PRODUCT   SPECIFICATION

REV LTR	REVISION ISSUE DATE	APPROVED BY	REVISIONS
A	1/04/79		Original Issue
B	9/11/79		Major Revision - MARK 9.0 Release.
C	6/16/80		Changes for MARK 10.0 Release.

Changes for MARK 10.0 Release.

2-3	Added "*" to the heading of the DIR section.
	Updated "FN" remote command description.
	Updated "FN" diagram.
2-4	Updated "ID" remote command.
	Added "KA" section.
2-6	Updated "KP" and "KC" remote command.
2-7	Updated "OL" remote command.
2-8	Updated "PD" and "KA" remote command.
2-10	Deleted the example of File type.
	Changed "SEC" to "ST" and "SUS" to "SU".
	Updated "ST" and "SU" meaning of the "KA"
	file attribute.
2-12	Updated "QF" and "QP" remote command.
2-13	Updated "TO" description.
2-14	Updated "WS" section.
2-16	Deleted "DETach" section.
2-17	Deleted "REAdy" section.
5-2	Deleted "SWITCH 8" section.
6-1	Updated the "File # 0" sentence.

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INTRODUCTION

Remote Display (RD) is a program designed to handle some of the more common MCP operator display terminal (ODT) commands. The output from RD normally goes to a remote terminal in a data communications network, but RD can be executed in "batch" mode, with its output going to a print file. In non-batch mode, i.e., datacomm mode, "accepts" (AX's) of control input can be entered from the ODT.

In datacomm mode, RD expects input from stations in one of two modes. A station user can sign on to RD so that all input from that station normally goes to RD, or (with an MCS that recognizes Remote File Protocol of 2 to mean change message type to "61" for "PASS" input messages and add station and user information to the data, as implemented in SMCS --see SMCS documentation for more on "protocol") the user can have an MCS send a message to RD as input from the station.

Any PASS input will cause RD to apply the usercode in the message to all file names unless the asterisk ("*") convention is used to override the usercode. In some cases, this means that "*<multi-file-id>" will be required, such as when the PASSing station user is logged on to SMCS with a usercode and the file name in the PASS input is a single name (has only a multi-file-id and no file-id part). To accommodate this, RD will allow the entry of a file name with an "*" followed by a 10-character-long multi-file-id.

RD does not require the SMCS program product, but SMCS's "PASS" implementation, or one like it, is expected if input similar to "PASS" is to be used. However, any MCS can be used that only supports signing on to programs and no form of anything similar to PASS input.

PASS input has a special meaning to RD because output messages are sometimes formatted differently in their case, and in the case of the MIX command (also "JOB" command), PASS input has a slightly different meaning. If a user signs on to RD and enters MIX, RD continuously updates the terminal with the status of all jobs in the system mix. However, if a user PASSes MIX to RD, RD responds with one MIX output message only. Also for many commands, if RD did not complete the command on one output, PASS input will cause RD to generate a PASS input message to be sent back to RD to continue the command where it terminated. For signed-on users, RD keeps up with this information in internal

tables and only requires blank prompts to continue these
commands. Examples of these commands are PD, K4, BF, DF, KB, KP,
KC, WS, FN, and PQ.

DOCUMENTATION CONVENTIONS

Throughout this document, the following symbols are used in
command documentation and syntax diagrams.

    [ ]   means that the bracketed text is optional.

    < >   means that the bracketed text describes what
               is to be substituted in its place.

    #   means that a number (integer) is expected in
               this location.

    | means "or" : one of a set of choices should be
               made.

    { }   means that a choice of exactly one of the
               bracketed words must be made.

Commands have only three (3) significant characters. Thus, for
example, the "TRAnslate" command may be entered as "TRA" or
"TRANSLATE". In this document, significant letters of commands
are in upper case letters, while other letters of commands are in
lower case.

An "(*)" in a command heading in the REMOTE COMMANDS section
means that this command is valid as either PASS input or normal
signed-on input. If the "(*)" is not present, then the command
is valid only as signed-on input.

