key.

DESCRIPTION: This command is used to stop a supervisor program before its normal completion.

The command may also be used to stop spooling of a printout activated through supervisor function HARDCOPY.

The command will change supervisor state to KILLED and make the system ready for the next supervisor command.

When the command is entered in state SPOOLING the following should be noticed:

- some part of the printout may already have been transferred to the spoolfile and will be printed when the system reaches this part. Use the SPOOL command to skip the part when the printing of it starts.
- The printout remains in the workfile and can be displayed using the DISPLAY command and hardcopied using the HARDCOPY command.

EXAMPLES: KILL

RECEIPTS: None, but the statuspart of the display screen will show the text KILLED when the command has been executed.

PROGRAM: LIST - list the contents of batches.

KEYING:
1. Key: LIST
2. If a single batch should be listed
   key: BATCH
   If all batches in a job should be listed
   key: JOB
3. Key: .
4. Key: Name of batch or job
5. If only part of the batches is wanted
   key: Record number of first record and
   key: . and
   key: record number of last record.
6. Press the ENTER key.

DESCRIPTION: The program makes a printout of a single batch or of all batches in a job.

Each batch is headed by the batch survey (see SURVEY BATCH command).

All records are headed by the following information:

- an asterisk if the record is invalid.
- record number
- subformat name
- the text INVALID if the record is invalid (see section 5.3 in part 1 of this Users Guide).

The fields in the records are surrounded by the special characters < and >. Invalid fields are proceeded by - (e.g. -<abc>).

Please note, that less detailed printouts may be produced by the LISTDATA program.

In the printout from a LIST JOB command the following messages may occur:

1. <batchname>: BATCH IN USE
   The batch is being used by another keystation.

2. <batchname>: DOES NOT EXIST
   Fatal system error. The batch is mentioned in the job, but does not exist as a discfile.

3. <batchname>: NOT BATCH
The first part of the batch (batch description) is destroyed due to fatal system error.

EXAMPLES:
1) LIST BATCH.B0235
2) LIST BATCH.B0001 1.12
3) LIST JOB.JB032
4) LIST JOB.JB032 1.5 - only first five records in all batches are listed.

RECEIPTS:

NOT NAME	The specified name is not a discfile.
NOT BATCH	The specified name is not a batch.
NOT JOB	The specified name is not a job.
BATCH IN USE	The batch is used by another key station
JOB IN USE	The job is used by another keystation
LIBRARY IN USE	The joblibrary containing the jobnames of the system is used by another key-station.
DISC ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: LISTACCOUNT - print accumulated operator statistics from magnetic tape.

KEYING:

1. Key: LISTACCOUNT
2. If only a part of the log is to be printed
   key: start time of period wanted:
   YY.MM.DD (year, month, day)
   or
   YY.MM.DD.HH (year, month, day, hour (0 - 24))
   key: stop time of period wanted:
   YY.MM.DD (year, month, day)
   or
   YY.MM.DD.HH (year, month, day, hour (0 - 24))
3. Press the ENTER key.

DESCRIPTION: This program prints the accumulated operator statistics from a magnetic tape created by the DUMPSTAT program.

The statistics either concerns the whole period of time on the tape (may derive from several DUMPSTAT activations) or if specified in the command only a certain period of time.

The program starts its printout by listing the names of operators (EXISTING OPERATORS) and jobs (EXISTING JOBS) occurring in the statistics in the period of time wanted. The operator names are the initials entered during the login procedure (see part 1 section 3.2 of this Users Guide).

A dialog with the operator is now commenced:

DO YOU WANT SOME STATISTICS TO BE PRINTED OUT? YES OR NO

1. If only above mentioned list of operators and jobs is wanted
   key: NO
   If statistics is wanted
   key: YES
2. Press the ENTER key

If no statistics is wanted the program terminates. Otherwise the dialog continues:

KEY 'OPER' OR 'JOB' AND IF NECESSARY '.<NAME>'

1. If statistics on all or a single operator is wanted
   key: OPER
   If statistics on all or a single job is wanted
   key: JOB
2. If only a single operator or job is wanted
   key: . and
   key: name of operator (operator initials)
   or name of job
3. Press the ENTER key.

When the statistics wanted has been printed the operator must answer the following question:

MORE STATISTICS TO BE PRINTED OUT? YES OR NO

1. If more statistics concerning the same period of time on other operators and jobs is wanted
   key: YES
   If the operator wants the program to terminate
   key: NO
2. Press the ENTER key.

The printout contains a list of all batches concerning the job(s) or operator(s) wanted. Each batch is described by the following:

- BATCH, name of batch
- FORM, name of format used
- MODE, describes what was performed, K = keying, R = rekeying, E = editing
- KEYTIME, keying time (number of minutes)
- STROKES, number of key strokes
- RECORDS, number of records (including invalid) produced
- ERRORS, number of errors during registration
- INVAL REC, number of invalid records produced

Each batch is described by three lines (keying, rekeying, editing). The statistics contain totals on job and operator level also in three lines.

EXAMPLES:
1) LISTACCOUNT
2) LISTACCOUNT 76.10.30 76.11.02

3) LISTACCOUNT 76.10.30.00 76.11.02.24 - equivalates 2)

4) LISTACCOUNT 76.09.14.11 76.09.14.13

RECEIPTS:

DO YOU WANT SOME STATISTICS TO BE PRINTED OUT? YES OR NO

See above.

KEY 'OPER' OR 'JOB' AND IF NECESSARY '.<NAME>'

See above

MORE STATISTICS TO BE PRINTED OUT? YES OR NO

See above

OPER <name> UNKNOWN. MORE STATISTICS TO BE PRINTED OUT? YES OR NO

An entered operator name does not exist in the period of time wanted. Proceed as described when the question 'MORE STATISTICS ....' is asked (see above).

JOB <name> UNKNOWN. MORE STATISTICS TO BE PRINTED OUT? YES OR NO

An entered job name does not exist in the period of time wanted. Proceed as described when the question 'MORE STATISTICS ....' is asked (see above).

TABLE FULL — A table in the program of operator or job names has run full. Reenter the command with specification of a shorter period of time wanted.

DISC ERROR <Code> — Consult appendix 2.

MAGTAPE ERROR <Code> — Consult appendix 3.

PRINTOUT ERROR <Code> — Consult section 8.2.

PROGRAM: LISTDATA - list the contents of batches (compressed format).

KEYING:
1. Key: LISTDATA
2. If a single batch should be listed
   key: BATCH
   If all batches in a job should be listed
   key: JOB
3. Key: .
4. Key: name of batch or job
5. If only part of the batches is wanted
   key: Record number of first record and
   key: . and
   key: record number of last record.
6. Press the ENTER key.

DESCRIPTION: The program makes a printout of a single batch or of all batches in a job.

Each batch is headed by the batch survey (see SURVEY BATCH command).

Each record is headed by the following information:

- an asterisk if the record is invalid.
- record number.
- the text INVALID if the record is invalid (see section 5.3 in part 1 of this Users Guide).

The contents of a record is printed without separating the fields of it! The end of a record is indicated by printing the special character >.

A headline numbering the vertical positions beginning at the position of first character of the records is printed on every page.

Please note, that more detailed printouts may be produced by the LIST program.

In the printout from a LISTDATA JOB command the following messages may occur:

1. <batchname>: BATCH IN USE
   The batch is being used by another keystation.
2. <batchname>: DOES NOT EXIST
   Fatal system error. The batch is mentioned in the job, but does not exist as a discfile.
3. <batchname>: NOT BATCH
   The first part of the batch (batch description) is destroyed due to fatal system error.

EXAMPLES:

1) LISTDATA BATCH.B0235
2) LISTDATA BATCH.B0001 1.12
3) LISTDATA JOB.JB032
4) LISTDATA JOB.JB032 1.5 - only first five records in all batches are listed.

RECEIPTS:

NOT NAME	The specified name is not a discfile.
NOT BATCH	The specified name is not a batch.
NOT JOB	The specified name is not a job.
BATCH IN USE	The batch is used by another key station.
JOB IN USE	The job is used by another keystation.
LIBRARY IN USE	The joblibrary containing the jobnames of the system is used by another keystation.
DISC ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: LISTERROR - List the contents of the invalid records in batches.

KEYING:
1. Key: LISTERROR
2. If a single batch should be listed
   key: BATCH
   If all batches in a job should be listed
   key: JOB
3. Key:
4. Key: Name of batch or job
5. If only part of the batches is wanted
   key: Record number of first record and
   key: and
   key: recordnumber of last record.
6. Press the ENTER key.

DESCRIPTION: The program makes a printout of the invalid records of a single batch or of all batches in a job.
Besides only the invalid records are printed the output is equal to that of the supervisor program LIST.

Consult the description of LIST program for further information.

EXAMPLES:
1) LISTERROR BATCH.B0235
2) LISTERROR BATCH.B0001 1.12
3) LISTERROR JOB.JB032
4) LISTERROR JOB.JB032 1.5

RECEIPTS: See the receipts from the LIST program.

PROGRAM: LISTFORMAT - List a batch containing a format

KEYING:
1. Key: LISTFORMAT
2. Key: batchname
3. Press the ENTER key.

DESCRIPTION: The program produces a printout of a batch created by the standard format FORM. The printout is composed to resemble the Data Entry Format Coding Sheet.

