

BARR/RJE

Host Definition Guide

Configuring the Host Computer



Documentation Edition 3

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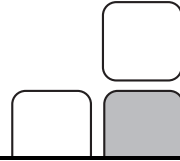
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Preface



Host programmers who support VTAM and the RJE system will use this manual to help them configure the host computer to communicate with BARR/RJE. Personal computer users must enter some of these same parameters in BARR/RJE. The *Barr Enterprise Print Server* manual will help them get started. The host programmer and the personal computer user will need to confirm that these parameters match.

Barr Technical Support

You can contact Barr Systems by e-mail, fax, or phone to work directly with a Support Analyst. Our Frontline and Research support is available five days a week, Monday – Friday. Refer to the Technical Support Web site (www.barrcentral.com) for specific information regarding the hours of operation.

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When you contact Technical Support, please include the hardware serial number and software version number in your correspondence.

Software version number

Once Barr Enterprise Print Server has been installed, from the taskbar, click Start | Programs | Barr Enterprise Print Server | BARR SPOOL | **Spool Window**. From the Spool Window's menu bar, select Help | **About Spool Window**. The serial number for both the hardware and the software, and the software version number displays in this window.

The Barr technical support analyst may also request version numbers for additional program files. Use the Windows Explorer to navigate to the folder where you installed the Barr software (usually \\Program Files\\Barr\\Spooler\\Exe). Right-click the **Spoolui.exe** program file name and select **Properties**. From the **Properties** dialog box, select the **Version** tab and note the **File version** number.

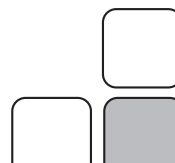
Hardware serial numbers

You can obtain the hardware key serial number from the blue sticker on the hardware key. Once Barr Enterprise Print Server has been installed, you can obtain the hardware key serial number, from the taskbar, click Start | Programs | Barr Enterprise Print Server | BARR SPOOL | **Spool Window**. From the Spool Window's menu bar, select Help | **About Spool Window**. The serial number for both the hardware and the software displays in this window.

If you purchased an optional Barr adapter, you can obtain the adapter serial number from any of the following places.

- Blue sticker on the adapter edge, visible from the rear of the computer
- Back of the adapter, where the serial number is handwritten in permanent ink
- Blue sticker on the adapter box

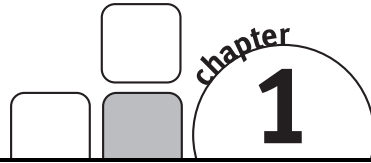
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Configure the Host



For BARR/RJE to communicate with your host, you must define BARR/RJE to your host as one or more RJE remotes. Each RJE remote requires a separate host definition. Two separate programs on the host must be updated – VTAM, which controls all SNA communication, and the job entry system, JES2, JES3, or POWER.



Before you begin, you must gather the parameters specified in this chapter. We recommend that you record the parameters on the pink *BARR/RJE Host Definition Information* form provided in the *Barr Enterprise Print Server* manual. The personal computer users will enter these parameters in BARR/RJE. It is important that these parameters match.

1.1 VTAM host configuration

VTAM configuration consists of entering the PU and LU definitions, activating the PU, and additional TCP/IP and VTAM configuration (for HPR/IP connections only). Complete the following steps to configure VTAM.

1. Enter the PU and LU definitions
2. Add the LUs
3. Configure TCP/IP and VTAM (HPR/IP only)
4. Activate the PU

Enter the PU and LU definitions

The RJE system communicates with VTAM, the universal SNA control program. SNA defines the entities in the communications network. The main communications entity visible to the user is the physical unit (PU), which is subdivided into logical units (LUs). The PU corresponds to the physical connection to the host. LUs correspond to application sessions available through each PU connection.

For each Barr remote, you must enter the following PU and LU definitions in VTAM. To ensure the correct parameters are used, sample VTAM definitions are provided when you configure the 802.2, HPR/IP, or SDLC communication link. Sample VTAM definitions are not available for MS/LUA connections. See your Microsoft SNA Server or HIS Help for more information.

802.2 LLC2 connections

For each Barr remote, you must enter the PU and LU definitions. To ensure the correct parameters are used, sample VTAM definitions are provided when the 802.2 communication link is configured in the RJE Configuration Utility.

Parameters	Sample VTAM Definition		
1. LOCADD:_____	linename	LINE	ADDRESS=(aaaa,FULL), LOCADD=400000000001 , PORTADD=pp,RCVBUFC=4095
2. PUNAME:_____	puname	PU	ADDR=C1,
3. IDBLK:_____			IDBLK=03D ,
4. IDNUM:_____			IDNUM=12345 ,
5. MAXDATA:_____			MAXDATA=1033 ,
			PACING=7,PASSLIM=7,VPACING=7
	luname02	LU	LOCADDR=2,BATCH=YES
	luname03	LU	LOCADDR=3,BATCH=YES
	luname04	LU	LOCADDR=4,BATCH=YES
	luname05	LU	LOCADDR=5,BATCH=YES
	luname06	LU	LOCADDR=6,BATCH=YES

where:

1. LOCADD The locally administered address for the network card for the host to which you are trying to reach.
2. PUNAME The PU's name conforms to the naming convention at your site. The name is used to vary the unit active or inactive and to query the unit's status.
3. IDBLK A combination of the **IDBLK** and **IDNUM** parameters are used on an 802.2 network to identify the remote's PU definition.
4. IDNUM A combination of the **IDBLK** and **IDNUM** parameters are used on an 802.2 network to identify the remote's PU definition.
5. MAXDATA The maximum amount of data you can send on the PU in one frame. This count includes 9 bytes of header information plus the data length.

HPR/IP (Enterprise Extender) connections

For each Barr remote, you must enter the PU and LU definitions. To ensure the correct parameters are used, sample VTAM definitions are provided when the HPR/IP communication link is configured in the RJE Configuration Utility.

Parameters	Sample VTAM Definition
1. PUNAME: _____	puname PU ADDR=01,
2. IDBLK: _____	IDBLK=03D ,
3. IDNUM: _____	IDNUM=12345 ,
4. MAXDATA: _____	MAXDATA=1033 , PACING=7, PASSLIM=7, VPACING=7
	luname02 LU LOCADDR=2, BATCH=YES
	luname03 LU LOCADDR=3, BATCH=YES
	luname04 LU LOCADDR=4, BATCH=YES
	luname05 LU LOCADDR=5, BATCH=YES
	luname06 LU LOCADDR=6, BATCH=YES

where:

1. PUNAME The PU's name conforms to the naming convention at your site. The name is used to vary the unit active or inactive and to query the unit's status.
2. IDBLK A combination of the **IDBLK** and **IDNUM** parameters are used on an HPR/IP network to identify the remote's PU definition.
3. IDNUM A combination of the **IDBLK** and **IDNUM** parameters are used on an HPR/IP network to identify the remote's PU definition.
4. MAXDATA The maximum amount of data you can send on the PU in one frame. This count includes 9 bytes of header information plus the data length.

SDLC connections

For each Barr remote, you must enter the following PU and LU definitions. To ensure the correct parameters are used, sample VTAM definitions are provided when the SDLC communication link is configured in the RJE Configuration Utility.

Parameters	Sample VTAM Definition		
1. NRZI:_____	linename	LINE	ADDRESS=(aaaa,FULL), DUPLEX=FULL, NRZI=YES , RETRIES=(8,2,20), SPEED=nnnnnn,TRANSFR=16
2. PUNAME:_____	puname	PU	ADDR=C1 ,
3. ADDR:_____			
4. IDBLK:_____			IDBLK=03D ,
5. IDNUM:_____			IDNUM=12345 ,
6. MAXDATA:_____			MAXDATA=1033 , PACING=7,PASSLIM=7, VPACING=7
7. MAXOUT:_____			MAXOUT=7 ,
8. DATMODE:_____			DATMODE=FULL ,
			luname02
	luname03	LU	LOCADDR=3,BATCH=YES
	luname04	LU	LOCADDR=4,BATCH=YES
	luname05	LU	LOCADDR=5,BATCH=YES
	luname06	LU	LOCADDR=6,BATCH=YES

where:

1. NRZI A method to encode binary data using a serial interface.
2. PUNAME The PU's name conforms to the naming convention at your site. The name is used to vary the unit active or inactive and to query the unit's status.
3. ADDR The 8-bit address used by SDLC. This address, the first byte of every frame, separates messages sent to different PUs on the same line.
4. IDBLK A combination of the **IDBLK** and **IDNUM** parameters are used to identify the remote's PU definition.
5. IDNUM A combination of the **IDBLK** and **IDNUM** parameters are used to identify the remote's PU definition.