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FUNCTIONS

REMOTE COMMANDS

BF (*)

The BF command will search one disk directory family for a specific file or for all files of type print, punch, dump, or all of these. If the multi-file-id is a usercode, the default user pack will be applied if a pack-id is not specified and "*" is not the first character of the multi-file-id. The system's default PBD.DESIGNATION pack will be searched if the multi-file-id is not a usercode unless a pack-id is specified or "*" is used. Acceptable syntax, omitting pack-id's, is:

```
BF   (PRT/<spec-1>            )              [SKIP <skip-count>]
     (PRN/<spec-1>            )
     (PCH/<spec-1>            ) [LABEL[S]]          or
     (DMP/<spec-1>            )
     (<any family>/<spec-2> )              [PAGE <page-number>]
```

where <spec-1> may be "=" or a file-id, and <spec-2> may be "PRT", "PRN", "PCH", "DMP", a file-id, "=", or a <selection> (see PD and KA).

The LABEL[S] option for print and punch files causes RD to display the name of the file, the end-of-file pointer, and the MCP-generated label record in the file so that the time of creation and the creator of the file can be seen. The LABEL[S] option for dumpfiles displays the dumpfile name and the program name for which the file was created. (See PD and KA for an explanation of the SKIP and PAGE syntax).

BRK (*)

The BRK (break) command terminates a MIX, ONX, PD, BF, KA, DF, KP, KC, or KB output stream.

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BYE (*)

Sign off from RD is normally accomplished with the BYE command.
All "detaches" of stations from RD's remote file that are done by
RD have the detach-with-clear option set (except a detach caused
by entering OMX).   The SMCS command *OFF can also be used,
however.   SMCS will send an exception condition (including the
LSN) to RD when this happens.   (This facility requires the
correct SMCS/JOBS file entry--see Section 4.) BYE can also be
PASSed to terminate OMX output.

CP (*)

The CP command is used for simple computations.   All computation
is strictly left to right. Each operator must have a blank space
on each side of it.   The valid operators and their meanings are
listed below.

OPERATOR	MEANING
+	add
-	subtract
*	multiply
/	divide
M	mod
E	exponentiation
V	logical "or"
X	exclusive "or"
&	logical "and"
=	total

DF (*)

The DF command lists the creation date and time (compile date and
time for codefiles and interpreters) of files. The syntax is the
same as that for PD or KA (see below):

```
DF <file-name>
      or
   [<pack-id>/]<family>/=      [SKIP <skip-count>]
                                       or
                               [PAGE <page-number>]
```

The file-id may be in the form of a <selection> (see PD and KA).
Also see PD and KA for an explanation of the SKIP and PAGE
syntax.

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DIR (*)

The DIR command lists all families (multi-file-id's) on one disk.
Multi-file-id's which have no sub-directories (i.e., there is no
file-id for the multi-file-id) have an asterisk ("*") preceding
the family name.   For the system disk, a pack-id of DISK must be
used.   The main disk directory is in 16 disk segments, and the
DIR command allows user specification of the beginning segment
offset into the directory.   This is mainly used for continuation
purposes if all families on a disk could not be displayed on one
output screen. The syntax is:

                    DIR <pack-id> [<offset>]

EOJ (*)

The EOJ command causes normal termination of the program, but is
only accepted if (1) the input is from the only station signed
on, or (2) there are no stations signed on and the input is via
the "PASS" mechanism.

FN (*)

The FN command identifies internal file names within a codefile,
having been given as input the codefile name or job number and
external name of its declared file (optional).   For each
displayed file, the list includes file number, internal file
name, and external file name. The syntax is:

FN {<program number>} [<external file name>] [[SKIP <#>] | [PAGE <#>]]
   {< job number >}

where <external file name> can have three forms:

        (1)   <omitted>, "=/=" or "=" (for all files declared),
        (2)   "<family>/=" or "=/<file-id>", or
        (3)   "<file-name>".

The syntax "SKIP <#>" can be used with any form of the command to
have the program ignore the first <#> file declarations (FPBs).
The "PAGE <#>" syntax skips 22 files per <#>.

