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P.S. 2212 5231

B1700/B1800 RJE/TERMINAL (SDL)

COMPUTER SYSTEMS GROUP SANTA BARBARA PLANT

PRODUCT SPECIFICATION

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REV LTR	REVISION ISSUE DATE	APPROVED BY	REVISIONS
D E	9/1 0/ 76 2/15/78	Hole	Changes to Rev. D (Mark Vi.0 Release) 1-1 "V.1" changed to "VI.0" 4-5 USERCODE = XXX and PASSWORD = XXX added to RUN-TIME PARAMETER DEFAULTS MARK 7.0 LEVEL RELEASE
		U	References to MCS changed to SMCS. References to B1700 changed to B1800/B1700 References to mix-index changed to job-number.
			1-9 Added IDLE.ON.LOG.OFF to default parameters 1-10 NO.REMOTE added to default parameters 2-5 RJE message for ".READ" while program already has an input file open changed. "REQUEST IGNORED: FILE <filename? "<filename?"="" "?"="" "begin="" "end="" 2-11="" 3-2="" 3-3="" <device?="" <file="" <filename?="" <filename?"="" aborted="" active="" added="" added.="" added;="" and="" available="" becomes="" begin="" card="" closed="" console="" control="" deleted;="" device?="" discussion="" file="" full="" halted="" host="" ignored:="" input="" message="" messages="" not="" override="" present",="" printer="" queue="" reader="" ready="" request="" rje="" still:open<="" system="" td="" terminating="" to="" transmission="" transmit="" when="" will=""></filename?>
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GENERAL MANAGER SANTA BARBARA PLANT

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RJE FILES

COMPANY CONFIDENTIAL RJE/TERMINAL (SDL) P.S. 2212 5231 (E)

GENERAL

The purpose of this document is to provide a functional description of the B1800/B1700 REMOTE JOB ENTRY program, (SDL version) as it exists at the Mark VI.O (or later) level of released software.

The B1800/B1700 REMOTE JOB ENTRY program uses data communication techniques that allow the operator to enter, through the B1800/B1700 computer, a job or program to be executed on a central computer. Both the B1710 and the B1720 series of computer may be used as a remote terminal. The central computer system may be any B6700/7700 or B2700/3700/4700 Burroughs computer.

The remote job entry program consists of a single program named RJE that is written in the Software Development Language (SDL). The RJE program is a datacomm handler that performs all transmitting and receiving of data to and from the central computer, and sends all messages received from the central computer system to the appropriate output device.

It is assumed that the reader has a working knowledge of the basic hardware and software function of the 81800/81700 data processing system and the appropriate central computer system.

RELATED DOCUMENTATION

NAME	NUMBER
B6700 Remote Job Entry Information Manual B2700/3700/4700 Remote Job Entry Information Manual	5000300
B1800/B1700 Software Operation Guide B1800/B1700 Data Communications Information Manual	1068731 1089992

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BURROUGHS REMOTE JOB ENTRY SYSTEM ELOW

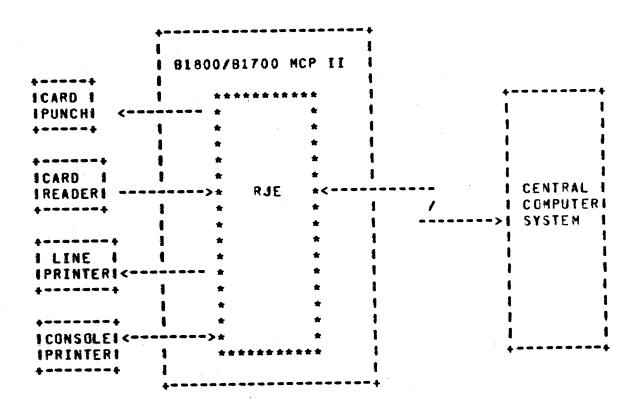


Figure 2-1. 81800/81700 RJE SDL Interface

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RJE EUNCIIONAL DESCRIPTION

The program RJE controls the 81800/B1700 peripherals. It reads cards, accepts messages from the console printer, displays messages on the console printer, prints output and punches cards. It is also responsible for data communication with the central computer system. The transfer of data from the remote to the central computer and back occurs as follows:

The remote user prepares a card deck for transmission to the central computer system. The card deck is read, compressed and packed by the 81800/81700 RJE program and transmitted to the central computer system. The central computer system will create a pseudo reader file for each job in the card deck being transmitted. Execution of each job will occur when all the data for that job has been received by the central computer system and the pseudo file built. All output from these jobs will create a printer or punch backup file at the central computer site.

When the job is completed, all associated printer and punch output created at the central computer system is transmitted to the B1800/B1700. The B1800/B1700 RJE program accepts this output and prints and punches it on the local printer or punch. All console printer messages displayed by the executing program at the central computer system are transmitted directly back to the B1800/B1700 system when they are displayed.

The above cycle describes the flow of data between the B1800/B1700 system and the central computer system and is referred to as a job stream. Any number of job streams may be initiated at the same time from the B1800/B1700 computer. The number of jobs being executed at one time is limited only by the central computer systems restrictions.