- | | |
|------------|---|
| 6. MAXDATA | The maximum amount of data you can send on the PU in one frame. This value includes 9 bytes of header information plus the data length. |
| 7. MAXOUT | Specifies that up to 7 frames of information can be sent before waiting for a response. The maximum MAXOUT value of 7 results in the highest throughput. |
| 8. DATMODE | Specifies whether the PU data mode is a full-duplex or half-duplex transmission. |

Add the LUs

As shown in the host configuration tables, you need to define one LU for each RJE session (printers, punches, and readers). You must specify two extra LUs for sending commands from the keyboard and receiving console messages. Use the following formula to calculate the number of LUs needed:

$$\text{number of LUs} = \text{total printers} + \text{total punches} + \text{total readers} + 2$$



For example, if your remote is configured for 2 printers, 1 punch, and 1 reader in BARR/RJE, you will add 6 LUs to the PU definition ($2PR + 1PU + 1RD + 2$).

Configure TCP/IP and VTAM (HPR/IP only)

The following TCP/IP and VTAM changes are needed to support HPR/IP (Enterprise Extender) connections. This procedure assumes you have z/OS and hardware on the mainframe to support Ethernet connections. These host changes are one time changes to your TCP/IP profile, VTAM startup, and XCA major node.

Configure TCP/IP

Define the **VIPA** device. This will be the host name or IP address entered during BARR/RJE configuration.

Host name or IP address (**LVIPA1** parameter): _____

```
IPCONFIG SOURCEVIPA
;*****
; VTAM to TCPIP Stack
;*****
DEVICE IUTSAMEH MPCPTP
LINK EELINK MPCPTP IUTSAMEH
HOME
10.1.1.205 EELINK
START IUTSAMEH
;*****
; Enterprise Extender VIPA
;*****
DEVICE VIPA01 VIRTUAL 0
LINK LVIPA1 VIRTUAL 0 VIPA01
HOME
10.1.1.204 LVIPA1
```

Configure VTAM

Specify the **NETID**. This must match the NETID entered during BARR/RJE configuration.

NETID: _____

```
SSCPID=06,NOPROMPT, X
CONFIG=02,MAXSUBA=31,SUPP=NOSUP, X
SSCPNAME=BAR6CDRM, X
NETID=BARRSYS, X
TCPNAME=TCPIP
```

Setup a major node for the XCA. Only one XCA definition with a **Medium=HPRIP** is allowed for a given VTAM. XCA connections are used as the path to connect the remote Barr Enterprise Extender node to VTAM. You can use Autogen to create dynamic PU's for each connection.

```

*****
*
* NAME: XCAEE  XCA MAJOR NODE FOR HOST Enterprise Extender
*
*****
XCAEE      VBUILD      TYPE=XCA
PORT9E     PORT        MEDIUM=HPRIP,           X
SAPADDR=4,VNGROUP=GPEAA,       X
VNNAME=BARRSYS.VNEE6
*
GPEAA      GROUP      DIAL=YES,           X
ISTATUS=ACTIVE,                X
CALL=INOUT,                     X
AUTOGEN=(10,V,P)

```

- If you are using Autogen, define a Model Major Node for a PU type 2.1.

```

PC  PU  ADDR=01,ANS=CONT,DISCNT=NO,IRETRY=YES,CPCP=YES, -00250019
      MAXDATA=1456,MAXOUT=7,PASSLIM=7,PUTYPE=2          00260020

```

- If you are NOT using Autogen, define a switched Major Node with PU's for each RJE that will be connecting using CP – CP sessions. This will match the CPNAME entered during BARR/RJE configuration.

Because the sample **VBUILD** does not include a group, the XCA's group is applied at connection initialization.

CPNAME: _____

```

*****
*
* NAME: SMN for EE connection using static PU's
*
*****
EESMNMD    VBUILD      TYPE=SWNET,MAXNO=256,MAXGRP=256
TSPMN1     PU          MAXPATH=5,MAXDATA=1490,ADDR=01,   X
                        CPNAME=CPTSPMN1,                 X
                        CPCP=YES,HPR=YES,                  X
                        PUTYPE=2

```

Activate the VTAM PU

If you do not have the **ISTATUS=ACTIVE** parameter in your VTAM definition, then enter the following commands at your host console.

```
v net,inact,id=VTAMMEMBER
v net,act,id=VTAMMEMBER
```

Where **VTAMMEMBER** is the library member that contains the PU definition.

1.2 JES2 host configuration

Define the RJE remote to JES2 by adding another remote in SYS1.PARMLIB(JES2PARM). The following JES2 RJE definition contains statements you must enter for each remote. More advanced macros and parameters are documented in *IBM's OS/390: JES2 Initialization and Tuning Reference*.

The RJE user can click **Remote Definition** on the RJE Configuration Utility's **RJE Description** tab to access the recommended JES2 remote definition. The parameters that appear in the dialog box vary depending on the settings selected on the **RJE Description** tab.

Parameters	Sample JES2 Definition
1. APPLID:_____	(APPLID of JES2)
2. Remote name:_____	RMT9999 DEVTYPE=LUTYPE1,
3. Password:_____	PASSWORD=xxxxxxxx, BUFSIZE=1024, COMPACT=NO, COMPRESS=YES, CONS=YES, MFORM=J,
4. No. of printers:_____	NUMPRT=n,
5. No. of punches:_____	NUMPUN=n,
6. No. of readers:_____	NUMRDR=n, SETUP=PDIR RMT9999.PR1 CKPTLINE=66, CKPTPAGE=100, PRWIDTH=255, SELECT=PRINT1, TRANS=NO RMT9999.PU1 CKPTLINE=100, CKPTPAGE=100, SELECT=PUNCH1, LRECL=80, SEP=NO RMT9999.PU1
7. LOGMODE:_____	BATCH MODEENT LOGMODE=BATCH, X FMPROF=X'03', TSPROF=X'03', X PRIPROT=X'A3', SECPROT=X'A3', X COMPROT=X'7080', SSNDPAC=7, X RUSIZES=X'8787', X PSERVIC=X'01106000F900C00000010040'

where:

1. APPLID The application name of the host RJE system as defined to VTAM (for example, JES2, RTAM, NER1JES2, or BAR1JES2). In the APPL MAJOR NODE, the host will usually have a customized name specified.
2. Remote name The name of the remote. You will assign your remote a name that uniquely identifies it to the RJE system.
3. Password The password the software uses to log on to the RJE system. The password restricts use of the remote connection to authorized users.
4. No. of printers The number of RJE printers (0-7).
5. No. of punches The number of RJE punches (0-4).
6. No. of readers The number of RJE readers (0-4).
7. LOGMODE The formatted or character-coded logon uses the specified **LOGMODE** entry. You can use either the IBM-supplied **BATCH** logmode table entry or add a new entry with the parameters shown.

1.3 JES3 host configuration

Define the RJE remote to MVS/JES3 by adding another remote in SYS1.PARMLIB(JES3IN00). The following JES3 RJE definition contains statements you must enter for each remote. Contact IBM for information on more advanced macros and parameters.

The RJE user can click **Remote Definition** on the RJE Configuration Utility's **RJE Description** tab to access the recommended JES3 remote definition. The parameters that appear in the dialog box vary depending on the settings selected on the **RJE Description** tab.