The following abbrevations are used in the headline of subformat heads:

REC	record number (in batch)
FNAME	format name (as keyed)
S	subformat name (as keyed)
P	protected

Abbrevations in headline of field descriptions:

S	subformat name (from subformat head)
FLD	field number (in subformat)
LIN	line number (in field)
REC	Record number (in batch)
NAME	field name
P	page
LN	line
PS	position
LG	length
ML	min. length
TY	type
OUT	output position
J	r/l (justification)
F	fill characters
R	rekey
D	display
K	kind
RG	register

S, FLD, and LIN are included to ease matching with error messages from TRANSLATE while REC may be used when editing in the batch. Invalid records (see section 5.3 in part 1 of this Users Guide) are headed by an asterisk. Invalid fields are printed as question marks.

EXAMPLES: LISTFORMAT B0001

RECEIPTS:

NOT NAME	The specified batchname is not the name of a discfile.
NOT BATCH	The specified batchname is not an existing batch.
BATCH IN USE	The batch is used by another key station.
BATCH SYNTAX	The specified batch has not been created by format FORM. Or the record sequence is illegal, e.g. the first record not created by subformat H (subformat head)
DISC ERROR <Code>	consult appendix 2

PRINTOUT ERROR <Code> consult section 8.2.

PROGRAM: LISTIMAGE - list a batch containing an image.

KEYING:
1. Key: LISTIMAGE
2. Key: batchname
3. Press the ENTER key.

DESCRIPTION: The program produces a printout of a batch created by the standard format IMAGE. The printout is composed to resemble the Data Entry Image Coding Sheet.

The following abbreviations are used in the headline of subformat heads:

REC	record number (in batch)
FNAME	format name (as keyed)
S	subformat name (as keyed)

Abbreviations in headline of tag descriptions:

S	subformat name (from subformat head)
REC	record number (in batch)
P	page
LN	line
PS	position

S is included in tag descriptions to ease matching with error messages from TRANSLATE while REC may be used when editing in the batch.

Invalid records (see section 5.3 in part 1 of this Users Guide) are headed by an asterisk. Invalid fields are printed as question marks.

EXAMPLES: LISTIMAGE B0005

RECEIPTS:

NOT NAME	The specified batchname is not the name of a discfile.
NOT BATCH	The specified batchname is not an existing batch.
BATCH IN USE	The batch is used by another keystation.
BATCH SYNTAX	The specified batch has not been created by format IMAGE. Or the record sequence is illegal, e.g. the first record not created by subformat H (subformat head).
DISC ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: LISTLOG - print log from magnetic tape.

KEYING:

1. Key: LISTLOG
2. If only a part of the log is to be printed
   key: start time of period wanted:
   YY.MM.DD (year, month, day)
   or
   YY.MM.DD.HH (year, month, day, hour (0 - 24))
   key: stop time of period wanted:
   YY.MM.DD (year, month, day)
   or
   YY.MM.DD.HH (year, month, day, hour (0 - 24))
3. Press the ENTER key.

DESCRIPTION: This program prints an operator log from a magnetic tape created by the DUMPSTAT program.

The log either concerns the whole period of time contained on the tape (may derive from several DUMPSTAT activations) or if specified in the command only a certain period of time.

Each line on the printout represents a record from the log and contains:

- TYPE Indicates the type of the record:
  - SC Supervisor command
  - SA Supervisor answer
  - LC Login command
  - LA Login answer
  - OS Operator statistics
- DATE Is the date (YY.MM.DD) for creation of the record.
- TIME The time of day (HH.MM) for creation of the record.
- STATION Key station number. The keystations are numbered from one and upwards. May for example be the number of a keystation having entered a supervisor command. The number is the same as is used in restart logs.
- OPER Is the initials of the keystation operator as keyed in the login procedure (see section 3.2 in part 1 of this Users Guide). May for example be the initials of an

operator having entered a supervisor command. Is empty if the record concerns the login procedure.

The meaning of the remaining part of a line depends on TYPE:

SC — Is a copy of an entered supervisor command.

SA — Is a copy of a receipt given by the supervisor, a supervisor function, or a supervisor program on the receipt part of the keystation display screen. Indicates the result of the nearest preceeding supervisor command (SC - record). Or it may be a question from a supervisor program in a dialog with the supervising operator.

LC — Is a copy of initials and usernumber from the login procedure (OPER is empty) or is a copy of a control command entered in login mode (see section 4 in part 1 of this Users Guide).

LA — Is a copy of a receipt given in login mode:
- when an operator has performed the login procedure (see section 3.2 in part 1 of this Users Guide)
- when a control command cannot be executed due to errors (see part 1 section 13.2)
- when a keying, rekeying or editing is finished either on operator initiative (OK) or due to certain errors (see part 1 sections 6.3 and 13.2)

The receipt concerns the execution of the nearest preceeding LC record with same STATION number.

OS — Is the operator statistics concerning a keying, rekeying or editing. The statistics contain:
- JOB, name of job containing the batch.
- FORM, name of format used.
- BATCH, name of batch.
- MODE, describes what was performed, i.e. KEYED, REKEYED, EDITED.
- KTIME, keying time (number of minutes).
- STRKS, number of keystrokes.
- RECS, number of records (including invalid) produced.
- ERROS, number of errors during registration.

- INVAL, number of invalid records produced.

The OS record describes what was performed in the interval from the nearest preceeding LC record to nearest preceeding LA record with same STATION numbers.

EXAMPLES:

1) LISTLOG
2) LISTLOG 76.10.30 76.11.02
3) LISTLOG 76.10.30.00 76.11.02.24 - equivalates 2)
4) LISTLOG 76.09.14.11 76.09.14.13

RECEIPTS:

MAGTAPE UNKNOWN	The magnetic tape does not contain log-records. Check if the correct tape is mounted.
MAGTAPE ERROR <Code>	Consult appendix 3.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: LISTMESSAGES - list the system messages.

KEYING:
1. Key: LISTMESSAGES
2. Press the ENTER key.

DESCRIPTION: This program makes a printout of the messages which may appear on the message line of the keystation display screen.

Each message is printed as:

- The message number. This number is used when replacing a message with another one possibly in local language.
- The message itself as it looks at the moment. I.e. it will be in English after a disc initialization and possibly in a local language if it has been replaced. Unused message numbers are indicated by the text 'UNUSED'.

Supervisor program receipts are not included in the list.

Section 14 in part 1 of this Users Guide describes how a batch containing new messages may be keyed. Supervisor program NEWMESSAGES is used to update the system messages with the contents of the batch.

EXAMPLES: LISTMESSAGES

RECEIPTS:

DISC ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: LISTSUBPROGRAM - list a batch containing a subprogram.

KEYING:
1. Key: LISTSUBPROGRAM
2. Key: batchname
3. Press the ENTER key

DESCRIPTION: The program produces a printout of a batch created by the standard format SUBPR. The printout is composed to resemble the Data Entry Subprogram Coding Sheet.

The following abbreviations are used in the headline of subprogram heads:

REC	record number (in batch)
SNAME	subprogram name (as keyed)

Abbreviations in headline of subprogram part:

LIN	linenumber (in subprogram part)
REC	record number (in batch)

LIN is included to ease matching with error messages from TRANSLATE while REC may be used when editing the batch.

Invalid records (see section 5.3 in part 1 of this Users Guide) are headed by an asterisk. Invalid fields are printed as question marks.

EXAMPLES: LISTSUBPROGRAM B0102

RECEIPTS:

NOT NAME	The specified batchname is not the name of a discfile.
NOT BATCH	The specified batchname is not an existing batch.
BATCH IN USE	The batch is used by another keystation.
BATCH SYNTAX	The specified batch has not been created by format SUBPR. Or the record sequence is illegal, e.g. the first record not created by subformat H.
DISC ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: LISTTABLE - list a batch containing a table.

KEYING:
1. Key: LISTTABLE
2. Key: batchname
3. Press the ENTER key.

DESCRIPTION: The program produces a printout of a batch created by the standard format TABLE. The printout is produced to resemble the Data Entry Table Coding Sheets.

The following abbreviations are used in the headline of table heads:

REC	record number (in batch)
TNAME	tablename (as keyed)
T	Type
AT	A-type
AL	A-lgth
FT	F-type
FL	F-lgth

Abbreviations in headline of arguments and functions:

ENTRY	entry number (in table)
REC	record number (in batch)

ENTRY is included to ease matching with error messages from TRANSLATE, REC may be used when editing the batch.

Invalid records (see section 5.3 in part 1 of this Users Guide) are headed by an asterisk. Invalid fields are printed as question marks. Arguments and functions longer than A-lgth and F-length are marked by the letter L.

EXAMPLES: LISTTABLE BT023

RECEIPTS:

NOT NAME	The specified batchname is not the name of a discfile.
NOT BATCH	The specified batchname is not an existing batch.
BATCH IN USE	The batch is used by another keystation.
BATCH SYNTAX	The specified batch has not been created by format TABLE. Or the record sequence is illegal, e.g. the first record not created by subformat H.

DISC ERROR <Code> Consult appendix 2.
PRINTOUT ERROR <Code> Consult section 8.2.

PROGRAM: LOAD - load from backup created by SAVE.

KEYING:

1. Key: LOAD
2. Key: name identifying backup (save-ident)
3. If backup is situated on magnetic tape unit 0
   key: MT0
   If backup is situated on magnetic tape unit 1
   key: MT1
   If backup is situated on papertape
   key: PTR
4. If all items in backup should be loaded then proceed at point 6 or
   key: ALL
   If all or a single job should be loaded
   key: JOB
   If all or a single batch should be loaded
   key: BATCH
   If all or a single format should be loaded
   key: FORM
   If all or a single subprogram should be loaded
   key: SUBPROGRAM
   If all or a single coretable should be loaded
   key: TABLE
   If all or a single disctable should be loaded
   key: DISCTABLE
   If all formats, subprograms, coretables, and disctables should be loaded
   key: TRANSITEMS
5. If only a single job, batch, format, subprogram, table, or disctable should be loaded
   key: . and
   key: the name of the item to be loaded
6. Press the ENTER key.