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SYSIEM REQUIREMENTS

Following are the hardware requirements:

48K Nemory - (This memory includes MCPII and RJE)

80 or 96 column card reader 80 or 96 column card punch (optional)

120 or 132 print position printer

Console printer

Disk (cartridge, pack or head-per-track)

B1800/B1700 single line control or multi line control

B1800/B1700 standard synchronous, asynchronous or two wire direct connect adapter

Leased, switched or direct connection with appropriate data sets and cables

When using 96 column equipment only columns 1 thru 80 are used.

It is imperative that the timeout period be set to 2.5 seconds at the B1800/B1700 and 3 seconds at the central computer system.

The B1800/B1700 RJE package requires Mark V.I level MCPII (or higher). It requires the following level of central computer system software:

B2700/3700/4700 MCP V ASR 5-3 or higher B6700 MCP Mark II-5 or higher

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RUN IIME PARAMETERS

Upon execution of RJE, RJE will look for a disk file labeled "RJE/PARAMETERS" which may contain the run time parameters. RJE will read this file and process the parameters. If an error is found in the file the message:

PARAMETERS FILE ON DISK NOT VALID-<last portion of file scanned>

will be displayed and the file ignored, requiring manual entry of the run time parameters. If an exception condition was realized when trying to read the file the message:

"PARITY ERROR ON DISK FILE "RJE/PARAMETERS" - FILE NOT USED"

will be displayed and the file ignored, requiring manual entry of the run time parameters.

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

EXAMPLE: EX RJE SW 0 = 1;

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

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

"DEFAULT PARAMETERS?"

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

The following are acceptable responses to the "DEFAULT PARAMETERS?" message:

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

<job-number>AXEND

= All run time parameter entries from the console printer are complete. This message is only valid after the console message: "ENTER FURTHER PARAMETERS OR END."

<iob=number>AXR

= Read the run time parameters from a card file "CARDS" labeled "RJE/ PARAMETERS".

<iob-number>AXYES

= Use default parameters.

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The error message:

"INVALID PARAMETER DETECTED"

will be displayed if either of the following occurs:

- 1. Parameter list from console printer or card reacer contained an invalid parameter.
- 2. Neither "R", "YES", "END" nor <PARAMETER LIST> was entered.

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

If the run time parameter entry is from the console printer. RJE will display the following message after validating the previous entries:

"ENTER FURTHER PARAMETERS OR "END""

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

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

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PARAMETERS DEFAULTS AND EQRMATS

The following is a list of all default parameters; specific runtime parameters defaults are overridden by entry of that parameter in the card file "RJE/PARAMETERS" or by entry of that parameter in the parameter list entered on the console printer.

RUN TIME PARAMETEP DEFAULTS

PARAMETER

MEANING

ADDRESS=PP:CC:AA

This parameter describes the address of the specific data comm line on which RJE is to run. PP:CC:AA are the port, channel and adapter address of the line (PP, CC and AA must be two decimal digits in length and colons are required).

Example: = ADDRESS=07:13:00

Default: = ADDRESS=07:14:00

AUDIT

This parameter instructs the program to open and begin writing to the "DC/AUDIT-FILE", so that all communication between RJE and the central computer system may be monitored through the use of the utility program DC/AUDIT. It is also possible to start and stop auditing while running. If this parameter is entered, the message:

"AUDIT FILE OPENED AT <time> ON <date>"

will be displayed when the file is opened.

Default: No auditing

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BUFFER.SIZE=NNNN

This parameter sets the maximum buffer size being transmitted or received. "NNNN" must be from 2 to 4 decimal digits in length and its value must be from 80 to 402 inclusive. It is possible to change this value while running by using the ".SIZE=NNNN" control message.

Default: BUFFER.SIZE=402

IDLE-ON-LOG-OFF

When running on leased lines and the host terminates the session. RJE will attempt to re-establish the link. If this feature is not desired, this parameter will cause RJE to place itself in an idle state whenever RJE logs off the host or whenever RJE on the host system terminates the link. RJE will then resume normal operation whenever it receives a message from the host system or a message for transmission is entered to RJE.

Default: RJE will re-establish a link whenever one is broken if a leased-line is used.

LEASED

This instructs RJE that the line over which it will be running is a leased line. Should this parameter be entered when RJE is not running on a leased line, the message:

"ERROR: INVALID ADAPTER TYPE"

will be displayed and RJE will terminate.

Default: Switched

NO.PRINTER

If no printer is present at the remote site or no printer output is desired, this parameter should be entered. Following establishment, a message will be sent to the central computer system informing it that no printer is present at the remote system. This parameter may be overridden while running via the ".RY LP" control message.

Default: A printer is assumed to be present

NO.PUNCH

If no punch is present at the remote system or

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no punch output is desired then this parameter should be entered. Following the establishment, a message will be sent to the central computer system informing it that no punch is present at the remote system. This parameter may be overridden while running via the "-RY CP" control message.

Default: A punch is assumed to be present.