Parameters	Sample JES3 Definition
1. APPLID:_____	(APPLID of JES3)
2. Remote name:_____	RJPWS, N=RMT99 ,
3. No. of printers:_____	PR=1 ,
4. No. of punches:_____	PU=1 ,
5. No. of readers:_____	RD=1 CONSOLE, JNAME=RMT99, TYPE=RJP, LEVEL=10, LL=80, DEST=NONE DEVICE, DTYPE=RMTPRINT, JNAME=RMT99PR1, XLATE=NO, LDENS=YES DEVICE, DTYPE=RMTPUNCH, JNAME=RMT99PU1, XLATE=NO, LDENS=YES
6. LOGMODE:_____	BATCH MODEENT LOGMODE=BATCH , X FMPROF=X'03', TSPROF=X'03', X PRIPROT=X'A3', SECPROT=X'A3', X COMPROT=X'7080', SSNDPAC=7, X RUSIZES=X'8787', X PSERVIC=X'01102000F900C00000010040'

where:

1. APPLID The application name of the host RJE system as defined to VTAM. Check with the host VTAM programmer to find the names in the APPL MAJOR NODE. The host will usually have a customized name.
2. Remote name The name of the remote. The host programmer assigns your remote a name that uniquely identifies it to the RJE system.
3. No. of printers The number of RJE printers (0-7).
4. No. of punches The number of RJE punches (0-4).

- 5. No. of readers The number of RJE readers (0-4).
- 6. LOGMODE The formatted or character-coded log on uses the specified **LOGMODE** entry. You can use either the IBM-supplied **BATCH** logmode table entry or add a new entry with the parameters shown.

1.4 POWER host configuration

Define the RJE remote to VSE/POWER by entering the POWER Generation Macros. The following POWER RJE definition contains statements your host system programmer must enter for each remote. Contact IBM for information on more advanced macros and parameters.

The RJE user can click **Remote Definition** on the RJE Configuration Utility's **RJE Description** tab to access the recommended POWER remote definition. The parameters that appear in the dialog box vary depending on the settings selected on the **RJE Description** tab.

Parameters	Sample POWER Definition
1. APPLID:_____	(APPLID of POWER)
2. Remote name:_____	POWER POWER SNA=(nn,,POWER)
3. Password:_____	name PRMT REMOTE=99 , CONSOLE=YES, SESSLIM=5, PSWRD=x , X TYPE=LUT1, XLATE=YES
4. LOGMODE:_____	RJE3790B MODEENT LOGMODE=RJE3790B , X FMPROF=X'03', TSPROF=X'03', X PRIPROT=X'A3', SECPR0T=X'A1', X COMPROT=X'7080', SSNDPAC=7, X RUSIZES=X'8585', X PSERVIC=X'011020009100800000010040'

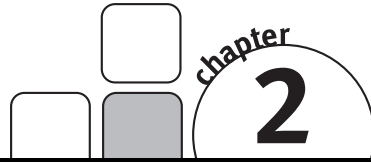
where:

- 1. APPLID The application name of the host RJE system as defined to VTAM. Check with the host VTAM programmer to find the names in the APPL MAJOR NODE. The host will usually have a customized name.
- 2. Remote name The name of the remote. The host programmer assigns your remote a name that uniquely identifies it to the RJE system.

3. Password The password the software uses to log on to the RJE system. The password restricts use of the remote connection to authorized users.

4. LOGMODE The formatted or character-coded log on uses the specified **LOGMODE** entry. You can use either the IBM-supplied **RJE3790B** logmode table entry or add a new entry with the parameters shown.

Remote Definition



The RJE Configuration Utility's **RJE Description** tab displays the RJE system parameters the RJE user must specify for the BARR/RJE software and the host RJE system. You must provide the values to enter into the BARR/RJE software. The parameters specified on the personal computer and on the host computer must match.

The RJE user can click **Remote Definition** on the **RJE Description** tab to access the sample statements that new BARR/RJE users will need to enter in the host RJE system parameter libraries. The parameters that appear in the dialog box vary depending on the settings configured on the **RJE Description** tab. An existing remote definition used for other RJE equipment might not work with BARR/RJE. You will save time and effort getting your system running if you adhere to the recommended host definition. The RJE user can print these sample statements for you by clicking **Print** on the **Remote Definition** dialog box. The parameters that change will display in blue text on the screen. The following are the recommended remote definitions.



If you are upgrading from the BARR/RJE DOS product, you are not required to change statements on the host; however, it is suggested that you use the sample statements, which have been optimized for performance.

2.1 JES2 remote definition

The following is the recommended JES2 remote definition.

```
Source statements are in SYS1.PARMLIB(JES2PARM)
RMT9999          DEVTYP=LU1, BUFSIZE=1024, COMPACT=NO,           X
                  COMPRESS=YES, CONS=YES, MFORM=J, NUMPRT=1,     X
                  NUMPUN=1, NUMRDR=1, SETUP=PDIR
RMT9999.PR1      CKPTLINE=66, CKPTPAGE=100, PRWIDTH=255,        X
                  SELECT=PRINT1, TRANS=NO
RMT9999.PU1      CKPTLINE=100, CKPTPAGE=100, SELECT=PUNCH1,     X
                  LRECL=80, SEP=NO
RMT9999.RD1
```

JES2 remote definition statement

The remote definition statement describes remote features.

```
RMT9999          DEVTYPE=LUTYPE1, BUFSIZE=1024, COMPACT=NO,      X
                  COMPRESS=YES, CONS=YES, MFORM=J, NUMPRT=1,   X
                  NUMPUN=1, NUMRDR=1, SETUP=PDIR
```

Required parameters

RMT9999

The name of the remote. The remote must be assigned a name that uniquely identifies it to the RJE system.

DEVTYPE=LUTYPE1

The type of terminal. Use **LUTYPE1** for an SNA terminal.

BUFSIZE=256 | 512 | 1024 | 2057 | 112 | 240 | 480 | 960

The size of the largest request unit you will send or receive. The value for **BUFSIZE** should be 9 less than the value for **MAXDATA**. For example, if **MAXDATA=1033**, set **BUFSIZE=1024**. In the BARR/RJE software, **MAXDATA** is specified when configuring the 802.2, HPR/IP, or SDLC communication link. **MAXDATA** is a parameter specified on the corresponding VTAM PU definition.



To maximize performance, set **BUFSIZE=1024** and **MAXDATA=1033**. Only set **BUFSIZE=2057** if both the host and RJE sides are a token ring network.

COMPACT=NO

Specifies whether data compaction will be used. If you choose to set **COMPACT=YES**, then you must also specify the **COMPACT=n** parameter on the remote printer statement, where **n** is the number of the compaction table to use. In addition, you will need to specify **COMPACT=Y** on the remote printer statement. Compaction can sometimes improve throughput on data transfers with a large amount of numeric content.

COMPRESS=YES

Use data compression to increase line throughput. When you enable compression, the software sends strings of blanks as a single character and strings of duplicate characters as two characters. This option increases line throughput to 100 percent.

CONS=YES

Enable the remote operator console, which allows messages from the host to display on the computer screen.

MFORM=J

Omit the date-time stamp from host messages. Host messages on the RJE Console are easier to read without the host time stamp. BARR/RJE has its own time stamp.

NUMPRT=*n*

The number of RJE printers (0-7).

NUMPUN=*n*

The number of RJE punches (0-4).

NUMRDR=*n*

The number of RJE readers (0-4).

SETUP=PDIR

The host sends a setup record, called a Peripheral Data Interchange Record (PDIR), with the printer or punch files. You would normally use this record with printer applications. It contains basic descriptive information, including the date, time, form name, FCB name, and number of copies.

You must also enable **SETUPHDR** in the **PSERVIC** parameter in the logmode table entry.

You cannot use **SETUP=PDIR** and **FCBLOAD** together. If you specify both options in the remote definition, JES2 disables the **FCBLOAD** feature. (You will specify **FCBLOAD** on the remote printer statement [**RMTnnnn . PRn**]).

System default values

DISCINTV=0

The default disconnect interval of 0 tells the host to terminate the RJE session if the device is idle. If you want the host to disconnect after an idle period, specify **DISCINTV** in seconds.

LINE=nnnn

The number (1 to 2000) of a logical line connected (and dedicated) to this terminal, which restricts access. You must define this line by using a **LINEnnnn** statement with the **UNIT=SNA** parameter. If you do not specify a line number, JES2 allows a connection from any dial-up or other SNA connection point.

ROUTECD=nnnn

Specifies how to route output for jobs submitted from this RJE station. Output automatically gets routed back to the originating RJE station if you do not specify this parameter.

JES2 remote printer statement

Use a remote printer statement for each remote printer.

```
RMT9999.PR1  CKPTLINE=66,CKPTPAGE=100,PRWIDTH=255,      X
              SELECT=PRINT1,TRANS=NO
```

Required parameters

RMTnnnn.PRi

The name of the remote printer, where **nnnn** is the remote number and **i** is the printer number.