DESCRIPTION: The program is used for loading from a backup created by supervisor program SAVE. Loading is performed from the specified save-ident from which all items or only selected ones may be loaded.

If the backup is situated on papertape this must be inserted in the papertape reader and the reset button on the reader must be pressed prior to entering the command.

If an item (batch, format, subprogram, table, or disctable) to be loaded already exists on the disc it is skipped and loading will continue at next item.

If the job of a batch to be loaded no longer exists it will be created.

A printout is produced containing the names of the items, which have been loaded, and the names of the items, which have not been loaded because they already exist:

1. <name of item> HAS BEEN LOADED
   The item has been loaded.

2. **<name of item> EXISTS
   The item already exists on the disc and is not loaded. Loading proceeds.
   If the item (name of batch, format etc.) should have been loaded the DELETE program can be used to remove the item from disc. The original LOAD command can then be reentered (the items loaded the first time will now cause the message to be printed).

EXAMPLES:

1) LOAD IDT01 MT0 ALL - load all items from save-ident
2) LOAD IDT02 MT1 JOB
3) LOAD IDT02 MT1 BATCH - equivalates 2)
4) LOAD IDT14 MT0 BATCH.B0005
5) LOAD IDT32 MT0 FORM
6) LOAD ID300 MT0 SUBPROGRAM.SUBRA
7) LOAD IDT05 MT0 TABLE
8) LOAD ID102 MT0 DISCTABLE.DTAB4
9) LOAD IDT23 MT0 TRANSITEMS
10) LOAD ID001 PTR FORM.FRM14
11) LOAD ID002 PTR JOB.J0007

Note: All examples above perform the opposite of the examples mentioned at program SAVE.

12) LOAD IDT01 MT0 - equivalates 1)

RECEIPTS:

INPUT UNKNOWN	The tape does not correspond to the save-format. Check if correct tape is mounted.
IDENT UNKNOWN	The specified save-ident does not exist on the tape.
NAME UNKNOWN	The specified item name does not exist in the specified backup.
CF LIST	A printout has been produced due to irregularities. Confer this printout.
NOT JOB	The specified item is not a job.
NOT BATCH	The specified item is not a batch.
NOT FORMAT	The specified item is not a format.
NOT SUBPROGR	The specified item is not a subprogram.
NOT TABLE	The specified item is not a coretable.
NOT DISCTABL	The specified item is not a disctable.
NO ROOM	No room for inserting the item to be loaded into a library (see above).
<name> IN USE	<name> which may be the name of a job or a library is presently being used by another keystation. Loading is stopped. Library names will appear as follows:

JBLIB	joblibrary
FBLIB	formatlibrary
SPLIB	subprogram library
TBLIB	table library
DTLIB	disctable library.

* CHECKSUM ERROR ON PAPERTAPE BEFORE IDENT <ident>

A checksum error on papertape has been detected before the ident to be loaded. Loading is stopped.

* CHECKSUM ERROR ON PAPERTAPE IN IDENT <ident>

A checksum error on papertape has been detected in the ident block. Loading is stopped.

*CHECKSUM ERROR ON PAPERTAPE IN ITEM <itemname>	A checksum error on papertape has been detected in the item. Loading is stopped.
DISC ERROR <Code>	Consult appendix 2.
MAGTAPE ERROR <Code>	Consult appendix 3.
READER ERROR <Code>	Consult appendix 7.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: NEWMESSAGES - insert new system messages possibly in local language.

KEYING:
1. Key: NEWMESSAGES
2. Press the ENTER key.

DESCRIPTION: The program replaces the system messages in the discfile ALARM by the messages contained in the system batch SYSB1.

The new system messages (possibly in local language) have been created by a registration with format ERMES. The new system messages in ALARM may be listed by supervisor program LISTMESSAGES.

For further information, please consult section 14 in part 1 of this Users Guide and the description of LISTMESSAGES.

EXAMPLES: NEWMESSAGES

RECEIPTS:

NOT NAME	The system batch SYSB1 does not exist.
NOT BATCH	A discfile named SYSB1 exists but is not a batch.
BATCH SYNTAX	The system batch SYSB1 does not contain records created by format ERMES.
BATCH IN USE	The batch SYSB1 is used by another keystation.
DISC ERROR <Code>	Consult appendix 2.

PROGRAM: OUT - print discfile or magnetic tape file (e.g. created by OUTCORE).

KEYING:
1. Key: OUT
2. If a discfile is to be printed
   key: DISC
   If a magnetic tape file is to be printed
   key: MT
3. Key: .
4. If a discfile is to be printed
   key: Name of disc file
   If a magnetic tape file is to be printed
   key: File number. First file on a tape is 1.
5. Key: first address (see below)
6. Key: .
7. Key: last address (see below)
8. Press the ENTER key.

DESCRIPTION: The program prints a discfile or magnetic tape file (tape unit 0) in a format suitable for error recovery. The file may for example contain a dump of the core memory created by OUTCORE, or produced at a total system break-down.

When printing a coredump first address and last address point out the interval of corememory addresses to be printed. Addresses are counted from zero and upwards.

When printing for example a format or a batch first address and last address can be used to print only a part of the file so that:

first address = first sector x 256
last address = last sector x 256 + 255

Sectors are counted from zero and upwards.
Each word (16- bit entity) is printed in the following format:

- decimal value of the word
- octal value of the word
- left and right part of the word printed as two character values (8 - bit entities)
- left and right part graphically as two characters of the ASCII alphabet.

Each line in the printout starts with the address (decimal and octal) of the first word on the line.

The magnetic tape block length is supposed to be of 256 characters.

EXAMPLES:

1)	OUT MT.1 0.'77777	Print an entire coredump
2)	OUT DISC.F0001 0.255	Print the first sector of a disc file
3)	OUT MT.1 '2300.'2700	Print part of coredump

RECEIPTS:

DISC ERROR <Code>	Consult appendix 2.
MAGTAPE ERROR <Code>	Consult appendix 3.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: OUTCORE - print internal core or dump it.

KEYING:

1. Key: OUTCORE
2. If a printout of core is wanted
   key: SURV
   If dump of entire core is wanted
   key: DUMP
3. If printout of core is wanted
   key: address of first core word wanted and
   key: . and
   key: address of last core word wanted.
4. If coredump on magnetic tape is wanted
   key: MT and
   key: . and
   key: filenumber (first file = 1).
5. If coredump on a discfile is wanted
   key: DISC and
   key: . and
   key: name of discfile to receive the dump.
6. Press the ENTER key.

DESCRIPTION: This program produces a coredump either in the form of a printout or in the form of a dump of entire core. The coredump may be used by REGNECENTRALEN for error recovery.

A coredump produced on magnetic tape or in a discfile may be printed by using the OUT program.

Coredump in a discfile is normally only produced in case of long duration magnetic tape station error and only on appointment with REGNECENTRALEN.

Please note that the program can only handle the processor in which supervisor programs are loaded and that a memory expansion cannot be handled (see section 4).

Each word (16-bit entity) in a printout of core is printed as described at supervisor program OUT.

The program may also be used to change locations in core during error recovery. This must only be performed on appointment with

REGNECENTRALEN. Change of a core word is performed as follows:

1. Key: OUTCORE
2. Key: SET
3. Key: address of core word to be changed
4. Key: .
5. Key: new contents of core word
6. Press the ENTER key.

EXAMPLES:

1) OUTCORE SURV 0.'77777 - print entire core
2) OUTCORE SURV '100.'117 - print part of core
3) OUTCORE DUMP MT.1
4) OUTCORE DUMP DISC.DMPXX
5) OUTCORE SET '100.'23 - change core word

RECEIPTS:

DISC ERROR <Code> Consult appendix 2.
MAGTAPE ERROR <Code> Consult appendix 3.
PRINTOUT ERROR <Code> Consult section 8.2.

PROGRAM: OUTDISC - print the contents of a discfile.

KEYING:
1. Key: OUTDISC
2. Key: name of discfile
3. Press the ENTER key.

DESCRIPTION: The program produces a printout of a discfile in a format suitable for error recovery. The discfile may contain a batch, a job, a library, a supervisor program, a format etc.

Each character is printed by its decimal value. Blockchange is indicated with *.

EXAMPLES: OUTDISC B0001

RECEIPTS:

DISC ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: OUTFORMAT - print a format in internal representation.

KEYING:
1. Key: OUTFORMAT
2. Key: name of format
3. Press the ENTER key.

DESCRIPTION: This program is used to print a format and an eventual corresponding image created by supervisor program TRANSLATE.

After printing a format the program will activate the supervisor program OUTIMAGE in order to print an eventual image part.

The printout may be used by REGNECENTRALEN for error recovery concerning a specific format.

EXAMPLES: OUTFORMAT FRM14

RECEIPTS:

NOT FORMAT	The specified name is not a format.
DISC ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: OUTIMAGE - print an image in internal representation.

KEYING:
1. Key: OUTIMAGE
2. Key: name of format
3. Press the ENTER key.

DESCRIPTION: This program prints the disctable table and the image part of a format created by supervisor program TRANSLATE.

This program is activated by the supervisor program OUTFORMAT; but it can be used separately.

EXAMPLES: OUTIMAGE FRM14

RECEIPTS:

NOT FORMAT	The specified name is not a format.
DISC ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: OUTMAGTAPE - print the contents of a magnetic tape file.

KEYING:
1. Key: OUTMAGTAPE
2. Key: file no of magnetic tape file. The first file on a tape is 1.
3. Press the ENTER key.