NO-REMOTE

The use of this parameter prohibits RJE from opening its remote file for SMCS communication regardless of the setting of SW9, or how the program was executed.

Default: The remote file will only be opened if RJE is requested.

REMOTE

With the use of this parameter, RJE will attempt to open its remote file for communication with SNCS.

Default: The remote file will only be opened if RJE is requested.

SWITCHED

This instructs RJE that the line over which it will be running is a switched line. Should this parameter be entered when RJE is not running on a switched line, the message

"ERROR: INVALID ADAPTER TYPE"

will be displayed and RJE will terminate.

Default: Switched

ID=XXXX.....

At the central computer, it may be necessary to identify the remote computer by sending a unique ID message identifying the remote computer. This ID field may be entered with this parameter. If no ID parameter is entered none will be sent. The ID message, if any, will be sent to the central computer following establishment. The ID field must be from 1 to 17 characters in length with no embedded

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blanks.

Default: No ID message sent.

USERCODE=XXX....
or
USER=XXX....

A remote user may enter his usercode with this this parameter. The length of the usercode may not exceed 10 characters or it will be truncated. It may have no imbedded blanks. The usercode, if it is entered, will be sent to the host automatically following establishment.

Default: No usercode is sent.

PASSHORD=XXX...
OF
PASS=XXX...

A user's password may be entered with this parameter. If it is entered it will automatically be sent to the host following establishment and transmission of the user's usercode to the host. The password entered may have no imbedded blanks and may not exceed 10 characters or truncation will occur. If a password is entered without entering a usercode, RJE will display the message:

"USERCODE PARAMETER NOT ENTERED"

RJE will then ask that the parameters be entered again.

Default: No password is sent.

END

The entry of parameters may be terminated by this parameter. If found in a parameter list, all scanning of parameters will cease. Any parameters entered following END will be ignored. Through this parameter the necessity of entering an additional SPO message to terminate parameter entry is avoided.

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PARAMETER LIST ENTRY

If the operator desires to override one or more of the default run time parameters, enter "R" or <PARAMETER LIST> in response to "DEFAULT PARAMETERS?".

If the entry is through a <PARAMETER LIST> or the console printer, the operator can enter up to 72 characters containing one or more parameters to override the default parameters. A parameter entry must be contained wholly in the console printer response.

Additional entries can be entered after RJE displays:

"ENTER FURTHER PARAMETERS OF "END""

If the run time parameters are entered through the card reader or a disk file, each card or disk record can contain one or more parameters. Each parameter entry must be contained wholly in one card or disk record.

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

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

"INVALID PARAMETER DETECTED"

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

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RJE-SMCS REMOTE FILE INTERFACE

It is possible to run RJE under the control of SMC3. In this mode, all output SPO messages received from the central computer and all relevant output messages generated by RJE will be sent to SMCS, and will be displayed on the local SPO. Any control command received by RJE through its remote file will route its reply messages via SMCS to the user initiating the command.

All input messages received by RJE through its remote file will be treated as if entered from the local SPC. Note that all reply messages will be returned through the remote file and will not be displayed.

RJE must be instructed to open its remote file in order to run under the control of SMCS. This may be accomplished by using the "RENGTE" operating parameter or by executing RJE with the value for switch 9 other than 0.

EX RJE SW 9 = 1

Note that the use of the "NO-REMOTE" input parameter will prohibit the opening of the remote file regardless of the setting of switch 9.

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OPERATING PROCEDURES

Upon executing RJE, the following message will be displayed after the regular system messages if parameter entry is to be done from either card reader or the console printer:

"DEFAULT PARAMETERS?"

Run time parameters are entered at this time. After verifying the parameters, RJE will test the data comm line and if it corresponds to the type expected, it will then display the message:

**** B1800/B1700 RJE <time> <date> ****

RJE will then attempt to establish communications with the central computer system. For switched lines, it will be necessary to manually dial the central computer system at this time. A message is displayed to indicate that the central computer has made a connection, either:

"ONLINE" or "HOST ESTABLISHING"

depending upon which system sees the other's establishment first.

Immediately after the run time parameters have been entered. RJE will queue a number of control messages for transmission to the central computer system as soon as RJE becomes logged on at the central computer. These messages include the current operating buffer size of RJE, the status of the B1800/B1700's printer and punch and user's ID field, if one was entered (See RUN TIME PARAMETERS above). If it is desired to not have these messages sent then RJE should be executed as follows:

EX RJE SW 1 = 1

It would be necessary to do this if the level of RJE at the central computer system is not high enough to support the reception of these messages. If this is the case then the RJE user should hesitate to use the control messages: ".RY CP", ".RY LP", ".SY CP", ".SY LP", ".CP NR", ".LP NR" (See SYSTEM CONTROL MESSAGES).