CKPTLINE=66

The typical length of a printed page in lines. The software uses this parameter to determine the checkpoint interval.

CKPTPAGE=100

The number of pages in a checkpoint interval. Use a minimum of 100 pages of 66 lines each. Be careful when using smaller values, because JES2 requires a response from BARR/RJE. Performance slows while JES2 waits for the response. Larger intervals reduce the number of waits.



To maximize performance, set **CKPTLINE=66** and **CKPTPAGE=100** to send 100 pages of data to the remote before requesting an acknowledgment. Smaller values cause JES2 to spend time, waiting for responses at each checkpoint interval.

PRWIDTH=255

The maximum width of the printer line. Many users set this value to 132. If you use a Xerox laser printer or want to transfer a file with long lines, use the maximum value of **255**. This count does not include the carriage control character.

SELECT=PRINTi

Associates this remote printer with the BARR/RJE printer **PRi**, where **i** is the printer number.

TRANS=NO

JES2 does not translate print output, regardless of the device type. This parameter overrides the **PRINTDEF TRANS=** parameter. Do not use translation with BARR/RJE.



Xerox Printers: Specify **TRANS=NO**, which specifies that the software will only translate printable control characters to blanks. Xerox printers function properly only if the software does not translate data. The system default is **TRANS=YES**.

System default value

CCTL

Includes control characters in the data stream, which is the system default. BARR/RJE requires **CCTL**.

Other parameters

COMPACT=nn

Specifies the compaction table (**nn**) to use for outbound remote printer data, you will also need to specify **COMPCT=Y** on the remote printer statement. The default of 0 for **nn** means no compaction is performed. Compaction increases line performance by approximately 15 percent, by representing adjacent numeric digits as a single character.

DRAIN

The printer state will be **DRAIN** at startup. An operator command such as **\$\$PRi** (Start Printer) must be issued to begin processing. The RJE user can view the default commands and define new commands on the RJE Configuration Utility's **Commands** tab.

FCBLOAD

Specifies that the FCB record will be sent at the start of the print file. The FCB, normally used with printer applications, contains the lines per form, lines per inch, and carriage control table (SVF and SLD). **FCBLOAD** is specified on the remote printer statement, and **Use FCBLOAD** is selected on the RJE Configuration Utility's **Device Control** tab.

You can use only one carriage control stop per channel. You cannot use **FCBLOAD** on the remote printer statement if you specify **SETUPHDR** in the **PSERVIC** parameter in the logmode table entry.

SEP=NO

Specifies that JES2 will not use separator pages between jobs.

R=Rnnnn

Routes output from jobs submitted on this printer to a different remote.

WS=criteria

Specifies the output selection criteria for this remote printer. The usual output selection is based on SYSOUT class, form name, and FCB name. See the IBM *JES2 Initialization and Tuning* manual for details on specifying work selection criteria. **WS=()** specifies that all output will be processed.

JES2 remote punch statement

Use a remote punch statement for each remote punch.

```
RMT9999.PU1  CKPTLINE=100,CKPTPAGE=100,SELECT=PUNCH1,      X
              LRECL=80,SEP=NO
```

Required parameters

RMTnnnn.PU*i*

The name of the remote punch, where **nnnn** is the remote number and **i** is the punch number.

CKPTLINE=100

The typical length of a page of data. This parameter is used to determine the checkpoint interval.

CKPTPAGE=100

The number of pages in a checkpoint interval, which should be a minimum of 100 pages of 100 lines each. Be careful when using smaller values, because JES2 requires a response from BARR/RJE. Performance slows while JES2 waits for the response. Larger intervals reduce the number of waits.



To maximize performance, set **CKPTLINE=100** and **CKPTPAGE=100** to send 100 pages of data to the remote before requesting an acknowledgment. Smaller values cause JES2 to spend time, waiting for responses at each checkpoint interval.

SELECT=PUNCH*i*

Associates this remote punch device with the BARR/RJE punch **PU*i***, where **i** is the number of the punch.

LRECL=nnn

The largest record length to send to the remote. The JES2 system default is 80. The maximum value is 254.

SEP=NO

Extra separator cards at the start of file will not be received.

System default value

CCTL

Includes control characters in the data stream. BARR/RJE requires **CCTL**.

2.2 JES3 remote definition

The following is the recommended JES3 remote definition.

```
Enter the following in JES3 library SYS1.PARMLIB(JES3IN00).  
  
RJPWS,N=RMT99,PR=1,PU=1,RD=1,P=  
CONSOLE,JNAME=RMT99,TYPE=RJP,LEVEL=10,LL=80,DEST=NONE  
DEVICE,DTYPE=RMTPRINT,JNAME=RMT99PR1,XLATE=NO,LDENS=YES  
DEVICE,DTYPE=RMPUNCH,JNAME=RMT99PU1,XLATE=NO,LDENS=YES
```

RJPWS definition statement

The Remote Job Processing Workstation (**RJPWS**) statement specifies the remote name and number of sessions on each device.

```
RJPWS,N=RMT99,PR=1,PU=1,RD=1,P=
```

RJPWS parameters

N=RMTnn

The name of the remote. The host programmer assigns your remote a name that uniquely identifies it to the RJE system.

PR=n

The number of RJE printers (0-7).

PU=n

The number of RJE punches (0-4).

RD=n

The number of RJE readers (0-4).

P=x

The password the software uses to log on to the RJE system. The password restricts use of the remote connection to authorized users. Setting a password is optional.

CONSOLE definition statement

The **CONSOLE** definition statement describes console features.

```
CONSOLE,JNAME=RMT99,TYPE=RJP,LEVEL=10,LL=80,DEST=NONE
```

CONSOLE parameters

JNAME=RMTnn

The name of the remote.

TYPE=RJP

Indicates the console type.

LEVEL=10

Indicates the type of console commands that operators can use. The system default value is 0, but the recommended value is 10.

LL=80

The maximum length of message lines displayed on the console. Lines exceeding this size will wrap.

DEST=NONE

Specifies the system message class.

DEVICE definition statement

The **DEVICE** definition statement defines device features.

```
DEVICE, DTYPE=RMTPRINT, JNAME=RMT99PR1, XLATE=NO, LDENS=YES
```

DEVICE parameters

DTYPE=RMTxxxxx

Indicates the device type. **RMTPRINT** specifies a remote printer. **RMTPUNCH** specifies a remote punch device.

JNAME=RMTnnPRm

The name of the print or punch device. **RMTnn** is the remote name. **PRm** is the name of the printer device. **PUm** is the name of the punch device.

XLATE=NO

Specifies whether or not to translate non-printable characters to blanks.

NO – Translates only printable characters. We recommend that the host is configured with this setting.

YES – System default. Translates non-printable characters to blanks.

LDENS=YES

Indicates whether or not SLD information will be sent to the remote.

YES – SLD will be sent to the remote with the SVF information. Required when you use **FCBLOAD**. We recommend that the host is configured with this setting.

NO – System default. SLD information will not be sent.

2.3 POWER remote definition

The following is the recommended POWER remote definition.

```
Enter the POWER Generation Macros.
POWER      POWER SNA=(nn,,POWER)
name       PRMT  REMOTE=99,CONSOLE=YES,SESSLIM=5,PSWRD=,      X
           TYPE=LUT1,XLATE=YES
           END
```

POWER macro

The **POWER** macro has the following form.

```
POWER      POWER SNA=(nn,,POWER)
```

POWER macro parameters

name

The phase name. This matches the **POWER** macro name.

nn

Specifies how to initialize SNA support. The value for ***nn*** can be the number of concurrent workstations or the number of **PRMT** macros, depending on your system convention.

''

Indicates that a password parameter is not required.

POWER

The application ID for VTAM.

PRMT macro

The **PRMT** macro describes the RJE workstation.

```
name       PRMT  REMOTE=99,CONSOLE=YES,SESSLIM=5,PSWRD=,      X
           TYPE=LUT1,XLATE=YES
```

PRMT macro parameters

name

The macro name.

REMOTE=*nn*

The name of the remote.

CONSOLE=YES

Indicates that console messages are immediately sent to the remote.



You must define enough LUs for output and console messages to be received simultaneously.

SESSLIM=*n*

The number of LUs for simultaneous sessions. You can specify a maximum of six. **SESSLIM=5** provides enough LUs to simultaneously operate a printer, punch, reader, and console, and to issue commands from the keyboard.