DESCRIPTION: This program is used to print the contents of a magnetic tape file (tape unit 0) in a format suitable for error recovery.

Each character (8 - bit entity) is printed by its decimal value, e.g. the character 'A' in the EBCDIC alphabet is printed as the value 193.

The blocklength of each magnetic tape block (expressed as a number of characters) is printed after printing the characters of the block.

The blocksize on the tape must not exceed 2400 characters.

EXAMPLES: OUTMAGTAPE 3

RECEIPTS:

MAGTAPE ERROR <Code>	Consult appendix 3
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: OUTSUBPROGRAM - print a subprogram in internal representation.

KEYING:
1. Key: OUTSUBPROGRAM
2. Key: name of subprogram
3. Press the ENTER key.

DESCRIPTION: This program is used to print a subprogram created by supervisor program TRANSLATE.

The printout may be used by REGNECENTRALEN for error recovery concerning a specific subprogram.

EXAMPLES: OUTSUBPROGRAM DCHEK

RECEIPTS:

NOT SUBPROGR	The specified name is not a subprogram.
DISC ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: OUTTABLE - print a table in internal representation.

KEYING:
1. Key: OUTTABLE
2. Key: name of table
3. Press the ENTER key.

DESCRIPTION: This program is used to print a (core) table created by supervisor program TRANSLATE.

The printout may be used by REGNECENTRALEN for error recovery concerning a specific table.

Disctables (created by DISCTABLE) may be printed by OUT or OUTDISC.

EXAMPLES: OUTTABLE TAB25

RECEIPTS:

NOT TABLE	The specified name is not a (core) table.
DISC ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: PUT - enter a file to disc from papertape or magnetic tape.

KEYING:
1. Key: PUT
2. If input from papertape
   key: PTR
   If input from magnetic tape (program tape)
   key: MT
   If input from magnetic tape created by MUSIL compiler
   key: MTC
   If input from RC 7000 compatible magnetic tape
   key: MTR
3. If input from magnetic tape
   key: .
4. If input from magnetic tape file identified by filenumber (MT,MTC,MTR)
   key: file number (first file = 1)
   If input from magnetic tape file identified by a file ident (MT,MTC)
   key: IDENT and
   key: . and
   key: name of fileident
5. Key: name of discfile
6. Press the ENTER key.

DESCRIPTION: This program creates a discfile and moves the contents of a papertape or magnetic tape file (tape unit 0) to it. If the file already exists it will be overwritten.

In this way new superviser programs can be introduced in the system. The name of the discfile created will be the name of the supervisor program.

EXAMPLES:
1) PUT PTR PRG03
2) PUT MT.3 PRG05
3) PUT MT.IDENT.PRG02 PRG02
4) PUT MTC.2 PRG05
5) PUT MTR.1 PRG03

See also examples of program GET.

RECEIPTS:

IDENT UNKNOWN	The specified file ident does not exist on the magnetic tape
MAGTAPE ERROR <Code>	Consult appendix 3
READER ERROR <Code>	Consult appendix 7
DISC ERROR <Code>	Consult appendix 2
FILE ERROR	It is attempted to create a file with the same name as a library or a file in a library (e.g. batch or format)

PROGRAM: RESCUE - rescue the contents of a batch after fatal system error.

KEYING:
1. Key: RESCUE
2. Key: name of batch to be rescued
3. Press the ENTER key.

DESCRIPTION: This program is used to rescue the contents of a batch after a fatal system error when neither the CLEAN function nor the restart program (at a system restart) can bring the batch into a situation suitable for resuming the work on it.

The program initiates a dialog with the operator:

RESCUE RECORD? BATCH STATUS = <status>

<status> indicates the status of the batch (see also section 5.3 in part 1 of this Users Guide).

1. If <status> is 'KEYING' or 'KEYING + REKEYING' or 'CLOSED'
   key: KEY
   If <status> is 'REKEYING'
   key: REKEY
   If <status> is 'EDITING'
   key: EDIT
2. Key: .
3. If all records in the batch are to be rescued
   key: ALL
   If only a part of the batch is to be rescued
   key: record number of last record wanted
4. If <status> is 'KEYING + REKEYING'
   key: REKEY and
   key: . and
   if position of rekeyer in batch should be unchanged
   key: ALL
   If position of rekeyer in batch should be changed
   key: record number of rekeyer
5. Press the ENTER key.

In the first attempt the operator normally tries to rescue ALL records in the batch and leaves the position of the rekeyer unchanged.

The program will cut off the last part of a batch before reaching last record wanted if some unidentified data is met. Likewise the position of the rekeyer may be set to a record before the wanted record.

But if the batch contains defects resulting in DISC ERROR for example in the middle or at the end of it it may be necessary to cut off the last part. This can be done by repeating the RESCUE command with still smaller record numbers until the program terminates successfully.

NOTICE:

The supervising operator should have in mind that a work batch exists when the batchstatus is rekeying or editing (see the login commands REKEY and EDIT in part 1 of this Users Guide). A record number given in the RESCUE dialog following the parameter REKEY or EDIT is thus a record number in the work batch.

The work on the batch may be resumed upon successful execution of the rescuing operation.

The program produces a printout listing last record rescued both for keyer and rekeyer. The records are printed in the same layout as is used by supervisor program LIST.

EXAMPLES: RESCUE B0005

RECEIPTS:

RESCUE RECORD? BATCH STATUS = <status>	See above.
NOT NAME	The specified batchname is not the name of a discfile.
NOT BATCH	The specified batchname is not an existing batch.
BATCH IN USE	The batch is used by another keystation.
JOB IN USE	The job containing the batch is used by another keystation.
BATCH ERROR <Code>	Consult appendix 2.
JOB ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: RESTABLISH - change the contents of batchheads.

KEYING:

1. Key: RESTABLISH
2. If a single batchhead should be changed
   Key: BATCH
   If the batchheads of all batches in a job should be changed.
   Key: JOB
3. Key: .
4. Key: Name of batch or job
5. If a specified field in the batchhead of a specified batch should be changed.
   Key: Name of field (see below) and
   Key: . and
   Key: New contents of field (see below)

Field	Name of field	Type of new contents of field
JOBNAME	JOBNA	STRING OF 5 CHARACTERS
FORMATNAME	FORMA	STRING OF 5 CHARACTERS
BATCH STATUS	STATU	INTEGER
BYTECOUNT OLD BATCH	SBYTE	INTEGER
BYTECOUNT NEW BATCH	NBYTE	INTEGER
BLOCK ADDRESS CHECKPOINT	BLADD	INTEGER
BYTE ADDRESS CHECKPOINT	BYADD	INTEGER
NO OF BLOCKS	BLOKS	INTEGER
NO OF RECORDS	RECOR	INTEGER
NO OF REKEYED RECORDS	REKEY	INTEGER
NO OF INVAL. RECORDS	INVAL	INTEGER
DAY NUMBER	DAYNU	INTEGER
SECOND NUMBER	SECON	INTEGER
BLOCK NO OLD BATCH	SBLOC	INTEGER
BLOCK NO NEW BATCH	NBLOC	INTEGER
SUBNAME	SUBFO	STRING OF 1 CHARACTER
CURR. RECORDNO OLD	ORECN	INTEGER
CURR. RECORDNO NEW	NRECN	INTEGER
MAX. RECORDNO NEW	MRECN	INTEGER
END FORMAT	ENDFO	INTEGER

6. Press the ENTER key.

DESCRIPTION: This program changes a field in the batchhead(s) without using the protection system.

If the program is activated with a specified field name (allowed in connection with a single batch, only), the field will be changed to the specified contents.

Activation without fieldname specification (on a single batch or on all batches in a job) NBLOC.0 is understood; i.e. 'block number in new batch' is set to zero.

Notice:

The use of the program is of the supervising operator's own responsibility because it can make irreparable damage to the batches involved.

EXAMPLES:

1) RESTABLISH BATCH.B0005
2) RESTABLISH JOB.J0001
3) RESTABLISH BATCH.B0005 NBLOC.0 - equivalates 1)
4) RESTABLISH BATCH.BAT3 STATUS.0

RECEIPTS:

NOT NAME	The specified name is not a discfile.
IDENT UNKNOWN	The specified name (ident) is not a job.
NAME UNKNOWN	The specified field name is not known.
NAME SYNTAX	The type of new contents is illegal.
NOT BATCH	The specified name is not a batch.
BATCH OK <Number>	The program execution has terminated succesfully. <Number> is the octal number of batches changed.
DISC ERROR <Code>	Consult appendix 2.

PROGRAM: SAVE - save jobs, batches, formats, subprograms, tables for backup.

KEYING:

1. Key: SAVE
2. Key: Name to identify the back-up (save ident)
3. If backup on magnetic tape unit0 is wanted
   key: MT 0
   If backup on magnetic tape unit 1 is wanted
   key: MT1
   If backup on papertape is wanted
   key: PTP
4. If backup on magnetic tape is wanted
   key: . and
   key: 'OLD' or 'NEW' depending on whether the tape has previously been used for backup or not.
5. If all batches, formats, subprograms, coretables, and disctables should be saved
   key: ALL
   If all or a single job should be saved
   key: JOB
   If all or a single batch should be saved
   key: BATCH
   If all or a single format should be saved
   key: FORM
   If all or a single subprogram should be saved
   key: SUBPROGRAM
   If all or a single coretable should be saved
   key: TABLE
   If all or a single disctable should be saved
   key: DISCTABLE
   If all formats, subprograms, coretables and disctables should be saved
   key: TRANSITEMS
6. If only a single job, batch, format, subprogram, table, or disctable should be saved
   key: . and
   key: The name of the item to be saved.
7. Press the ENTER key.