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FRZ (*)

The FRZ command instructs RD not to terminate after SWitch(9) minutes even if there had been no input during that period of time. It is equivalent to setting SWitch(9) to 15 (see documentation on SWitch 9). The command may be entered repetitively, which causes the boolean to be alternately set and reset.

ID (*)

The ID command identifies the program being run by name, release level, and compile date. There is a "(D)" in the display if the program is a debug version. The ID command also identifies the user terminal's LSN (NDL logical station number) unless the input is from the ODT.

JOBs (J) (*)

The JOBs command provides the user with both a WS and MIX in one command. For an on-line user, the terminal remains in continuous MIX update mode following the command.

KA (*)

See "PD and KA".

KB (*)

The KB function lists the ODT queue on the user's terminal. Parameters may be specified for paging through the ODT queue. The syntax is:

    a)   KB
    b)   KB <#>
    c)   [+ or -] <#>
    d)   KB [<#>]

Form (a) of the syntax begins listing the ODT queue, starting five (5) disk segments previous to the last entry in the ODT queue, to provide a page of the most current information.

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Form (b) begins display of the queue at its <#>-th segment. <#>
must be between 0 and 199.

Form (c) may be used following a page of output that was the
result of input of form (a) or (b), and is used for paging
forward or backward in the queue by <#> disk segments from the
last segment displayed. <#> must be between 0 and 199.

Wraparound in the ODT queue (whether occurring naturally or by
entry of "+" or "-" <#>) is legitimate and handled by RD.
Example (1): Enter "KB 193" and RD will send a page of output
containing segments 193 through 198 for example. Then transmit a
blank prompt and RD will send another page, containing segments
198 through 2. Example (2): The current segment is 175 and
"+100" or "-100" is entered; RD then begins display at segment
75.

KB may repeat one to two lines from the ODT queue on successive
screens, but a line will never be omitted. Each message
displayed contains a time stamp, "I" or "O" (input or output)
indication, message source, and text.

Each segment of the ODT queue typically has between 1 and 5
logical messages in it. Each screen of ODT queue information
that is displayed typically covers between 3 and 6 segments of
disk.

Each screen of output will include a heading, with the words,
"THIS" and "LATEST". THIS indicates the segment number of the
ODT queue where the current screen begins, and LATEST refers to
the segment which the MCP is placing new entries.

In batch mode, only syntax form (d) may be used, meaning to print
the last <#> segments of the ODT queue. If the <#> is omitted,
the entire ODT queue will be listed. <#> must be between 0 and
200.

KP and KC (*)

Syntax:

```
    (KP) {<unit mnemonic> <sector address> [<# sectors>]  }
         {a<9-digit disk address>            [<# sectors>]  }
    (KC) {<file-name> [HEADER] I [<# sectors>]              }
```

Semantics:

KP and KC display (print in batch mode) the specified disk sectors. KP displays in a hexadecimal representation, and KC displays in character format.

<unit-mnemonic> may take the form "DKx <eu-number>".

In all cases, "(SYSTEM)" is considered an illegal multi-file-id.

The maximum number for <# sectors> is 1000 in remote mode. Batch mode has no maximum. The default, if omitted, is 1.

Successive output screens will be continued automatically upon transmission of a prompt (the one that is generated by RD).

Private files may be listed only by users who are logged on or PASSing to RD with the same usercode as the multi-file-id or by privileged users.

HEADER displays the disk file header of the named file.

MIX or MX (*)

The MIX command displays on a terminal all programs that are in the mix by job number and name as well as the status of each job. To be more precise, the following information is provided for each job:

Heading	Meaning
J NR	job number
PP	processor priority
MP	memory priority
TIME	processor time
SSN	session number
V	privileged boolean
P	protected boolean
M	in-memory boolean
OVLY	overlay count (code + data)
usercode	(if present)
program name	(and object name if a compile)
BOJ time	(if there is room on the line for it)
job status	(in reverse video if waiting operator

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action and there is room on the
line for the reverse video characters)

The current wall clock time and the mix limit are also displayed.
Also, a number representing SMCP CPU time is displayed.