PSWRD=*x*

The password the software uses to log on to the RJE system. The password restricts use of the remote connection to authorized users. Setting a password is optional.

TYPE=LUT1

Indicates this is an SNA RJE workstation.

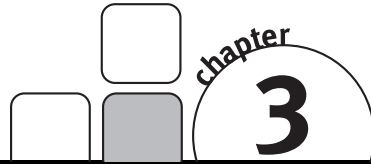
XLATE=YES

If print output contains the hexadecimal characters 01h to 3Fh, these characters will be translated to blanks.



Data must be limited to simple text. It is not possible to print binary data (such as Xerox Metacode) through a POWER remote's print stream.

Logmode Table Entry



When an LU goes through the logon process to initiate a session between a program on the host and a remote terminal, VTAM searches the logmode table for the **LOGMODE** entry that defines the protocols and parameters to use during the session. VTAM then binds the session and application by sending the logmode table entry to both the host application and the remote terminal. The message sent to the remote terminal is the bind request. The remote returns a positive response to the bind if it is acceptable or a negative response if it rejects the bind.

The RJE user can click **Logmode Table Entry** on the RJE Configuration Utility's **RJE Description** tab to display the recommended logmode table entry that new BARR/RJE users will need to enter in the host RJE system logmode table. The parameters that appear in the dialog box vary depending on the settings configured on the **RJE Description** tab. An existing logmode table used for other RJE equipment might not work with BARR/RJE. You will save time and effort getting your system running if you adhere to the recommended logmode table entry. The RJE user can print the recommended logmode table entry for you by clicking **Print** on the **Logmode Table Entry** dialog box. The parameters that change will display in blue text on the screen. The following are the recommended logmode table entries.



If you are upgrading from the BARR/RJE DOS product, you are not required to change statements on the host; however, it is suggested that you use the sample statements, which have been optimized for performance.

3.1 Typical table entry

The following is a typical logmode table entry.

```
BATCH MODEENT LOGMODE=BATCH, X
      EMPROF=X' 03', X
      TSPROF=X' 03', X
      PRIPROT=X' A3', X
      SECPROT=X' A3', X
      COMPROT=X' 7080', X
      SSNDPAC=7, X
      RUSIZES=X' 8686', X
      PSERVIC=X' 01102000F900C00000010040'
```

Alternate values

Several logmode parameters can have other values. The following shows the possible values for each field and a description of each value.

```
BATCH MODEENT LOGMODE=BATCH,   Logon Mode name
FMPROF=X'03'                   Function management profile
TSPROF=X'03'                   Transmission management profile
PRIPROT=X'A3                   Compression on receive
                               A1   No compression on receive
                               B3   Compression on receive
SECPROT=X'A3                   Compression on send
                               A1   No compression on send
                               B3   Compression on send
                               B1   No compression on send
COMPROT=X'7080'                Common LU protocols
RUSIZES=X'8585'                Send and Receive request unit size: 256
8686                           Send and receive request unit size: 512
8787                           Send and receive request unit size: 1024
8888                           Send and receive request unit size: 2048
F3F3                           Send and receive request unit size: 120
F4F4                           Send and receive request unit size: 240
F5F5                           Send and receive request unit size: 480
F6F6                           Send and receive request unit size: 960
SSNDPAC=7                       Pacing for readers and commands.
PSERVIC=X'01106000F900C0000010040'
                               60   Compaction and SETUPHDR (PDIR)
                               40   Compacted data can be received
                               20   SETUPHDR (PDIR) can be received
                               F9   FCBLOAD (SVF and SLD)
                               F1   FCBLOAD (no SLD)
                               91   No FCBLOAD (no SVF or SLD)
                               C0   Document and card files
                               E0   Document, card, exchange files*
                               80   Document (print) files
                               40   Card (reader, punch) files
                               20   Exchange files*
```

* Exchange media is not supported by the Barr software.

3.2 JES2 logmode table entry

The following is the JES2 default **BATCH** table entry and the JES2 recommended **BATCH** table entry.

JES2 default **BATCH** table entry

This section describes the default **BATCH** logmode table entry for JES2.

The IBM-supplied mode table **ISTINCLM** includes the **BATCH** logmode table entry.

```
IBM3770 MODEENT LOGMODE=BATCH,           X
      FMPROF=X'03',                       X
      TSPROF=X'03',                       X
      PRIPROT=X'A3',                      X
      SECPROT=X'A3',                      X
      COMPROT=X'7080'
```

This table entry is compatible with BARR/RJE, but some applications may require you to modify it. If you are required to modify the **BATCH** logmode table entry, you should make a new table entry by copying the **ISTINCLM BATCH** logmode table entry and changing it to match the recommended **BATCH** logmode table entry.

JES2 recommended **BATCH** table entry

The recommended JES2 logmode table entry can be accessed by clicking **Logmode Table Entry** on the RJE Configuration Utility's **RJE Description** tab. The parameters that appear in the dialog box vary depending on the settings configured on the **RJE Description** tab. The parameters that change will display in blue text on the screen. The following JES2 logmode table entry is recommended.

```
Source statements are in SYS1.VTAMLST(ISTINCLM).
BATCH MODEENT LOGMODE=BATCH,           X
      FMPROF=X'03',                       X
      TSPROF=X'03',                       X
      PRIPROT=X'A3',                      X
      SECPROT=X'A3',                      X
      COMPROT=X'7080',                   X
      SSNDPAC=7,                         X
      RUSIZES=X'8787',                   X
      PSEVIC=X'01106000F900C00000010040'
```

The **MODEENT** macro defines protocols used in the LU along with printer and punch device capabilities.

BATCH

Name of the logmode table entry to use with multiple-session RJE, which is usually the same as the value for **LOGMODE**. Use **BATCH** to readily associate the entry with the BARR/RJE software.

LOGMODE=BATCH

The formatted or character-coded logon uses the specified **LOGMODE** entry. Although some applications use the IBM-supplied **BATCH** logmode table entry, you should use the **BATCH** entry for optimum performance and for applications that use printer forms.

FMPROF=X' 03 '

Function management profile.

TSPROF=X' 03 '

Transmission management profile.

PRIPROT=X' A3 '

Primary LU protocol. Indicates whether to use compression when you receive data. The value **A3** enables receive compression. Other values are listed under Alternate Values at the beginning of this chapter.

SECPROT=X' A3 '

Secondary LU protocol. Indicates whether to use compression when the software sends data. The value **A3** enables send compression. Other values are listed under Alternate Values at the beginning of this chapter.

COMPROT=X' 7080 '

Represents the common LU protocols for this logmode.

SSNDPAC=7

Pacing used by readers and commands. Do not use 0 because it results in no flow control, which can cause communication problems.

RUSIZES=X' 8787 '

Specifies the send and receive request unit size, which is the size of the buffer used for sending and receiving data. To maximize performance, set **RUSIZES** to **8787**, which indicates a buffer size of 1024. Other values are listed under Alternate Values at the beginning of this chapter.

PSERVIC=X' 01106000F900C00000010040 '

Presentation services profile. The **PSERVIC** parameter contains 12 bytes of information represented as pairs of hexadecimal digits. Bytes 3, 5, and 7 are most significant for the Barr software. Other values are listed under Alternate Values at the beginning of this chapter. The following are the recommended values.

When the software logs on to the host, you can check the bind data to verify that you set the **PSERVIC** parameter correctly.



Byte 3 and Byte 5: You cannot use **SETUPHDR** (PDIR) and **FCBLOAD** together. If you specify both options in the **PSEVIC** parameter, the RJE definition determines which to use.

Byte 3 – Specify whether to enable **SETUPHDR** (PDIR). You must set this value to **20** or **60** to use **SETUPHDR** (PDIR) with the Barr software. When the software logs on to the host, verify that this value is set correctly by checking byte 16 of the bind data. You must also specify **SETUP=PDIR** on the JES2 remote definition statement (**RMTnnnn**).

Byte 5 – Specify whether to enable **FCBLOAD**. You must set this value to **F9** to use **FCBLOAD** with the Barr software, because the software requires both SVF and SLD information. When the software logs on to the host, verify that this value is set correctly by checking byte 18 of the bind data. You must also specify **FCBLOAD** on the JES2 remote printer statement (**RMTnnnn.PRn**).