DESCRIPTION: The SAVE program is used to create backup of different discfiles for example for the following purposes:

- Long-term storing of certain batches, e.g. batches containing format-texts or containing system messages possibly the local language.
- as a mean to move e.g. batches and formats from one Data Entry System to another.
- for storing of formats, subprograms etc. so that translation is not needed if the formats are to be brought to disc.
- for short-term storing of batches before the daily batch-dumping to save discspace.
- for creation of back-up to be used in case of disc malfunction.

Saved items can be brought back to disc by using the LOAD program. The SAVESURVEY program may be used to check the contents of the back-up.

Backup on magnetic tape is performed from the beginning of a NEW tape and after last backup on an OLD one.

The SAVED status is attached to the statusinformation in all saved batches, except for this the saved items are left untouched.

The program produces a printout containing the following information for each saved item (batch, format etc):

- NAME — name of item.
- TYPE — type of item, i.e. BATCH, FORMAT, SUBPROGR., TABLE, DISCTABLE.
- COMMENTS — description of the reason why an item can not be saved.

The following COMMENTS may occur:

1. <batchname> STATE ERROR, NOT SAVED
   The batch is not in a state to be saved, see section 11 in part 1 of this Users Guide.

2. <filename> DISC ERROR: IN USE NOT SAVED.
   A batch or a job is being used by another keystation.

3. <filename> DISC ERROR: <Code> NOT SAVED
   The discfile (batch, format etc.) can not be saved due to a disc error. <Code> is described in appendix 2.

4. <file name> DOES NOT EXIST
   Fatal system error. For example if a batch mentioned in a job does not exist as a discfile.

If an error not permitting the backup to be completed as intended (e.g. DISC ERROR) occurs the backup will be terminated and the printout will show which items were saved.

In case of OUTPUT ERROR the SAVESURVEY program may be used to check what was saved before the error occurred.

EXAMPLES:
1) SAVE IDT01 MT0.NEW ALL
2) SAVE IDT02 MT1.OLD JOB
3) SAVE IDT02 MT1.OLD BATCH - equivalates 2)
4) SAVE IDT14 MT0.OLD BATCH.B0005
5) SAVE IDT32 MT0.OLD FORM
6) SAVE ID300 MT0.OLD SUBPROGRAM.SUBRA
7) SAVE IDT05 MT0.OLD TABLE
8) SAVE ID102 MT0.OLD DISCTABLE.DTAB4
9) SAVE IDT23 MT0.OLD TRANSITEMS
10) SAVE ID001 PTP FORM.FRM14
11) SAVE ID002 PTP JOB.J0007

RECEIPTS:

NOT NAME	The specified item name does not exist on the disc.
IDENT EXIST	The specified save ident already exists on the tape. Key another one.
MAGTAPE UNKNOWN	An OLD magnetic tape does not correspond to the save-format. Check if correct tape is mounted.

STATE ERROR	A batch is not in a state to be saved, see section 11 in part 1 of this Users Guide.
CF LIST	The printout produced contains errormessages or comments which must be conferred.
NOT JOB	The specified item is not a job
NOT BATCH	The specified item is not a batch.
NOT FORMAT	The specified item is not a format.
NOT SUBPROGR	The specified item is not a subprogram.
NOT TABLE	The specified item is not a table.
NOT DISCTABL	The specified item is not a disc-table.
<name> IN USE	<name> is the name of a library (e.g. a job) or batch presently being used by another key-station.
DISC ERROR <Code>	Consult appendix 2.
MAGTAPE ERROR <Code>	Consult appendix 3.
PUNCH ERROR <Code>	Consult appendix 8.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: SAVEJOB - save jobs for backup.

KEYING:

1. Key: SAVEJOB
2. Key: Name to identify the back-up (save ident)
3. Key: MT0
4. Key: .
5. If backup is performed on old tape
   Key: OLD
   If backup is performed on new tape
   Key: NEW
6. Key: JOB
7. Key: .
8. Key: Name of job
9. Press the ENTER key.

DESCRIPTION: This program is similar to the SAVE program for making backup of a single job on magnetic tape unit 0.
For further information see the description of SAVE.

EXAMPLES:

1) SAVEJOB IDT99 MT0.NEW JOB.J0004
2) SAVEJOB ID100 MT0.OLD JOB.J0005

RECEIPTS: See the receipts from the SAVE program.

PROGRAM: SAVESURVEY - print contents of backup created by SAVE.

KEYING:
1. Key: SAVESURVEY
2. If survey of a single backup is wanted
   key: name identifying backup (save-ident).
3. If backup is situated on magnetic tape unit 0
   key: MT0
   If backup is situated on magnetic tape unit 1
   key: MT1
   If backup is situated on papertape
   key: PTR
4. Press the ENTER key.

DESCRIPTION: This program is used to check the contents of backups created by supervisor program SAVE.

By omitting the save-ident from the command the operator indicates that all save-idents on the magnetic tape or papertape should be checked.

If the backup is situated on papertape this must be inserted in the papertape reader and the reset button on the reader must be pressed prior to entering the command.

The program produces a printout containing the following information about each item in a backup:

- NAME name of item
- TYPE type of item, i.e. BATCH, FORMAT, SUBPROGRAM, TABLE, DISCTABLE

The printing of the survey of a backup starts with the name identifying it (IDENT: save-ident).

EXAMPLES:
1) SAVESURVEY MT0
2) SAVESURVEY ID001 MT1
3) SAVESURVEY ID013 PTR
4) SAVESURVEY PTR

RECEIPTS: INPUT UNKNOWN — The magnetic tape or papertape does not correspond to the save-format. Check if correct tape is mounted.

IDENT UNKNOWN	The specified save-ident does not exist on the magnetic tape or papertape.
MAGTAPE ERROR <Code>	Consult appendix 3.
READER ERROR <Code>	Consult appendix 7.
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: SHORTEN - shorten batches to save disc space.

KEYING:

1. Key: SHORTEN
2. If a single batch should be shortened
   key: BATCH
   If all batches in a job should be shortened
   key: JOB
3. Key: .
4. Key: name of batch or job
5. Press the ENTER key.

DESCRIPTION: This program may be used for shortening batches by cutting of an eventuel unused last part of the discfiles holding the batches.

Batches created with standard size need not be shortened unless a number of records in the last part of the batch have been deleted.

Batches which may be shortened with advance are batches created by a large batch size but to which only few records are processed.

For further information about batchsize, please confer section 5.4 in part 1 of this Users Guide.

The following messages may occur in a printout when all batches of a job are shortened:

1. BATCH IN USE, BATCH: <batchname>
   The batch is being used by another keystation and will not be shortened.
2. BATCH DOES NOT EXIST, BATCH: <batchname>
   The batch is mentioned in the job, but does not exist as a discfile. Use the DELETE program to repair the job.
3. NOT BATCH , BATCH: <batchname>
   The first part of the batch (batch description) is destroyed due to a fatal system error.
4. BATCH END NOT FOUND IN BATCH: <batchname>
   The last part of the batch (batch end mark) is destroyed due to a fatal system error. Use the RESCUE program to rescue the batch.

EXAMPLES: 1) SHORTEN BATCH.B0005

2) SHORTEN JOB.JB023

RECEIPTS:

NOT NAME	The specified name is not a discfile.
NOT BATCH	The specified name is not a batch.
NOT JOB	The specified name is not a job.
BATCH IN USE	The batch is being used by another keystation.
JOB IN USE	The job is being used by another keystation.
BATCHEND NOT FOUND	The last part of the batch is destroyed due to a fatal system error. Use program RESCUE to repair it.
CF LIST	A printout has been produced.
DISC ERROR <Code>	Consult appendix 2.
PRINTOUT ERROR <Code>	Consult section 8.2.

FUNCTION: SPOOL - administration of spoolfile and hardcopy device.

CONDITION: IDLE, RUNNING, WAITING, REPEAT, KILLED, SPOOLING

New hardcopy device can only be selected when printing from spoolfile is in STOP STATE.

KEYING:

1. Key: SPOOL
2. If state of printing from spoolfile is wanted
   key: STATE
   If printing from spoolfile is to be stopped
   key: STOP
   If printing from spoolfile is to be resumed
   key: START
   If printout being printed at the moment is to be skipped
   key: SKIP
   If the entire spoolfile is to be cleard (i.e. without being printed
   key: CLEAR
   If new hardcopy device is to be used
   key: NEWDEVICE
3. If NEWDEVICE was keyed then key the name of a filedescriptor describing the hardcopy device (see below).
4. Press the ENTER key.

DESCRIPTION: SPOOL STATE command.

Displays the state of printing from spoolfile on the receipt line of the keystation screen. OK means that printing is going on (or will start when needed).

SPOOL STOP command

Printing from spoolfile is stopped, but printouts can still be produced in the spoolfile. May for instance be entered when the hardcopy device is to be used by a conversion program.

SPOOL START command

Printing from spoolfile is resumed. The printing may have been stopped due to errors or the issuing of a SPOOL STOP command.

SPOOL SKIP command

The printout being printed at the moment is skipped, i.e. printing will continue at the next printout in the spoolfile.

SPOOL CLEAR command

All printouts in the spoolfile are skipped.

SPOOL NEWDEVICE command

This command selects a new device to be used as hardcopy device both for printing from spoolfile and for printing directly on the device. The new device is used until the next SPOOL NEWDEVICE command is entered.

Please note that the command can only be entered when printing from spoolfile has been stopped. Therefore use the SPOOL STOP command to stop it and the SPOOL START command to start it again.