OL (*)

The OL command causes a display of the system configuration
and/or peripheral status. There are four (4) general areas: (1)
"OL CPU" for processor type (B1710, B1720, B1830, B1860), slave
processor port and channel, S-memory type, amount of memory,
channels deleted at Clear/Start, if any, and the system's
hostname; (2) "OL D.C" for location of data communication
controls and lines that are in use (optionally "OL MLC" or "OL
SLC" for multi-line or single-line control(s)) and the number of
stations declared in the running network controller; (3) "OL
PER" for status of peripheral units; and (4) "OL PSR" for status
of pseudo readers.

All four of these may be displayed with one input command by
entering "OL =", "OL =/=" or just "OL". A subset of the
peripheral units may be listed by entering "OL <1-to-6 character
unit-name>". For example, all disk cartridge, pack, and
head-per-track disk can be listed by entering "OL D". "OL S"
will list the ODT and sorter-reader if a control for one is
present.

              SUMMARY

                  OL CPU
                      D.C, MLC, SLC
                      PER
                      PSR
                      =, =/=, or <blank>
                      <unit-name> or part of a <unit-name>

The status of peripherals includes:

    UNIT mnemonic (e.g., "DP8"),
    TYPE of hardware (e.g., "DPC1" control),
    PCU of the device (12-bit hexadecimal port, channel, unit), and
    STATUS of the unit, including (if applicable) its label (name),
        serial number, number of users, pack-type, reel number,
        creation date, tape-type, printer translate-table-id number,
        associated job number, program name, and indication if the
        following flags are on:

            available as input   AVL-IN

available as output	AVL-OUT
saved	SVD
to be saved	TO-BE-SVD
locked	LCKD
unit is on an exchange	XCH
offline yet in use	OFFLN-IN-USE
in use as DMSII audit	DMS-AUDIT

OMX (*)

The OMX ("Offline Mix") command will cause RD to start or stop
sending Mix messages to a station that is not signed on to RD.
This will allow the mix table information to be available
continuously without being signed on to RD.

To start this function, "OMX [PAGE 2]" is entered. This input
may be PASSed or entered while signed on; the latter will cause
an automatic sign-off (detach) of the station from RD. The "PAGE
2" option causes RD to send the Mix table output to page 2 on a
TD830 terminal. It is not rejected as an error from a TD820, but
is ignored.

To stop this function, the user should PASS either BYE, BRK, OMX
BYE, or OMX BRK. Simply signing back on and/or entering "BYE" is
not sufficient; the station will remain in "OMX" mode. Signing
on and entering BRK will terminate the OMX output, however.

PD and KA (*)

RD will list the directory for a file or a family of files, or if
KA is entered and the <family> specified is "DSKAVL" and the
file-id is blank a summary of the available disk space on the
specified disk will be displayed. The DSKAVL summary has two
categories: available disk space and space that is in use
temporarily. The summary for each category includes number of
chunks, size of largest chunk, and the total space available or
in temporary use.

```
{PD} {<file-name>              }      [PAGE <page-number>]
                                              or
{KA} {[<pack-id>/]<family>/=}         [SKIP <skip-count>]
                                              or
                                      [SUM(MARY)]
```

For PD, KA, BF, and DF, the <file-id> may be in the form of what
is called a <selection>, which syntactically is a <partial
file-id> immediately followed by a question mark ("?") or a
leading question mark ("?") immediately followed by a <partial
file-id>.   The <partial file-id> may not be null.   The
<selection> syntax causes RD to list all files in the given
family whose file-id begins with <partial file-id> when the "?"
is the last character or all files in the family whose file-id
ends with <partial file-id> when the "?" is the first character.

Standard B1800/B1700 system file names are used, including
usercodes and "*".   Default pack is applied to usercode families
if a pack-id or "*" is not specified. SKIP or PAGE is legal only
for the <family>/= or <selection> forms of the command.

If KA is used, the following file attributes will also be listed:

Heading	Meaning
NAME	Only file-id is displayed if a family is being listed, except for a file-name that is a multi-file-id only, indicated with "*" before the name.
TYPE	File type
RSZ	Record size (bytes)
R.B	Records per block
B.A	Blocks per area
S.A	Segments per area
AREAS	Area count/Maximum areas
EOF	End-of-file pointer
CREATN	Creation date
UPDATE	Update date
ACCESS	Last Access date
ST	Security type (PB = public, PV = private)
SU	Security use (IO, IN, OT)
US	User count

Unlike KA, PD lists the entire file name for each file found.