Byte 7 – Specify the media supported. Valid values are C0, 80, or 40. Barr software does not support exchange media. When the software logs on to the host, verify that this value is set correctly by checking byte 20 of the bind data.

3.3 JES3 logmode table entry

The following is the JES3 default **BATCH** table entry and the JES3 recommended **BATCH** table entry.

JES3 default **BATCH** table entry

This section describes the default **BATCH** logmode table entry for JES3.

The IBM-supplied mode table **ISTINCLM** includes the **BATCH** logmode table entry.

```
IBM3770 MODEENT LOGMODE=BATCH,           X
      FMPROF=X'03',                         X
      TSPROF=X'03',                         X
      PRIPROT=X'A3',                        X
      SECPROT=X'A3',                        X
      COMPROT=X'7080'
```

This table entry is compatible with BARR/RJE, but some applications may require you to modify it. If you are required to modify the **BATCH** logmode table entry, you should make a new table entry by copying the **ISTINCLM BATCH** logmode table entry and changing it to match the recommended **BATCH** logmode table entry.

JES3 recommended BATCH table entry

This section describes the recommended **BATCH** logmode table entry for JES3.

The recommended JES3 logmode table entry can be accessed by clicking **Logmode Table Entry** on the RJE Configuration Utility's **RJE Description** tab. The parameters that appear in the dialog box vary depending on the settings configured on the **RJE Description** tab. The parameters that change will display in blue text on the screen. The following JES3 logmode table entry is recommended.

```
Source statements are in SYS1.VTAMLST(ISTINCLM).
BATCH MODEENT LOGMODE=BATCH,                                X
      FMPROF=X' 03',                                         X
      TSPROF=X' 03',                                         X
      PRIPROT=X' A3',                                        X
      SECPROT=X' A3',                                        X
      COMPROT=X' 7080',                                      X
      SSNDPAC=7,                                             X
      RUSIZES=X' 8787',                                      X
      PSERVIC=X' 01102000F900C00000010040'
```

The **MODEENT** macro defines protocols used in the LU along with printer and punch device capabilities.

BATCH

Name of the logmode table entry to use with multiple-session RJE (usually the same as the value for **LOGMODE**). Use **BATCH** to readily associate the entry with the BARR/RJE software.

LOGMODE=BATCH

The formatted or character-coded log on uses the specified **LOGMODE** entry.

FMPROF=X' 03'

Function management profile.

TSPROF=X' 03'

Transmission management profile.

PRIPROT=X' A3'

Primary LU protocol. It indicates whether or not to use compression when you receive data. The value **A3** enables receive compression. Other values are listed under Alternate values at the beginning of this chapter.

SECPROT=X' A3'

Secondary LU protocol. It indicates whether or not to use compression when the software sends data. The value **A3** enables send compression. Other values are listed under Alternate values at the beginning of this chapter.

COMPROT=X' 7080'

Represents the common LU protocols for this logmode.

SSNDPAC=7

Pacing used by readers and commands. Do not use 0 because it results in no flow control, which can cause communication problems.

RUSIZES=X ' 8787 '

Specifies the send and receive request unit size, which is the size of the buffer used for sending and receiving data.



Performance Tuning: To maximize performance, set **RUSIZES** to **8787**, which indicates a buffer size of 1024.

PSERVIC=X ' 01102000F900C00000010040 '

Presentation services profile. The **PSERVIC** parameter contains 12 bytes of information represented as pairs of hexadecimal digits. Bytes 3, 5, and 7 are most significant for the Barr software. Other values are listed under Alternate values at the beginning of this chapter.

When the software logs on to the host, you can check the bind data to verify that you set the **PSERVIC** parameter correctly.



Byte 3 and Byte 5: You cannot use **SETUPHDR** (PDIR) and **FCBLOAD** together. If you specify both options in the **PSERVIC** parameter, the RJE definition determines which to use.

Byte 3 – Specify whether to enable **SETUPHDR** (PDIR). You must set this value to **20** or **60** to use **SETUPHDR** (PDIR) with the Barr software. When the software logs on to the host, verify that this value is set correctly by checking byte 16 of the bind data.

Byte 5 – Specify whether or not to enable **FCBLOAD**. You must set this value to **F9** to use **FCBLOAD** with the Barr software, because the software requires both SVF and SLD information. When the software logs on to the host, verify that this value is set correctly by checking byte 18 of the bind data.

Byte 7 – Specify the media supported. Valid values are C0, 80, or 40. Barr software does not support exchange media. When the software logs on to the host, verify that this value is set correctly by checking byte 20 of the bind data.

3.4 POWER logmode table entry

The following is the POWER default RJE3790B table entry.

POWER default RJE3790B table entry

This section describes the default **RJE3790B** logmode table entry for VSE/POWER.



Because creating a modified table entry causes problems with this system, we recommend using the default table entry.

The IBM-supplied mode table **ISTINCLM** includes the **RJE3790B** logmode table entry. You can access this dialog box by clicking **Logmode Table Entry** on the **RJE Description** tab. The parameters that appear in the dialog box vary depending on the settings configured on the **RJE Description** tab. The parameters that change will display in blue text on the screen.

```
Source statements are in SYS1.VTAMLST(ISTINCLM).
RJE3790B MODEENT LOGMODE=RJE3790B,           X
          FMPROF=X' 03',                       X
          TSPROF=X' 03',                       X
          PRIPROT=X' A3',                      X
          SECPROT=X' A1',                      X
          COMPROT=X' 7080',                   X
          SSNDPAC=7,                          X
          RUSIZES=X' 8585',                   X
          PSERVIC=X' 011020009100C00000010040'
```

Although this table is compatible with BARR/RJE, some applications may require you to modify this table entry. The **MODEENT** macro defines protocols used in the LU along with printer and punch device capabilities.

RJE3790B

Name of the logmode table entry (usually the same as the value for **LOGMODE**).

LOGMODE=RJE3790B

The IBM-supplied, formatted or character-coded log on that uses the specified **LOGMODE** entry.

FMPROF=X' 03'

Function management profile.

TSPROF=X' 03'

Transmission management profile.

PRIIPROT=X ' A3 '

Primary LU protocol. It indicates whether or not to use compression when you receive data. The value **A3** enables receive compression. Other values are listed under Alternate values at the beginning of this chapter.



For VSE/POWER, inbound compression is not supported and will be ignored if you select it. Use **A1** or **B1** for VSE/POWER.

SECIPROT=X ' A1 '

Secondary LU protocol. It indicates whether or not to use compression when the software sends data. The value **A1** disables send compression. Other values are listed under Alternate values at the beginning of this chapter.

COMPROT=X ' 7080 '

Represents the common LU protocols for this logmode.

SSNDPAC=7

Pacing used by readers and commands. Do not use **0** because it results in no flow control, which can cause communication problems.

RUSIZES=X ' 8585 '

Specifies the send and receive request unit size, which is the size of the buffer used for sending and receiving data. The value **8585** indicates a buffer size of 256. For POWER, 256 is the largest buffer size supported. Other values are listed under Alternate Values at the beginning of this chapter.

PSERVIC=X ' 01102000F100C00000010040 '

Presentation services profile. The **PSERVIC** parameter contains 12 bytes of information represented as pairs of hexadecimal digits. Bytes 3, 5, and 7 are most significant for the Barr software. Other values are listed under Alternate values at the beginning of this chapter.

When the software logs on to the host, you can check the bind data to verify that you set the **PSERVIC** parameter correctly.

Byte 3 – Specify whether to enable **SETUPHDR** (PDIR). You must set this value to **20** or **60** to use **SETUPHDR** (PDIR) with the Barr software. When the software logs on to the host, verify that this value is set correctly by checking byte 16 of the bind data.



The VSE/POWER operating system does not support multiple copies with the SNA PDIR record. To print multiple copies, use the print spool feature and set the number of copies on the Print Spool screen. If you specify multiple copies in the JCL, the Barr software displays the following error message when it receives the file:

PDIR extra copies ignored. Remove PDIR bit from BIND data.

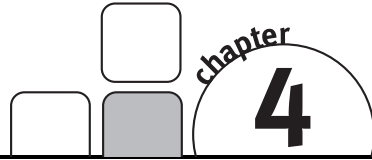
Byte 5 – Specify whether or not to enable **FCBLOAD**. When the software logs on to the host, verify that this value is set correctly by checking byte 18 of the bind data. Set it to **91** to disable **FCBLOAD**.