The new hardcopy device is specified by keying the name of a filedescriptor describing the device:

HCOPY	Normal hardcopy device. Depends on actual configuration. Example: line printer.
HLPT	line printer
HLPT1	second line printer
HSP	serial printer
HSP1	second serial printer
HCPT	charaband printer
HCPT1	second charaband printer
HTTY	operator console device (TTY)

EXAMPLES:

1) SPOOL STATE
2) SPOOL STOP
3) SPOOL START
4) SPOOL SKIP
5) SPOOL CLEAR
6) SPOOL STOP
   SPOOL NEWDEVICE HTTY
   SPOOL START

RECEIPTS:

STOP STATE	Printing from spoolfile has been stopped due to errors or the issuing of a SPOOL STOP command.
NOT NAME	The name specified as new hardcopy device is not one of above listed ones.
STATE ERROR	Printing from spoolfile not stopped.

FUNCTION: STOP - leave supervisor mode.

CONDITION: IDLE, KILLED

KEYING:
1. Key: STOP
2. Press the ENTER key.

DESCRIPTION: This command is used to leave supervisor mode and enter login mode.

The display screen is blanked and the system is ready for a login command.

Eventual printing from the spoolfile will not be affected and will continue.

The eventual contents of the workfile for supervisor program printouts is deleted.

EXAMPLES: STOP

RECEIPTS: None, the screen will be blanked.

PROGRAM: SURVEY - make survey on jobs, batches, formats, subprograms, tables.

KEYING:

1. Key: SURVEY
2. If survey of a single batch is wanted
   key: BATCH
   If survey of all or a single job is wanted
   key: JOB
   If survey of all formats is wanted
   key: FORM
   If survey of all subprograms is wanted
   key: SUBPROGRAM
   If survey of all core-tables is wanted
   key: TABLE
   If survey of all disc-tables is wanted
   key: DISCTABLE
3. If survey of a BATCH or a single job is wanted
   key: name of batch or job
4. If all informations is wanted in a survey of a single job
   key: MAXI
5. Press the ENTER key.

DESCRIPTION: SURVEY BATCH command

The batch is described by the following:

- JOBNAME
- FORMAT
- BATCH STATUS — See section 5.3. in part 1 of this Users Guide.
- NUMBER OF BLOCKS — Number of disc sectors in the discfile containing data.
- NUMBER OF RECORDS
- NUMBER OF REKEYED RECORDS
- NUMBER OF INVALID RECORDS
- an indication of whether new records can be keyed to the batch in KEY-mode:
  EXTENSIBLE: KEY-mode may be entered, the batch may be extended.
  FINALLY TERMINATED: KEY-mode can not be entered as the END-statement was executed in connection with the last record.

SURVEY JOB command

A survey of all jobs consists of a printout listing all jobnames in the system.

A survey of a single job can be created in two ways: either as a compressed survey of all batches in the job (default) or as a survey containing all information (by using the parameter MAXI) about the batches using the same format as described above.

A compressed survey describes each batch by a line containing the following information:

- batchname
- formatname
- batch status

The text: 'batchname IN USE: batchstatus' is printed instead of a batchsurvey when a batch is being used by another keystation. The text: 'batchname DOES NOT EXIST' is printed when the name of a batch exists in the job but not as a discfile due to a fatal system error.

SURVEY FORM command

Each format is described by the following:

- FORMAT NAME
- FORMAT LENGTH IN CHARACTERS — The number of characters including subprograms and core tables occupied by the format when brought into memory (f).
- REGISTER LENGTH IN CHARACTERS — The total number of characters used by the format for registers. (rg).
- RECORD LENGTH IN CHARACTERS — Length of the largest record which can be produced when keying with the format. (rc).
- IMAGE LENGTH IN CHARACTERS — The number of characters occupied by the image when brought into core memory. (i).

The information may be used to calculate the corememory requirements of the format:

$$f + i + n \cdot (rg + rc)$$

n = number of keystations using the format simultanously.

If no terminals use fill-in-the-blanks keying 'i' may be committed from the formula.

An extra record area(rc) must be added for each terminal which is using the format for rekeying or editing.

SURVEY SUBPR, TABLE, DISCTABLE commands

Makes a printout of the names and length in characters of all sub-programs, core-tables, or disc-tables, respectively.

EXAMPLES:
1) SURVEY BATCH B0001
2) SURVEY JOB
3) SURVEY JOB J0005
4) SURVEY JOB J0005 MAXI
5) SURVEY FORM
6) SURVEY SUBPROGRAM
7) SURVEY TABLE
8) SURVEY DISCTABLE

RECEIPTS:

NOT NAME	A specified job or batchname is not the name of a discfile.
NOT BATCH	The specified batchname is not an existing batch.
NOT JOB	The jobname specifies a discfile which is not a job.
BATCH IN USE	The batch is used by another keystation.
JOB IN USE	The job is used by another key station
DISC ERROR <Code>	Consult appendix 2
PRINTOUT ERROR <Code>	Consult section 8.2.

PROGRAM: SYSTEM - print information about disc files or free disc space

KEYING:
1. Key: SYSTEM
2. If information about discfiles is wanted
   key: CAT
   If information about free discspace is wanted
   key: DISC
3. Press the ENTER key.

DESCRIPTION: SYSTEM CAT command.

This command is used to make a printout describing all files situated on the disc, each file being described as follows:

- NAME — The name of the file, a name followed by an asterisk (*) is a workfile used by a rekeying or editing keystation.
- ATTRIBUTE — The internal status of the file.
- FILELENGTH — Number of discsectors in the file containing data. One sector equals 512 characters.
- SEGM NO. OF INDEX BLOCK — Is the physical sector number of first sector in the discfile. May be used by REGNECENTRALEN for error recovery.
- RESERVED
  LENGTH — Number of discsectors occupied by the file.

SYSTEM DISC command.

The number of free discsectors is printed. One sector equals 512 characters. One RC3652 disc cartridge contains 4872 sectors.

EXAMPLES:
1) SYSTEM CAT
2) SYSTEM DISC

RECEIPTS:
DISC ERROR <code> Consult appendix 2
PRINTOUT ERROR <Code> Consult section 8.2.

PROGRAM: TRANSLATE - translate a batch into a format, subprogram, or table.

KEYING:
1. Key: TRANSLATE
2. If a format is to be created
   key: FORM
   If a subprogram is to be created
   key: SUBPROGRAM
   If a table is to be created
   key: TABLE
3. Key the name of the batch containing the format, subprogram or table text.
4. If a format with image is to be created then key the name of the batch containing the image text.
5. Press the ENTER key.

DESCRIPTION: The TRANSLATE program is used when new formats , subprograms and (core) tables are to be created.

The text to be used for the creation is stored in a batch created by keying under control of the standard formats FORM, SUBPR, TABLE and IMAGE.

The program checks the text, translates it and includes it in the system as a format, subprogram or table. If the text contains errors a printout is produced. Error messages in the printout are described in appendix VII in the Data Entry Format Language Guide.

If a format with image is created the keying operator is free to choose whether to use the image or not, when the format is used for registration (see section 6,7 and 8 in part 1 of this Users Guide).

Normally it is not possible to activate the program in the configurations described in section 4.1, 4.3 and 4.4. as it requires a large memory space. Therefore consult the description of the data entry system start-up which describes how to operate the TRANSLATE program in stand-alone mode.

For further information, please consult section 5 in the Data Entry Format Language Guide.

EXAMPLES:

1) TRANSLATE FORM B0001
2) TRANSLATE FORM B0001 B0002
3) TRANSLATE TABLE B0007
4) TRANSLATE SUBPROGRAM B0008

RECEIPTS:

CF LIST	The text contained errors, therefore confer the printout produced.
BREAK <Code>	The program has been breaked by the system possibly due to a software error.
DISC ERROR <Code>	Consult appendix 2.
PRINTOUT <Code>	Consult section 8.2.
SIZE OF <name>: <size> BYTES	The translation was ok and the translated item <name> will occupy <size> bytes.

PROGRAM: VOLUME - prepare new magnetic tape for HEAD and/or DUMP

KEYING:
1. Key: VOLUME.
2. Press the ENTER key.

DESCRIPTION: The program is used to prepare a new magnetic tape for the HEAD and/or DUMP program by writing a label on the tape.

The program gets the information about the volume-label form a dialog with supervising operator.

The various Data Entry standard volume programs are fully described in RC3600 Program Catalog, where also the communication with the operate is described.

Please note that below mentioned receipts may differ from one volume program to another.

EXAMPLES: VOLUME

RECEIPTS: MAGTAPE ERROR <Code> Consult appendix 3.

APPENDIX 1 SUPERVISOR FUNCTIONS AND PROGRAMS

SUPERVISOR FUNCTIONS

CLEAN	Close down another key station.
DISPLAY	Display supervisor program printout.
HARDCOPY	Make hardcopy of supervisor program printout.
KILL	Stop a supervisor program or hardcopying before completion.
SPOOL	Administration of spoolfile and hardcopy device.
STOP	Leave supervisor mode.

FORMAT OPERATIONS

TRANSLATE	Translate a batch into a format, subprogram, or table.
CREATE	Create a disctable.
DISCTABLE	Update a disctable from a batch or magnetic tape.
LISTFORMAT	List a batch containing a format.
LISTIMAGE	List a batch containing an image.
LISTSUBPROGRAM	List a batch containing a subprogram.
LISTTABLE	List a batch containing a table.

TRANSFER OPERATIONS

VOLUME	Prepare new magnetic tape for HEAD and/or DUMP.
HEAD	Prepare new magnetic tape for DUMP.
DUMP	Dump batches to magnetic tape in host computer format.