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LOG ON

The first function of an RJE session after a valid link has been established is the successful completion of a security test. The user must enter a "USERCODE" and "PASSWORD" that the central computer system recognizes. Until such time as this is accomplished and a "LOGGED ON" control message sent to the remote site, an additional darkened field is printed following every console printer message displayed. This field is used for entering one's "USERCODE" and "PASSWORD" thereby providing remote system security. An example of the log-on procedure is:

The darkened (33333) fields are used for entering one's "USERCODE" and "PASSWORD". Refer to the central computer's RJE manuals for each system's unique log on requirement.

Until such time that a "LOGGED ON" control message is received by RJE it will not be possible to transmit any card decks to the central computer. If this is attempted, following the entry of the ".READ" or ".RE" control message to command RJE to process a card file (See LOCAL SYSTEM CONTROL MESSAGES), the message:

REQUEST IGNORED: NOT LOGGED ON

will be displayed. Also, until RJE is logged on, any print or punch buffers received by RJE will not be processed but will instead be discarded.

If it is desired to send card buffers to the central computer system when RJE is not logged on, the local system control message ".RYCR" will permit this (See LOCAL SYSTEM CONTROL

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MESSAGES below). Following the entry of the ".RYCR" control message it will be possible to enter card decks through the ".READ" or ".RE" control message. RJE will also then process any print or punch buffers received, if possible. Buffers will no longer be discarded when received. Lastly, following entry of the ".RYCR" control message the darkened field shown above will no longer be displayed following every console printer message received.

REMOTE DECKS

All cards with invalid characters in the first column are considered to be control cards for the B1800/B1700 MCP. Since decks to be sent to the central computer system also have invalid characters in the first column of control cards (See B6700/7700 or B2700/3700/4700 systems information manual for exact deck format), a special feature has been implemented in the B1800/B1700 MCPII permitting programs to read control cards, namely the STREAM and TERMINATE super delimiters. All remote decks must have the following format:

?STREAM RJE/CARDS REMOTE DECK (S) ?TERMINATE RJE/CARDS

If there are no parameters entered via the ".RE" or ".READ" command, the program will default to a card file with the file name "RJE/CARDS".

All card images in the remote deck(s) with invalid characters in column one will be passed to the central computer after RJE has converted the invalid character to a null (2002) character. MCPII rejects cards with invalid characters in any column other than one.

All decks, regardless of size, must have the delimiters around them. If the last card is not a TERMINATE card, RJE will suspend transmission of any cards buffers until either additional cards are placed in the card reader or until a "TERMINATE RJE/CARDS" record is read whereupon the last buffer is transmitted and the file closed. STREAM and TERMINATE super delimiters may also be used with pseudo readers; there is no difference in the format of the remote deck(s). The B1800/B1700 is capable of reading only EBCDIC card decks.

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If the RJE user desires to equate the card file to tape or disk, central computer control cards must be created on tape or disk file that will later be file equated. It is an RJE requirement that all data cards and control cards for a particular job be contiguous. Therefore, it is necessary for the RJE user, when creating disk or tape files for transmission by RJE to make sure that column one on all central computer control cards contains a null code (2002).

The RJE user can create tape or disk files for RJE transmission by using the STREAM and TERMINATE super delimiters. If a card file is delimited by STREAM and TERMINATE, the MCP will replace the first character of all control cards with a null code (2002). The RJE user must avoid having data cards with invalid characters and question marks (?) in the first column.

with the 7.0 and later releases of RJE the need for the STREAM and TERMINATE super delimiters can be bypassed. If the "?" parameter was supplied in the expanded ".READ" command and instructed RJE to open and begin transmission of a file to the central computer. RJE will examine each record of the file for the existence of a "?" in the first position of the record. If present it will be treated as a control card and the question mark converted to a null character before transmission.

Since many keyboard devices will not permit the entry of a null character, this facility is primarily for the user communicating to RJE via the SMCS remote file, and will permit source files created with CANDE, for example, to be transmitted to the central computer. All transmission between RJE and the central computer is done in the ASCII character format and therefore all card characters read by RJE must be such that they will translate into a valid ASCII character. If this is not the case or if a character is a special data comm control character, then RJE will translate any such characters into a question mark before transmission. The actual conversion of the EBCDIC characters is accomplished by the B1800/B1700 datacomm hardware.

In order to have a deck read and transmitted to the central computer RJE must be expressly commanded to transmit the deck or file by using the ".RE" or ".READ" local RJE system control message. If RJE is not logged on at the central computer system then after the ".READ" or ".RE" is entered, RJE will display:

"REQUEST IGNORED: NOT LOGGED ON"

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If RJE has received a message from the central computer aborting its card reader, then after the ".READ" or ".RE" has been entered, RJE will display:

REQUEST IGNORED: CARD READER ABORTED

If a ".READ" or ".RE" is entered while the RJE program already has an input file open, RJE will display the message:

"CARD READER ACTIVE WILL TRANSMIT FILE "<FILENAME>" WHEN READER BECOMES AVAILABLE"

In the case of the first two conditions, it is possible to override these states. If the ".RYCR" (ready card reader) local RJE system control command is entered the RJE program will accept either ".RE" or ".READ".