The SUMMARY option may be included with KA only, and must be used with a file-name of the form "<family>/=". For the family of files, it lists the total number of files, the largest file (in disk segments), and the total and average of (a) number of disk segments in use, (b) number of records in the files, and (c) number of bytes of data in the files.

PD, KA, BF, and DF handle a maximum of 999 file-ids that are under one multi-file-id per signed on user. For a PASSing user, the limit is one output screen. PD and BF list 44 file names per screen, BF with the LABELS option lists 5, and KA and DF list 22 files per output screen. To list more than the maximum for a

particular user and station, the SKIP <skip-count> or PAGE
<page-number> syntax is used. For PASSing users, the SKIP option
is automatically added in the generated PASS input message for
transmission back to RD.

        PRT (*)

The "PRT" command will print whatever input is received along
with the command. The user may specify certain attributes of the
generated print-file. The syntax is:

   PRT [NOATP] [UNL] [REP <#>] [NAME <file-name>] [TRAN] [BLANK]
   <data>

Options:

NOATP   (No Autoprint) - Do not allow the file to be autoprinted.
         Default is autoprint.

UNL   (Unlabeled) - Create the file as unlabeled.   Default is
         labeled.

REP   <#> (Repetitions--Copies) - Set the FPB.REPETITIONS field
         to the <#> (between 1 and 63), to obtain <#> copies of
         the print-file. Default is one (1) copy.

NAME   <file-name> - Make the file a user-named backup file with
         the specified name.   The default name is "LINE",   not
         user-named backup.   The user's usercode will be applied
         if available and "*" is not used.

TRAN   - Translate the input to upper case before printing it.
         Default is no translation.

BLANK   - Blank out (fill with spaces) the input parameters
         specified with the command. Default is no blanking.

The PRT command creates a print-file in the image of a terminal
screen (80-by-24 lines) and can be useful for hard-copy history
of important information or for debugging.

        PQ (*)

Syntax:

     PQ   [SKIP] <skip #> [[INCLUDE] <include #>]]

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Semantics

The PQ command will list file names that are in the system's
AUTOPRINT queue, waiting to be printed. Also, the number of
entries in the queue will be displayed. Each entry of the queue
that is listed will have its queue element number and the file
name. Portions of the AUTOPRINT queue may be requested by using
the SKIP and INCLUDE options.

QF and QP (*)

The QF (Query File) and QP (Query Program) commands allow a user
to query the attributes of a codefile or microcode interpreter
file (QF) or a program in the mix (QP). One of three parameter
choices must follow the codefile name (for QF except for
microcode files) or the job number (for QP). They are:

1.   PAD or SPAD. Display the scratchpad.

2.   <program-attribute letter>. Display all program attributes
     that begin with <letter>.

3.   FI(LE) <internal file name> <file-attribute letter>.
     Display all file attributes that begin with <letter>.

```
     QF <program name>   ( <letter>                   }
     QP <job number>     ( [S]PAD                      }
                         ( FI[LE] <file> <letter> }
```

QF of microcode files always displays the Interpreter Parameter
Block.

In addition, when run in batch mode, the <letter> for
<program-attribute letter> or <file-attribute letter> can also be
the word "ALL", causing all program or file attributes to be
listed.

TD (*)

The TD command displays the current time and date as maintained
by the system. The day of the week and Julian date are included.

TEach or HELp [<command>] (*)

This command, without the optional parameter, will list all
commands that are valid for the source that entered the command.

If the <command> option is included, then the syntax and
semantics of that one command are displayed in a simplified form.

"TEACH SWITCHES" displays the program's current switch settings
and each switch's function.

TO (*)

The TO command will list the settings of one or all MCPII system
option(s). "TO" will list all options (except MCP internal
debugging options) and "TO <option-name>" will list that option's
setting.

TRAnslate

The TRAnslate command sets or resets the translate option each
time that it is entered. The default setting is true (on).