STATISTICS

SURVEY	Make survey on jobs, batches, formats, subprograms, tables.
SYSTEM	Print information about disc files, or free discspace.
DUMPSTAT	Dump log or operator statistics to magnetic tape. Or clear them.
LISTLOG	Print log from magnetic tape.
LISTACCOUNT	Print accumulated operator statistics from magnetic tape.

HOUSEKEEPING OPERATIONS

SAVE	Save jobs, batches, formats, subprograms, tables for backup.
SAVEJOB	Save jobs for backup.
LOAD	Load from backup, created by SAVE.
SAVESURVEY	Print contents of backup created by SAVE.
LIST	List the contents of batches.
LISTDATA	List the contents of batches (compressed format).
LISTERROR	List the contents of the invalid records in batches.
COPY	Create a new batch by copying an existing one.
DELETE	Delete jobs, batches, formats, subprograms, tables from disc.
PUT	Enter a file to disc from papertape or magnetic tape.
GET	Copy a discfile to magnetic tape or papertape.
RESCUE	Rescue the contents of a batch after fatal system error.
RESTABLISH	Change the contents of batchheads.
SHORTEN	Shorten batches to save discspace.

SYSTEM MESSAGES OPERATIONS

NEWMESSAGES	Insert new system messages possibly in local language.
LISTMESSAGES	List the system messages.

MISCELLANOUS OPERATIONS

CHANGEENTRY	Change the name, attributes, or length of a discfile.
FORMFEED	Print a heading sheet with date and time.
OUTFORMAT	Print a format in internal representation.
OUTIMAGE	Print an image in internal representation.
OUTSUBPROGRAM	Print a subprogram in internal representation.
OUTTABLE	Print a table in internal representation.
OUTDISC	Print the contents of a discfile.
OUTMAGTAPE	Print the contents of a magnetic tape file.
OUTCORE	Print internal core or dump it.
OUT	Print discfile or magnetic tape file (e.g. created by OUTCORE).

APPENDIX 2 DISC ERROR CODES

Code	Meaning
001000	The discfile is reserved by another system function. Wait for this function to complete and reenter the command.
004010	Too many programs using the same discfile simultanously (should not occur, software error).
004020	The program tries to access a disc block outside the file (normally end of discfile reached during reading). Or the program is trying to access a file without being the user of it (software error).
004400	No more resources (area processes) for communicating with the disc. Wait for one or more terminals to end keying and reenter the command. Or it is not possible to extend a file due to lack of disc space.
005000	A number of reasons may cause this status: - an illegal operation is executed due to a software error. - the program tries to reserve a file already reserved by another system function. Wait for this function to complete and reenter the command. - too many programs using the same disc file simultanously (software error). - the program tries to access a disc block outside the file due to a software error. - attribute error, i.e. the program tries to rename or remove a permanent file.

Code	Meaning
010010	It is not possible to create a file either because the specified file length is two large or because the disc is full (map full) in which case batches no longer needed in the system should be deleted.
010020	It is not possible to create a file as a file with the same name already exists.
010400	No more room on the disc. Batches no longer needed in the system should be deleted.
011000	It is not possible to remove or rename a file as it is presently being used by another system function. Wait for this function to complete and reenter the command. The statusword may also mean that the system tries to carry out an illegal operation due to a software error.
044000, 050000	The specified name does not exist as a discfile.
104000, 110000	Catalog i/o error because the disc is disconnected, because the wrong disc has been mounted, or because of disc malfunction.

The following codes concern hardware malfunction on an RC 3652 disc cartridge drive:

100000	Unit not available, malfunction
003000	Unit does not exist
001200	Odd byteaddress
000200	Block error
000100	Data Late
000040	Parity error
000010	Seek error (position error)
000002	Time-out

Code	Meaning

The following codes concern hardware malfunction on an RC 8221, 22, 23 disc storage module:

100000	Unit not available, disconnected, malfunction.
003000	Unit does not exist, write protected in output.
002000	Write protected.
001200	Odd byteaddress.
000200	Block error.
000040	Parity error.
000020	End of existing disc kits.
000010	Hardware position error.
000002	Time-out.

In processor expansion systems the following code may occur.

000001	Not enough system resources for communication between the two processors at a given moment. Or temporary CPU to CPU transmission error (e.g. power failure).
000004	System not properly configurated. Please contact REGNECENTRALEN.

APPENDIX 3 MAGNETIC TAPE ERROR CODES

Code	Meaning
040000	Unit off line.
020000	Unit rewinding.
010000	Noise record on tape, i.e. a record of 18 bytes or less has been detected.
004000	The tape station is Phase Encoded, should have been masked out by the program. Software error.
002000	Write ring not mounted (when output on tape is desired).
001000	The program tries to use the unit at a time when it is reserved by another system function. If this is not the case the unit may be released by BREAKing the driver (see DOMUS USER'S GUIDE). Or the program tries to carry out an illegal operation due to software error.
000400	End of file mark read.
000200	Block length error, i.e. the block is too large for the allocated memory. This is a serious error, either due to a bad (wrong) tape or the fact that the tape and the program do not match.
000100	Data channel overrun. Possible hardware malfunction.
000040	Parity error. It is impossible to recover a parity error after five re-readings or re-writings. Possibly due to a bad tape.
000020	End of tape sensed.
000010	Position error, i.e. a given block does not exist on the tape.
000004	Driver not loaded.

000002	Time out, no block or file mark present on the tape. Check the density of the tape. If it is not correct, select the proper density.

In processor expansion systems the following code may occur.

000001	Not enough system resources for communication between the two processors at a given moment. Or temporary CPU to CPU transmission error (e.g. power failure).
000004	System not properly configurated. Please contact REGNECENTRALEN.

APPENDIX 4 LINE PRINTER ERROR CODES

Code	Meaning
100000	The printer is disconnected.
040000	The printer is off-line.
010000	Channel 12 in carriage control tape has been encountered. Mount a control tape without channel 12.
001000	The program tries to use the printer at a time when it is reserved by another system function. If this is not the case the printer may be released by BREAKING the line printer driver (see DOMUS USER'S GUIDE). Or the program tries to carry out an illegal operation due to a software error.
000200	Block size error or record format conflict possibly due to software errors. Or paper is out, paper run-away.
000100	The printer is not ready, maybe because a final papermove was not executed by the last user.
000020	End of paper.
000004	Line printer driver not loaded.
000002	Paper run-away. Maybe because of wrong carriage control tape.

In processor expansion systems the following codes may occur:

000001	Not enough system resources for communication between the two processors at a given moment. Or temporary CPU to CPU transmission error (e.g. power failure).
000004	System not properly configurated. Please contact REGNECENTRALEN.

APPENDIX 5 SERIAL PRINTER ERROR CODES

Code	Meaning
100000	The printer is disconnected.
040000	The printer is off-line.
001000	The program tries to use the printer at a time when it is reserved by another system function. If this is not the case the printer may be released by BREAK-ing the serial printer driver (see DOMUS USER'S GUIDE). Or the program tries to carry out an illegal operation due to software errors.
000200	Block size error or record format conflict possibly due to software errors.
000100	The printer is not ready, paper is exhausted or the paper run away situation has occurred. Or hardware malfunction, due to data late or malfunction in the video-circuit of the printer.
000040	Parity error or error in paper movement control character possibly due to incorrect record format in input.
000020	End of paper.
000004	Serial printer driver not loaded.
000002	Paper run-away. Maybe because of wrong carriage control tape.

In processor expansion systems the following codes may occur:

000001	Not enough system resources for communication between the two processors at a given moment. Or temporary CPU to CPU transmission error (e.g. power failure).
000004	System not properly configurated. Please contact REGNECENTRALEN.

APPENDIX 6 CHARABAND PRINTER ERROR CODES

Code	Meaning
100000	The printer is disconnected, error in Direct Access Vertical Format Unit (VFU), or no hole in VFU channel 1.
040000	The printer is off-line or error in VFU.
010000	Channel 12 in carriage control tape has been encountered. Mount a control tape without channel 12.
001000	The program tries to use the printer at a time when it is reserved by another system function. If this is not the case the printer may be released by BREAKing the charaband printer driver (see DOMUS USER'S GUIDE). Or the program tries to carry out an illegal operation due to software errors.
000200	Block size error or record format conflict due to software errors which is also the case if the program has tried to overprint a line more than 8 times. Or paper fault.
000100	The printer is not ready, maybe because a final papermove was not executed by the last user.
000040	Parity error or error in papermovement control character possibly due to incorrect record format in input.
000020	End of paper.
000004	Charaband printer driver not loaded.
000002	Paper run-away. Maybe because of wrong carriage control tape.

In processor expansion systems the following codes may occur:

000001	Not enough system resources for the communication between the two processors at a given moment. Or temporary CPU to CPU transmission error (e.g. power failure).

000004 System not properly configurated. Please contact REGNECENTRALEN.

APPENDIX 7 PAPERTAPE READER ERROR CODES

Code	Meaning
010000	Defective tape or a tape with the wrong number of channels.
001000	The program tries to use the papertape reader at a time when it is reserved by another system function. If this is not the case the reader may be released by BREAK-ing the papertape reader driver (see DOMUS USER'S GUIDE). Or the program tries to carry out an illegal operation due to software errors.
000200	Record format conflict maybe because of insertion of the wrong tape.
000040	Parity error maybe because of insertion of the wrong tape.
000020	End of tape has been reached during input or no tape is inserted in the reader.
000004	Papertape reader driver is not loaded.

In processor expansion systems the following codes may occur:

000001	Not enough system resources for communication between the two processors at a given moment. Or temporary CPU to CPU transmission error (e.g. power failure).
000004	System not properly configurated. Please contact REGNECENTRALEN.