Do not use **FCBLOAD** with POWER because this operating systems does not support SVF, SLD, or HVF. Leave byte 5 set to **91** to disable FCBLOAD.

Byte 7 – Specify the media supported. Valid values are C0, 80, or 40. Barr software does not support exchange media. When the software logs on to the host, verify that this value is set correctly by checking byte 20 of the bind data.

Communication Link Parameters



The RJE Configuration Utility's **Communication Link** tab specifies the BARR/RJE communication protocol and physical attachment between the host system and remote computer. This chapter describes the VTAM and NCP parameters specified in the BARR/RJE software for the communication link. These parameters must match those specified in the host VTAM and NCP parameter libraries. You will provide the correct values for the RJE user to enter into the BARR/RJE software. VTAM is the mainframe program for the SNA communication protocol. NCP is the program that resides in the mainframe communications controllers.

The RJE user can click **NCP** and **Physical Unit** on the **Communication Link** tab to view sample statements that new BARR/RJE users will need to enter in the host VTAM and NCP parameter libraries. The parameters that appear in the dialog box vary depending on the settings configured on the **Communication Link** tab. You must set certain host parameters for BARR/RJE to operate. An existing remote definition used for other RJE equipment might not work with BARR/RJE. You will save time and effort getting your system running if you adhere to the recommended host definition. The RJE user can print these screens for you by clicking **Print** on the **NCP** or **Physical Unit** dialog box.

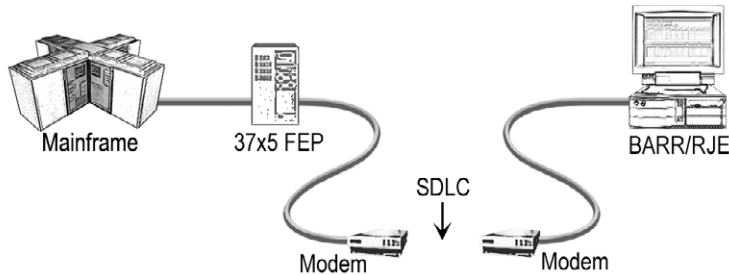
NCP definitions are only available for 802.2 LLC2 and SDLC connections. Physical unit (VTAM) definitions are only available for 802.2 LLC2, HPR/IP, and SDLC switched connections.



If you are upgrading from the BARR/RJE DOS product, you are not required to change statements on the host; however, it is suggested that you use the sample statements, which have been optimized for performance.

4.1 SDLC switched line connections

On SDLC switched (dial) lines, host modems automatically answer remote user phone calls, as shown in the following figure. The modems use the public phone system at speeds from 1,200 to 56,000 bits per second (bps).



SDLC dial lines use modems to answer remote phone calls.

The BARR/SNA SDLC Link Service configuration utility and the **SDLC Connection Configuration** dialog box are used to configure the SDLC link service for the BARR/RJE software. VTAM and NCP also use the parameters specified on the mainframe. You will need to provide these parameter values to the RJE user. After the RJE user enters the communication link parameters in the software, BARR/RJE produces samples of the statements you will need to enter in the host VTAM and NCP parameter libraries. The RJE user can print these screens for you by clicking **Print** on the **NCP** or **Physical Unit** dialog box.

NCP definition for an SDLC switched line

Clicking **NCP** on the RJE Configuration Utility's **Communication Link** tab will access the recommended NCP definition for an SDLC switched line. The parameters that appear in the dialog box vary depending on the settings configured in the BARR/RJE software. The parameters that change will display in blue text on the screen. The following NCP definition is recommended.

```
Source statements are in SYS1.VTAMLST (NCP).

group      GROUP  DIAL=Yes, LNCTL=SDLC
linename   LINE   ADDRESS=(aaa,FULL), DUPLEX=FULL,           X
           NRZI=Yes, RETRIES=(8,2,20), SPEED=nnnnnn, X
           TRANSFR=16
puname     PU     MAXLU=5
```


GROUP macro

The **GROUP** macro instruction gives common parameter settings for all **LINE** macros in the group.

```
group      GROUP  DIAL=Yes, LNCTL=SDLC
```

Required parameters

group

Optional macro label.

DIAL=YES

Indicates this is a dial-up line.

LNCTL=SDLC

Indicates the line control is SDLC.

LINE macro

The **LINE** macro defines the line at the host and is necessary for SDLC connections.

```
linename  LINE  ADDRESS=(aaa, FULL), DUPLEX=FULL,           X
           NRZI=Yes, RETRIES=(8, 2, 20), SPEED=nnnnnn,    X
           TRANSFR=16
```

Required parameters

linename

The VTAM name of the communications line.

ADDRESS=

Line interface address.

(aaa, FULL) – Indicates the line interface address, **aaa**, when you specify **DATMODE=FULL**.

aaa – Indicates the line interface address, **aaa**, when you specify **DATMODE=HALF**.

DUPLEX=FULL

The line and modem can send and receive data simultaneously.

NRZI=YES | NO

NRZI is a method to encode binary data over a serial interface. Check if the host uses **NRZI** encoding.

YES – Use **NRZI** encoding. Use this option if frequent SDLC aborts occur.

NO – Do not use **NRZI** encoding.

RETRIES=(m, t, n)

The number of attempts the system should make to recover from communications errors.

m – Maximum retransmissions of a frame while waiting for a normal response. The recommended value is 8.

t – Time in seconds paused after **m** retransmissions have failed. The recommended value is 2.

n – Number of times the above error recovery sequence is repeated. The recommended value is 20.

SPEED=nnnnnn

Required. Because the modem provides the bits-per-second clock, this parameter does not affect BARR/RJE functions, but the IBM Network Performance Monitor uses this value to calculate statistics.

TRANSFR=16

The number of NCP buffers. This value corresponds to the maximum amount of data (the data transfer limit) that NCP will receive from the line during a single data transfer operation.

System default values**CHECK=NODCD**

The Data Carrier Detect (DCD) line from the modem will not be monitored.

CLOCKNG=EXT

External clocking indicates that the modem's clock will control the transmission rate.

PU macro

The **PU** macro names and describes a physical unit. At logon, the **PU** macro in the NCP definition is replaced with the **PU** macro from VTAM.

```
puname    PU    MAXLU=5
```

Required parameters**puname**

The PU's name conforms to the naming convention at your site. The name is used to vary the unit active or inactive and to query the unit's status.

MAXLU=n

The maximum number of LUs used with this line. Use the following formula to calculate the number of LUs needed:

$$\text{number of LUs} = \text{total printers} + \text{total punches} + \text{total readers} + 2$$

You must specify two extra LUs for sending commands from the keyboard and receiving console messages.



For example, if your remote is configured for 2 printers, 1 punch, and 1 reader in BARR/RJE, you will add 6 LUs to the PU definition (2PR + 1PU + 1RD + 2).

Physical unit definition for SDLC switched line

The following is the recommended PU definition for an SDLC switched line.

```
Source statements are in SYS1.VTAMLST (SWITCHED) .

puname      PU      ADDR=C1,                                X
              IDBLK=03D, DATMODE=FULL,                   X
              IDNUM=12345,                                 X
              MAXDATA=1033, MAXOUT=7,                     X
              PACING=7, PASSLIM=7, VPACING=7

luname02    LU      LOCADDR=2,                            **   RJE   LU
luname03    LU      LOCADDR=3,                            **   RJE   LU
luname04    LU      LOCADDR=4,                            **   RJE   LU
luname05    LU      LOCADDR=5,                            **   RJE   LU
luname06    LU      LOCADDR=6,                            **   RJE   LU
```

PU macro

The **PU** macro names and describes a physical unit.

```
puname      PU      ADDR=C1,                                X
              IDBLK=03D, DATMODE=FULL,                   X
              IDNUM=12345,                                 X
              MAXDATA=1033, MAXOUT=7,                     X
              PACING=7, PASSLIM=7, VPACING=7
```

Required parameters

puname

The PU's name conforms to the naming convention at your site. The name is used to vary the unit active or inactive and to query the unit's status.

ADDR=C1

The 8-bit address used by SDLC. This address, the first byte of every frame, separates messages sent to different PUs on the same line.