US <usercode>/<password>

The "US" command allows a user to log on with a valid
usercode/password so that all commands that reference file names
will have the user's usercode and default user pack applied to
the file name when appropriate. The user may also log off of RD
with "US OFF" in order to have RD not apply a usercode and
pack-id. This will not cause the user to be "signed off" of RD.

The standard MCP asterisk ("*") convention may be used to
indicate that usercode and/or default pack-id should not be
applied to file names.

When a user is logged on with a usercode, the PD, KA, DF, and BF
commands will assume a file-name parameter of <usercode>/= if the
file-name is omitted.

USE (*)

The USE command displays statistics on the number of times each
command has been used (or an attempted command was invalid).
Also, the number of users on-line (signed on or using the "OMX"
-- Offline Mix -- function) to RD is displayed, as well as the
number of seconds between each memory scan for mix table
purposes.

WAIT (*)

The WAIT command changes the length of time between each memory
scan to ## seconds.   However,   it is only valid when   there   are
fewer than two (2) users of RD (signed on or using OMX). For two
or more users,   the wait time is calculated   by   RD   as
number-of-users plus number-of-jobs-in-mix (maximum of 22 for
latter) seconds.   Wait time defaults to 10 seconds when there are
fewer than two users.   All of this can be overridden by the use
of SWitch 1 (see RD PROGRAM SWITCHES section).

WHO

The WHO command displays all parameters of a logged-on user from
the (SYSTEM)/USERCODE file except for password.

WS (*)

Syntax:
       WS   (A(CTIVE)   )   [<#>]
              (W(AITING)   )
              (<job number>   )
              (<empty> or = or =/=)

The WS command lists one or all programs in the active schedule,
the waiting schedule, or both.   The optional <#> will cause the
schedule to be listed beginning with the <#>th scheduled job.
For jobs in the waiting schedule, the event that the job is
waiting on is also listed. Output fields are:

Heading	Meaning
J NR	job number
PR	scheduled priority
SSN	session number
#KB	number of KB required to run
IN FOR	elapsed time since schedule time
usercode	(if present)
program name	(and object name if a compile)
waiting event	(if in waiting schedule, with "UC" if unconditional)

ODT COMMANDS

EOJ

An "AX" (accept) of EOJ to RD will cause it to terminate
immediately, independent of the number of users currently signed
on.

FN

Same as remote. See above.

FRZ

Same as remote. See above.

ID

Same as remote. See above.

PQ

Same as remote. See above.

PRG

The PRG ODT input command is used to query or alter the maximum
number of programs that RD can display in its mix table output.
The syntax is "PRG [<#>]". The <#> (integer) must be between 2
and 22 inclusive. The default <#> is 16. See SWitch 3 for more
information.

TEAch or HELp [command]

Same as remote. See above.

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USE

Same as remote. See above.

WHI

Same as remote. See above.

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SANTA BARBARA PLANT

COMPANY CONFIDENTIAL
B1800/B1700 REMOTE DISPLAY
P.S. 2222 2756 (C)

BATCH COMMANDS

The following commands are valid in batch mode and mean the same as they do from a data communications terminal.

BF	EOJ	KA	OL	TD	US
BYE	FN	KB	PD	TEA	USE
DF	HEL	KC	QF	TO	WHO
DIR	ID	KP	QP	TRA	

CLS

The CLS command causes RD to close its output printer file in order to make the printer or the backup file available. The printer file will be opened on the following command input.

PAGe

The PAGe command can be used in batch mode to have RD skip to a new page to print the next command's input specification and output.

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RD RESTRICTIONS

TERMINAL REQUIREMENTS

RD's output is patterned for a TD820 or TD830 terminal with a 1920-character screen (24 lines, 80 characters each). RD makes use of cursor positioning, line insert, line delete, clear-to-end-of-page, and clear-to-end-of-line capabilities of these terminals.

STATION TABLE AND PROGRAM TABLE LIMITS

RD is limited to input from a maximum of 16 stations. This can be increased by modifying file RMT's NUMBER.STATIONS attribute. This modification will allow more stations to PASS input to RD, but only 16 can sign on to RD at one time.