APPENDIX 8 PAPERTAPE PUNCH ERROR CODES

Code	Meaning
001000	The program tries to use the papertape punch at a time when it is reserved by another system function. If this is not the case the punch may be released by BREAK-ing the papertape punch driver (see DOMUS USER'S GUIDE). Or the program tries to carry out an illegal operation due to software errors.
000200	Record format conflict possibly due to a software error.
000020	No more tape in the punch.
000004	Papertape punch driver is not loaded.
000002	The papertape punch is not ready for use (disconnected).

In processor expansion systems the following codes may occur:

000001	Not enough system resources for communication between the two processors at a given moment. Or temporary CPU to CPU transmission error (e.g. power failure).
000004	System not properly configurated. Please contact REGNECENTRALEN.

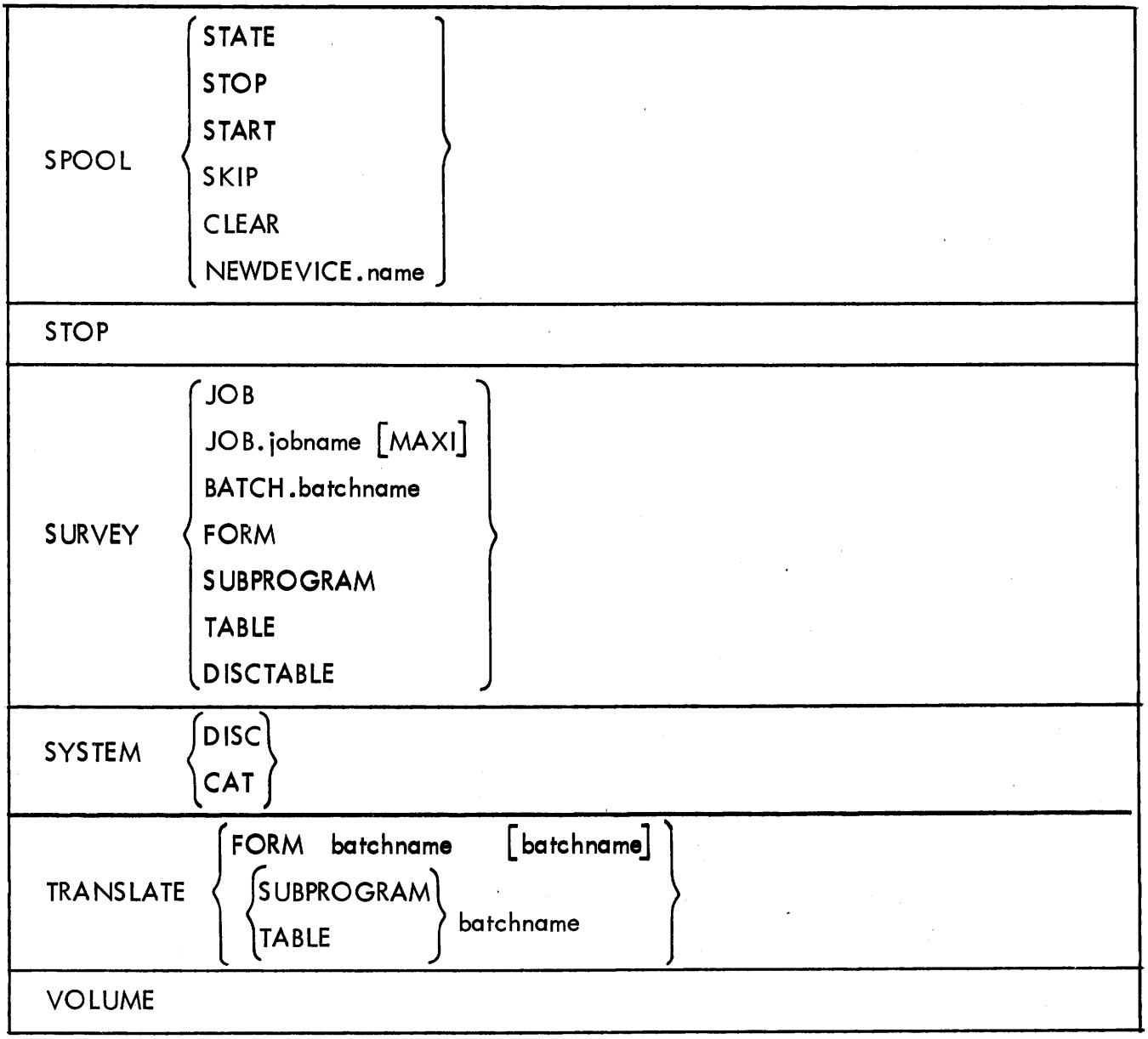
APPENDIX 13 SUPERVISOR COMMANDS

The notation used is described in section 3.4 of the Data Entry Format Language Guide.

CHANGEENTRY name [.WORK] { NAME. newname [.WORK] / LENGTH.newlength / ATTR.newattribute } ...
CLEAN keystationnumber
COPY batchname newjobname newbatchname
CREATE
DELETE { JOB.jobname / BATCH.batchname / FORM. formatname / SUBPROGRAM.subprogramname / TABLE.tablename / DISCTABLE.disctablename / SUPV.supervisorprogram } [RELEASE]
DISCTABLE { BATCH.batchname / { MT0 / MT1 } .filenumber { ASCII / EBCDIC } }
DISPLAY
DUMP { JOB.jobname / BATCH.batchname } { OLD / NEW } [RELEASE] [DUMPOK]
DUMPSTAT { LOG / ACCOUNT } { OLD / NEW / CLEAR }
FORMFEED
GET filename { PTP [. { ODD / EVEN }] / MT.IDENT.fileident.filenumber [.LARGE] / MTR.filenumber }
HARDCOPY

```
HEAD

KILL

LIST      { BATCH.batchname }      [firstrecord.lastrecord]
          { JOB.jobname     }

LISTACCOUNT      [yy.mm.dd [.hh]      yy.mm.dd [.hh]]

LISTDATA  { BATCH.batchname }      [firstrecord.lastrecord]
          { JOB.jobname     }

LISTERROR { BATCH.batchname }      [firstrecord.lastrecord]
          { JOB.jobname     }

LISTFORMAT      formatbatchname

LISTIMAGE       Imagebatchname

LISTLOG         [yy.mm.dd [.hh]  yy.mm.dd [.hh]]

LISTMESSAGES

LISTSUBPROGRAM      subprogrambatchname

LISTTABLE       tablebatchname

LOAD saveident  { MT0 }  [ { ALL                          } ]
                { MT1 }    { BATCH [.batchname]           }
                { PTR }    { JOB [.jobname]               }
                           { FORM [.formatname]           }
                           { SUBPROGRAM [.subprogramname] }
                           { TABLE [.tablename]           }
                           { DISCTABLE [. disctablename]  }
                           { TRANSITEMS                   }

NEWMESSAGES

OUT       { DISC.filename }      firstaddress.lastaddress
          { MT.filenumber }

OUTCORE   { SURV    firstaddress.lastaddress }
          { DUMP    { MT.filenumber }        }
                    { DISC.filename }
          { SET     address.newcontents      }
```

```
OUTDISC        filename
---------------------------------------------------------------
OUTFORMAT      formatname
---------------------------------------------------------------
OUTIMAGE       formatname
---------------------------------------------------------------
OUTMAGTAPE     filenumber
---------------------------------------------------------------
OUTSUBPROGRAM     subprogramname
---------------------------------------------------------------
OUTTABLE       tablename
---------------------------------------------------------------
       ⎧PTR                                    ⎫
       ⎪⎧MT ⎫   ⎧filenumber      ⎫             ⎪
PUT    ⎨⎨   ⎬ . ⎨                ⎬             ⎬      filename
       ⎪⎩MTC⎭   ⎩IDENT.fileident ⎭             ⎪
       ⎩MTR.filenumber                         ⎭
---------------------------------------------------------------
RESCUE     batchname
---------------------------------------------------------------
RESTABLISH    ⎧BATCH.batchname    [fieldname,newcontents]⎫
              ⎩JOB.jobname                               ⎭
---------------------------------------------------------------
                                        ⎧ALL                              ⎫
                                        ⎪JOB [.jobname]                   ⎪
                  ⎧⎧MT0⎫   ⎧OLD⎫⎫       ⎪BATCH [. batchname]              ⎪
                  ⎪⎩MT1⎭ . ⎩NEW⎭⎪       ⎪FORM [.formatname]               ⎪
SAVE   saveident  ⎨             ⎬       ⎨SUBPROGRAM [.subprogramname]     ⎬
                  ⎩PTP          ⎭       ⎪TABLE [.tablename]               ⎪
                                        ⎪DISCTABLE .[disctablename]       ⎪
                                        ⎩TRANSITEMS                       ⎭
---------------------------------------------------------------
SAVEJOB   saveident   MT0.  ⎧OLD⎫    JOB.jobname
                            ⎩NEW⎭
---------------------------------------------------------------
                               ⎧MT0⎫
SAVESURVEY    [saveident]      ⎨MT1⎬
                               ⎩PTR⎭
---------------------------------------------------------------
SHORTEN   ⎧BATCH.batchname⎫
          ⎩JOB.jobname    ⎭
```


SPOOL
STATE
STOP
START
SKIP
CLEAR
NEWDEVICE.name
STOP
SURVEY
JOB
JOB.jobname [MAXI]
BATCH.batchname
FORM
SUBPROGRAM
TABLE
DISCTABLE
SYSTEM
DISC
CAT
TRANSLATE
FORM batchname [batchname]
SUBPROGRAM
TABLE
batchname
VOLUME

APPENDIX 14

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