In the case of the third condition RJE is already transmitting a file to the HOST. RJE will queue the read request and transmit the file when the reader becomes available. If the queue is full (request limit = 100) RJE will display:

REQUEST IGNORED: REQUEST QUEUE FULL

and will ignore the ".RE" or ".READ" command.

Finally, if an attempt is made to open a file which does not yet exist, RJE will display the message:

"REQUEST IGNORED: FILE "<filename>" NOT PRESENT

This problem can be avoided by making sure the file exists in the system before entering the ".RE" or ".READ" command.

When an input file has been successfully opened and transmission begins, RJE will display:

"BEGIN TRANSMISSION <device> FILE <filename>"

Upon successful transmission of the file to the central computer RJE will display:

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"END TRANSMISSION <filename>"

The file will then be saved and not purged from the system.

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CENTRAL COMPUTER SYSTEM CONTROL MESSAGE

Normal console printer input message for transmission to the central computer uses the following form (up to 72 characters).

<job = number > AX < nessage >

where <job-number> refers to the job-number of the RJE program.

The content and format of these console printer messages is dependent on the central computer system. In general, these messages include all central computer input messages which allow the remote user to check the status of, and exert control over, all programs and data files entered via the remote terminal.

B1800/B1700 RJE LOCAL CONTROL COMMANDS

If a console printer message is entered with a "." (period) as its first character, it is considered to be a local control command intended for the B1800/B1700 RJE program. All valid B1800/B1700 RJE local control commands are explained in alphabetical order in the following list.

-AUDII

The audit, .AUDIT, command initiates or terminates the writing of data comm I/O activity to a disk file. The first entry of .AUDIT initiates the audit function and the next entry of .AUDIT terminates the audit function. There is no limit to the number of times the audit function can be initiated or terminated. A utility program named DC/AUDIT is provided to interpret the disk file and produce an audit report.

Example: <job-number AX-AUDIT

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-CLCP

The close card punch, .CLCP, command will close the card punch file.

Example: <job-number>AX.CLCP

.CLLP

The close line printer, .CLLP, command will close the printer file.

Example: <job-number>AX-CLLP

-CP NR

The card punch not ready. .CP NR, command informs the 81800/81700 RJE program and the central computer system that the card punch has become not ready. The central computer system will temporarily suspend transmitting buffers for the punch device.

It is the responsibility of the B1800/B1700 RJE operator to inform the B1800/B1700 RJE program and the central computer, that the card punch is ready to receive data. The local control command ready card punch. RY CP, has been provided for this purpose. If the card punch device has become inoperative then the local control command save card punch. SV CP, has been provided.

Example: <iob-number>AX.CP NR

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.EST

The establishment, .EST, command causes the B1800/B1700 program to attempt to re-establish the line connection with the central computer system. The message "ONLINE" is displayed when the line connection is re-established.

The "EST command may be used in conjunction with the retry function. The error message "RETRIES-UP" is displayed when the current buffer being sent to the central computer system is not being received. By entering the .EST command the buffer being will be discarded and an attempt will be made to re-establish the line connection.

Example: <job-number>AX.EST

-LO

The log off, .LO, command will allow the operator to enter the local control commands .STOP and .WAIT while still logged on to the central computer. The .LO command is a protection feature against entering .STOP or .WAIT while still logged on, which could result in loss of buffers being received.

Example:

<iob-number>AX.LO

.LOG

The log, -LOG, command outputs, on the console printer, a summary of line exceptions that have occurred during transmission. analyzing the <NUMBER> displayed, the operator can obtain indication of the quality of the data comm line connection and the rate of error activity on the data comm line. Each .LOG command entered resets the counters to zero after they are displayed. The formats of the summary messages are listed below.

<NUMBER> NAKs sent because of parity errors.

<NUMBER> implied NAKs sent because no buffers.

<NUNBER> timeouts in read operation.

<NUMBER> other exceptions in read operation.

<NUMBER> exceptions in write operation.

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Example: <job-number>AX.LOG

-LP NR

The line printer not ready, .LP NR, command informs the 81800/81700 RJE program and the central computer system that the line printer has become not ready. The central computer system will temporarily suspend transmitting buffers for the printer.

It is the responsibility of the B180C/B1700 RJE operator to inform the B1800/B1700 RJE program, and the central computer, that the line printer is ready to receive data. The local control command ready line printer, .RY LP, has been provided for this purpose. If the line printer has become inoperative then the local control command save line printer, .SV LP, has been provided.

Example:

<iob-number>AX.LP NR

-READ OR -RE

The read, .READ or .RE, command causes the 81800/81700 RJE program to open a card file labelled "RJE/CARDS" and begin transmitting the data to the central computer system. When the end of file condition has been detected the card file will be The .READ or .RE command is required to read each card file. A card file is any group of cards whose first card is a STREAM card and whose last card is a TERMINATE card.

The .READ or .RE command is only valid if the 81800/81700 RJE program has been properly logged on with the central computer. It is possible to override this feature by entering the local cossand .RY CR.