RD is limited to storing program information on up to 22 programs in the mix. Only 16 of these will be displayed by default, but the number displayed can be changed with the PRG ODT input command or more permanently by setting SWitch 3 to the desired value.

"SMCS/JOBS" FILE ENTRIES

FIRST CARD IMAGE

Beginning in column 1:

    $RD NO-EOF NO-SCROLL LOG-ON EXCEPT AUTO-START; EX RD;

OTHER CARD IMAGES

Other card images may be included in the SMCS/JOBS file for job
and file attribute modifications, such as priority, program
switches, and file names. There are separate sections in this
document on switches and files.

    Example: ";PR 14; SW9 10; SW7 1;"

RD PROGRAM SWITCHES

SWITCH 0

RD can be run in a "batch" mode (no datacomm) by executing it
with Switch 0 = 1 or 2. If Switch 0 = 1, RD will "accept" input
commands until "BYE" or "EOJ" is entered. If Switch 0 = 2, RD
will read a card file called "CARDS" until end-of-file or "BYE"
or "EOJ" is found, whichever comes first. The command set is
limited to those commands listed under "BATCH COMMANDS" in the
"FUNCTIONS" section. All output will be printed except for error
messages and "TEACH [command]", which will be printed and
displayed.

SWITCH 1

SWITCH 1 may be set to a non-zero value to indicate the number of
seconds RD should wait between memory scans for mix table
updating (refreshing). The value of Switch 1 is multiplied by 5
to derive the number of seconds to wait. If Switch 1 is zero,
the default wait-time explained in the "W##" command is used. If
Switch 1 is used (non-zero), the "W##" command will have no
effect; the only way to change wait-time is to change the value
of Switch 1 during the program's execution.

SWITCH 3

SWITCH 3 * 2 is used as the program-table limit (maximum number
of programs to display on the mix table output screen). This
number must be between 2 and 22. SW3 is checked only at BOJ, and
if 2 times SW3 is greater than 22, 22 will be used. If it is
zero (0), a default of 16 is used.

SWITCH 7

A non-zero value means that "TOG[1]" in the MCS-to-NDL message
header should be set to "1" instead of "0" on output messages.
This should normally only be done if the CANDE NDL request sets
are being used. This option will cause the output request sets
to disable scrolling of the output messages.

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SWITCH 9

Switch 9 is used to indicate to RD how many minutes it should wait with no input activity before terminating. If switch 9 is zero, RD will terminate whenever the last user signs off, or upon completion of a single output if the only input was a PASS input message. However, SWITCH 9 = 15 has the special meaning that RD should never go to EOJ.

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RD FILES

File # 0, RMT, external name "RMT", device = REMOTE with
         SIMPLE_HEADERS, PROTOCOL = 2.

File # 1, DSK, external name "DSK", device = DISK RANDOM, work file.

File # 2, LINE, external name "LINE", device = PRINTER,
         INVALID_CHARACTERS = 2.

File # 3, CARDS, external name "CARDS", device = CARD.READER,
         USE_INPUT_BLOCKING.

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APPENDIX A : CAPABILITIES AND REQUIREMENTS

CAPABILITIES SUMMARY

RD is designed to handle MCP inquiry-type commands in a normal-state (user) program, in order to relieve the MCP of performing these time-consuming functions, so that multiprogramming can be accomplished more smoothly. RD's responses normally are to a data communications terminal, but it can be directed to run in a batch mode, creating printer output. Some of the more common functions of RD are to display the system mix, list file names in a family, list the ODT queue, and display the system configuration.

HARDWARE/SOFTWARE REQUIREMENTS

In datacomm mode, RD runs on a B1800/B1700 system (with an appropriate datacomm control and adapter) under MCPII and an NDL-generated network controller. RD's memory requirements, aside from MCPII and the network controller, are (a) 7 KB for static data space and (b) between 5 KB and 8 KB for code space, depending upon what functions (commands) are being performed. RD's output is especially designed for TD820 or TD830 terminals with 1920-character screens. In batch mode, the network controller, its memory and hardware requirements, and the terminal requirements disappear, while a printer becomes required for output.

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