Example: <iob-number>AX.READ or <iob-number>AX.RE

Parameters can be entered with the ".READ" or ".RE" control command. All of the following parameters are optional and may be entered in any order, preceded by the ".READ" or ".RE" command without imbedded blanks.

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?(CONTROL CARD OVERRIDE)

The "READ" or "RE" command followed by a question mark instructs RJE that the file to be opened has control cards with question marks as the first record. With the use of this parameter, each record in the file which has a question mark as its first character will have the question mark changed to a NULL code before transmission. The central system will then recognize the record as a control card.

TAPE

(Input Device Type)

CARD

If one of the above is entered, RJE will expect the input file to reside on the device specified. If more than one input device type is specified, the last will be used.

The default input device type is "CARD".

"<file-name>" (Input File-Name)

This parameter specifies the name of the input file. The file-name must be surrounded by quotes (") with no imbedded blanks. A file name of up to 32 characters may be specified, with the pack-id, multifile-id and file-id separated by slashes ("/"). If more than one file-name is entered, the last will be used.

The default file-name is "RJE/CARDS".

Example: ".READ DISK "USERPACK/SOURCE/FILE" ?

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RY CR

The ready card reader. .RY CR, command will enable the B1800/B1700 RJE program to read cards again, if the central computer has instructed the B1800/B1700 RJE program to halt temporarily or abort its card reader The .READ or .RE local command is still required before the B1800/B1700 RJE program can start reading cards.

If the 81800/81700 RJE program has not been properly logged on with the central computer the .RY CR command will allow the 81800/81700 RJE program to read cards and transmit the data file. In addition the darkened field that is displayed after every console printer message sent from the central computer will be ignored.

Example: <job-number>AX.RY CR

RY CP

The ready card punch, .RY CP, command informs the 81800/81700 FJE program and the central computer system that the card punch device is now ready to receive data. Any data stream that was temporarily suspended by using the .CP NR local control command will continue without loss of data. If the local control command .SV CP was entered, the data file will be transmitted beginning from the first record of that file.

The .RY CP command is only valid if the .CP NR or .SV CP was issued previously.

The .RY CP command will override the run time parameter NO.PUNCH.

Example: <iob-number>AX.RY CP

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RY LP

The ready line printer, .RY LP, command informs the B1800/B1700 RJE program and the central computer system that the line printer is now ready to receive data. Any data stream that was temporarily suspended by using the .LP NR local control command will continue without loss of data. If the local control command .SV LP was entered, the data file will be transmitted beginning from the first record of that file.

The .RY LP command is only valid if the .LP NR or .SV LP was issued previously.

The .RY LP command will override the run time parameter NO.PRINTER.

Example: <job-number>AX.RY LP

.SIZE=NNN

The size. .SIZE=NNN. command allows the B1800/B1700 operator to set the maximum buffer size being transmitted to. and received from the central computer. Where "NNN" is a three position decimal number from 080 to 402. The .SIZE command will override the run time parameter BUFFER.SIZE whose default value is set at 402.

Example: <job-number>AX.SIZE=NNN

.SIOP OR .SI

The stop, .STOP or .ST, command notifies the central computer system that the 81800/81700 system is terminating the RJE session. The 81800/81700 RJE program breaks the data comm line connection and terminates the 81800/81700 RJE program. The .STOP or .ST command is only valid when the 81800/81700 RJE program is in the logged off mode, either, by receiving the logged off control message from the central computer or by entering the local command .LO.

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Example:

<iob-number>AX.STOP or <iob-number>AX.ST

SY CP

The save card punch, .SV CP, command informs the central computer that the entire card punch data stream being transmitted is to be saved at the central computer site. The .SV CP command will permanently inhibit any further punch streams from being transmitted from the central computer. To re-establish the punch stream enter the local control command .RY CR. This will inform the central computer to start sending any punch streams that are available for transmission. All punch streams will start from the beginning of the file.

Example:

<job-number>AX.SV CP

SY LP

The save line printer, .SV LP, command informs the central computer that the entire print stream being transmitted is to be saved at the central computer site. The .SV CL command will permanently inhibit any further print streams from being transmitted from the central computer. To re-establish the print stream enter the local control command .RY LP. This will inform the central computer to start sending any print streams that are available for transmission. All print streams will start from the beginning of the file.

Example:

<job-number>AX-SV LP

.WAII OR .WI

The wait. .WAIT or .WT. command will inform the central computer that the B1800/B1700 RJE program is going to break the data comm line connection and the B1800/B1700 RJE program is waiting for a call from the central computer system. The B1800/B1700 RJE program will issue a test-op for data-set-ready. When data-set-ready comes true the B1800/B1700 RJE program will re-establish communication with the central computer.

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The .WAIT or .WT command is only valid when the B1800/B1700 RJE program is in the logged off mode, either, by receiving the logged off control message from the central computer or by entering the local control command .LO.

The .WII or .WI can only be used when the data comm line connection between the central computer and the B1800/B1700 system is switched.

Example: <job-number>AX.WAIT or <job-number>AX.WT

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RJE CONSOLE PRINTER MESSAGES

RJE may display a number of console messages either in response to a local control message, in response to a message from the central computer or when the RJE program senses a condition which the operator should be notified. The messages and their explanations are listed below.

AUDII EILE CLOSED AI <time> ON <date>

This is a notification that the RJE program has closed its audit file and stopped auditing, either in response to an ".AUDIT" local control command or because the 81800/81700 RJE program is going to end of job.

Response: = None

AUDIT FILE OPENED AT <time> ON <date>

This is a notification that the RJE program has opened its audit file and has commenced auditing either in response to an ".AUDIT" local control command or due to the "AUDIT" run-time parameter.

Response: None.

BEGIN IRANSMISSION <file device> FILE "<file-name>"

This is displayed whenever RJE begins transmitting a file to the central computer. The <file device> will be either "CARD", "DISK", or "TAPE" (default is "CARD") and <file-name> will be the label of the file (default is "RJE/CARDS").

Response: None.

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CARD PUNCH EXCEPTION

This is displayed when the RJE program has detected an exception condition on the card punch device. The RJE program marks the device not ready and sends a control message to the central computer informing it about this situation. Any further transmission to the device is stopped.

Response: Enter one of the following local control commands: "-RY CP" or "-SV CP".

CARD READER ACTIVE WILL IRANSMIT FILE STILE-name > WHEN READER BECOMES AVAILABLE

This is displayed in response to a ".RE" or ".READ" input message. If a file was currently being transmitted to the central computer when the ".RE" or ".READ" was entered. RJE will save the request in the REQUEST QUEUE and transmit the file when the reader becomes available.

Response: None

CONTROL MESSAGE INVALID

This occurs when an invalid local control message is entered.

Response: Enter the correct local control command.

DEFAULT PARAMETERS?

Enter the run time parameters.

Response: See RUN TIME PARAMETERS.

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END IRANSMISSION <file-name>

This indicates that the RJE program has detected end-of-file on the input file and it has been closed. A special end of control message will be sent to the central computer at this time.

Response: None

ENIER EURIHER PARAMETERS OR END

Enter additional run time parameters.

Response: See RUN TIME PARAMETERS.

ERROR: CONTROL NOT PRESENT

The B1800/B1700 RJE programs first function when running is to test the presence of the data comm line. If the test does not complete after two seconds the RJE program will go to end of job.

Response: Check control and re-execute. Make sure the address for the line to be used is correct.

ERROR: INVALID ADAPTER TYPE

This implies that a sync, async or direct connect adapter was not found at the given address. If the correct adapter was found but the RJE program calls for a switched adapter and the adapter is strapped leased or if a leased adapter is called for but the adapter is strapped switched. In any of the three cases the RJE program will go to end of job.

Response: Check control and re-execute the RJE program. Make sure the adapter strapping matches the run time parameters.

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ESTABLISHMENI REIRIES UP

This message is displayed after 25 transmissions of an ENO when trying to establish a connection with the central computer. If switched lines are being used, the RJE program will disconnect the data comm line. If leased lines are being used, the RJE program will attempt to re-establish the data comm line.

Response: If running on switched lines, re-dial the central computer.

FILE "DC/AUDIT-FILE" LOCKED

While opening the audit file, the RJE program found the file to be locked and therefore unavailable. The file is not opened, auditing is not done.

Response: Rementer ".AUDIT" when the status of the file will permit auditing.

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HOSI ESTABLISHING

The receipt of an ENQ from the central computer will cause this message to be displayed. It is an indication that the central computer is re-establishing the connection with the B1800/B1700 computer. The RJE program acknowledges the message and continues.

Response: None

HOST IERMINATING

Indicates that the central computer system is terminating the RJE session. The RJE program will disconnect the datacomm line if using a switched line or will attempt to re-establish the datacomm line if running on leased lines.

Response: Re-dial the central computer if running on a switched line.

INVALID PARAMETER DETECTED

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

Response: Correct and rementer parameters.

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LINE PRINTER EXCEPTION

This indicates that the RJE program has detected an exception condition on the line printer. The RJE program marks the device not ready and sends a message to the central computer informing it about this condition. Any further transmissions to the device are stopped.

Response: Enter the local control command ".RY LP" or ".SV LP".

LOSS OF CLEAR IO SEND

This indicates that during the last attempt to transmit by the RJE program a data set problem occurred.

Response: Check data set.

LOSS OF DATA SET READY

This indicates that during the last data comm I/O sequence the data set went down. It switched lines are being used, the RJE program will disconnect the line (if a connection had been established).

Response: If switched lines are being used, redial the central computer system.

MEMORY PARITY ERROR

When attempting to transmit a message to the central computer system, a parity error occurred while transmitting. This is an irrecoverable error.

Response: None.

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ONLINE

When attempting to establish communication with the central computer, either at the start of an RJE session or after the local command ".EST" was entered, this message will be displayed when a valid acknowledgement to the establishment request is received by the RJE program.

Response: None.

PARAMETER FILE ON DISK NOT VALID

The disk file RJE/PARAMETERS was in error. Run time parameters must be entered from cards or console printer. The additional characters printed following this message are the last characters scanned by RJE before the error was encountered.

Response: Enter correct parameters from cards or console printer, or correct disk file and re-execute RJE.

PARILY ERROR ON CARD PLEASE READ LAST CARD AGAIN

A parity error occurred while processing an input file.

Response: Re-submit the last card read.

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PARILY ERROR ON DISK FILE "RJE/PARAMETERS"-FILE NOT USED

The RJE program detected an error while reading the disk file containing the run time parameters. The run time parameters will have to be entered from cards or the console printer.

Response: Enter the correct parameters from cards or console printer, or correct the disk file and re-execute the RJE program.

LINK ESTABLISHED

When a ".WI" or ".WAIT" control message has been entered, and switched lines are being used, the RJE program will wait to answer a phone call from the central computer.

Response: None.

PRINTER "EOF"

An entire print file has been transmitted to the 81800/81700 RJE program from the central computer.

Response: None.

PUNCH "EOF"

An entire punch file has been transmitted to the B1800/B1700 RJE program from the central computer.

Response: None.

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REIRIES UP

This indicates that the current buffer being sent to the central computer is not being acknowledged, either due to the central computer NAKing the message or because of line problems which cause exceptions whenever the message is transmitted. The retry limit is 25.

Response: None or enter ".EST" to discard the buffer.

REQUEST IGNORED: CARD READER ABORTED

A "-READ" or "-RE" control command was entered to the RJE program while the card reader was aborted (the message "HOST SYSTEM CARD READER ABORTED" having been displayed). It will not be possible to enter cards until the card reader becomes ready.

Response: Wait or enter "-RY CR".

REQUEST IGNORED: FILE <filename > NOI PRESENT

A ".RE" or ".READ" control command was entered; RJE was not able to open as the file does not exist.

Response: Create file and re-enter ".RE" or ".READ"

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REQUEST IGNORED: NOT LOGGED ON

It is not possible to enter cards to the RJE program until a "LOGGED-ON" control command has been received from the central computer (or a "-RY CR" message entered).

Response: Wait until logged on or enter ".RY CR".

REQUEST IGNORED: REQUEST QUEUE EULL

A ".RE" or ".READ" control command was entered while the input file was active and the request queue was already full with 100 requests.

Response: Wait until files have been transmitted and remember ".RE" or ".READ"

REQUEST IGNORED: STILL LOGGED ON

The RJE program will not accept the ".STOP", ".ST", ".WAIT" or ".WT" control command while it is logged on at the central computer.

Response: Wait until logged off or enter ".LO".

SPO QUEUE OVERFLON: PROGRAM ABORI

It is possible to enter messages to the RJE program at any time from the console printer. Should there be no room for any messages entered (a SPO buffer already being present for transmission) then the RJE program will queue the message for itself on a disk file queue it maintains for this purpose. Should this queue become full (30 messages) then RJE will abort itself. A message is queued in this file only if it is to be transmitted to the central computer, most local commands do not require a message to be sent to the central computer.

Response: None.

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RJE EILES

CARD FILE

INTERNAL NAME = RJECARDS

LABEL = RJE/CARDS (Optional)
DEVICE = CARD, DISK or TAPE

OPEN-OPTION = INPUT

BLOCKING = USE.INPUT.BLOCKING

PRINT FILE

INTERNAL NAME = RJEPRINT

LABEL = RJE/PRINT

DEVICE = PRINTER OR BACKUP DISK

OPEN-OPTION = OUTPUT RECORDS = 132/1

PUNCH FILE

INTERNAL NAME = RJEPUNCH

LABEL = REJ/PUNCH

DEVICE = PUNCH OR BACKUP DISK

OPEN-OPTION = OUTPUT RECORDS = 80/1

AUDIT FILE

INTERNAL NAME = AUDIT

LABEL = DC/AUDIT.FILE DEVICE = DISK, RANDOM

RECORDS = 180/1 AREAS = 10/100

OPEN-OPTION = INPUT, OUTPUT

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INTERNAL SPO MESSAGE QUEUE

INTERNAL NAME = SPO.QUEUE

= RJE/SPO-QUEUE LABEL = DISK. RANDOM DEVICE

RECORDS = 81/1= 1/30AREAS

OPEN-OPTION = INPUT, OUTPUT, NEW, LOCK-OUT

PARAMETER FILE

INTERNAL NAME = CARDS

LABEL = RJE/PARAMETERS
DEVICE = CARRO

BLOCKING = USE.INPUT.BLOCKING

OPEN-OPTION = INPUT

INTERNAL READ REQUEST QUEUE

INTERNAL NAME = REQUEST-QUEUE LABEL = RJE/REQUEST DEVICE = DISK RANDOM

SMCS REMOTE FILE

INTERNAL NAME = REMOTE = SMCSFILE LABEL

= REMOTE (25) WITH HEADERS DEVICE

= 173/1RECORDS NUMBER OF STATIONS = C

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BURROUGHS CORPORATION COMPUTER SYSTEMS GROUP SANTA BARBARA PLANT

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