DATMODE=FULL | HALF

Specify whether the PU data mode is full duplex or half duplex.

FULL – Default. The system sends and receives data simultaneously resulting in up to twice the normal throughput. The V.32 modem standard supports full duplex on dial-up lines. Some modems do not support full-duplex communications.

If **DATMODE=FULL** is selected on the BARR/SNA SDLC Link Service **Link** tab, it must also be specified at the host. If the personal computer and host settings do not match, the software might have communication problems such as timeouts or lowered performance when it sends data to the host.

HALF – In half duplex, the communications line is in either a send or a receive mode, so less than half the capacity of the line is available for use.



To maximize performance, **DATMODE=FULL** should be specified on the RJE Configuration Utility's **SDLC Connection Configuration** dialog box and the VTAM PU definition. Maximum BARR/RJE performance can be achieved with full-duplex mode. Full duplex enables you to send and receive data simultaneously, often doubling throughput. You can even improve one-way throughput because you can receive acknowledgments while you send data.

IDBLK=bbb

IDNUM=nnnnn

Use these parameters to identify the remote's PU definition. During **Xid** negotiation, the remote sends an Exchange ID that contains the **IDBLK** and **IDNUM** parameters. VTAM searches for the PU identified by **IDBLK** and **IDNUM** and uses this PU for the rest of the communications session.

MAXDATA=265 | 521 | 1033 | 2057

The maximum amount of data you can send on the PU in one frame. This value includes 9 bytes of header information plus the data length. The default value is 1033.



To maximize performance, you can increase throughput by sending larger frames of data. By setting **MAXDATA** to **1033** on the **SDLC Connection Configuration** dialog box and the VTAM PU definition, 1024 bytes can be sent. This step reduces the amount of control information and total number of frames sent. Setting **MAXDATA** to **2057** can result in greater system throughput, but it is not recommended for Ethernet or other LAN equipment that will not support the larger packet size.

MAXOUT=7

Specifies that up to 7 frames of information will be sent before pausing for a response. The maximum **MAXOUT** value of 7 will result in the highest throughput.

PACING=*n*

Determines how much data gets sent to BARR/RJE before the system needs a pacing response to send more data. Pacing is a flow-control mechanism that prevents the host from sending data faster than BARR/RJE can print or otherwise handle it. Values smaller than 7 often lower performance. This parameter overrides the **SRCVPAC** value in the **LOGMODE**.

PASSLIM=*n*

The maximum number of information frames sent to the PU at one time. This parameter is usually set to the same value as **MAXOUT**.

VPACING=*n*

Similar to the **PACING** parameter, but **VPACING** determines pacing between the RJE system and VTAM. Values less than 7 lower efficiency.



To maximize performance, setting parameters to larger values can improve BARR/RJE performance. With **PACING=7** and **VPACING=7** in the VTAM PU definition, the host can send 7 data frames before it requires a pacing response. On a half-duplex line, the host sends 7 frames at a time. When you specify **PACING=7**, the pacing response could be returned in time for 7 more frames of data to be sent. The PU definition should include **MAXOUT=7**.

System default values

DISCNT=(NO)

Do not disconnect the PU until BARR/RJE requests it.

ISTATUS=ACTIVE

The PU will be activated automatically.

PUTYPE=2

BARR/RJE uses the Physical Unit Type 2 protocol.

Other parameters

DLOGMOD=nnnnnnnn

Specify the logon mode table entry to use by default.

MODETAB=nnnnnnnn

Specify the mode table containing the logmode entries. **ISTINCLM** is the default IBM-supplied mode table usually present with VTAM.

SSCPFM=USSCS

If this parameter is set, then the host's logon type and the **Logon Type** selected on the **RJE Description** tab, must be configured as **Character Coded**. The system default is **SSCPFM=FSS**, which indicates that the **Logon Type** must be **Formatted**.

LU macro

The **LU** macro instructions define logical units allocated to the RJE devices.

```
luname02 LU LOCADDR=2, ** RJE LU
```

You need to define one LU for each RJE session (printers, punches, and readers). You must specify two extra LUs for sending commands from the keyboard and receiving console messages. Use the following formula to calculate the number of LUs needed:

$$\text{number of LUs} = \text{total printers} + \text{total punches} + \text{total readers} + 2$$

Each LU requires a separate **LU** macro instruction. The number of RJE sessions that can simultaneously be active equals the number of LUs you define.



For example, if your remote is configured for 2 printers, 1 punch, and 1 reader in BARR/RJE, you will add 6 LUs to the PU definition (2PR + 1PU + 1RD + 2).

Required parameters

lunamenn

The LU name conforms to the naming convention at your site. BARR/RJE does not use this name.

LOCADDR=i

The local addresses must be unique. The maximum value for **i** is 20 when you use Barr software. MVS/JES2 supports a maximum of 13 LUs with BARR/RJE.

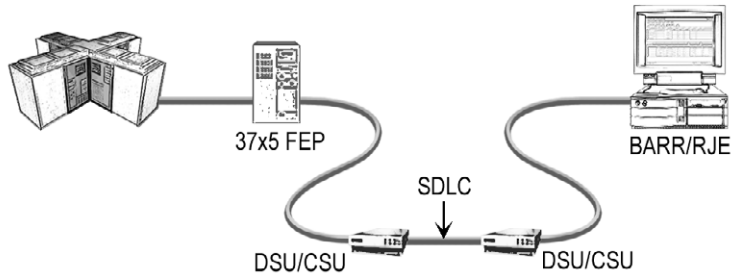
BATCH=YES

Indicates the processing priority. Batch applications such as RJE require low priority while interactive applications such as 3270 terminal sessions usually have higher priority.

For VTAM version 4, release 3 or later, replace this parameter with the Class of Service (**COS**) parameter in the **LOGMODE** for the host application.

4.2 SDLC nonswitched (leased) line connections

Dedicated point-to-point lines operate at speeds from 4,800 to 2,048,000 bps. You can lease dedicated lines from a phone company or install them in a single building or business. You can use either a modem or DSU/CSU, depending on whether the dedicated line is analog or digital.



SDLC leased lines use modems or DSU/CSUs to answer remote phone calls.

The BARR/SNA SDLC Link Service configuration utility and the **SDLC Connection Configuration** dialog box are used to configure the SDLC link service for the BARR/RJE software. The parameters specified are also used by NCP on the mainframe. You will need to provide these parameter values to the RJE user. After the RJE user enters the communication link parameters in the software, BARR/RJE produces a sample of the statement you will need to enter in the host NCP parameter library. The RJE user can print these screens for you by clicking **NCP** on the RJE Configuration Utility's **Communication Link** tab.

NCP definition for SDLC nonswitched (leased) line

The following is the recommended NCP definition for an SDLC nonswitched line.

```
Source statements are in SYS1.VTAMLST(NCP) .

group          GROUP  DIAL=No, LNCTL=SDLC
linename       LINE   ADDRESS=(aaa, FULL), DUPLEX=FULL,           X
               NRZI=Yes, RETRIES=(8, 2, 20), SPEED=nnnnnn,      X
               TRANSFR=16
service        SERVICE ORDER=(puname)
puname         PU     ADDR=C1, DATMODE=FULL,           X
               MAXDATA=1033, MAXOUT=7,                 X
               PACING=7, PASSLIM=7, VPACING=7
luname02      LU     LOCADDR=2, BATCH=YES             **  RJE  LU
luname03      LU     LOCADDR=3, BATCH=YES             **  RJE  LU
luname04      LU     LOCADDR=4, BATCH=YES             **  RJE  LU
luname05      LU     LOCADDR=5, BATCH=YES             **  RJE  LU
luname06      LU     LOCADDR=6, BATCH=YES             **  RJE  LU
```

GROUP macro

The **GROUP** macro instruction gives common parameter settings for all **LINE** macros in the group.

```
group          GROUP  DIAL=No, LNCTL=SDLC
```

Required parameters

group

Optional macro label.

DIAL=NO

Indicates this is a dedicated line.

LNCTL=SDLC

Indicates the line control is SDLC.

LINE macro

The **LINE** macro defines the line at the host and is necessary for SDLC connections.

```
linename       LINE   ADDRESS=(aaa, FULL), DUPLEX=FULL,           X
               NRZI=Yes, RETRIES=(8, 2, 20), SPEED=nnnnnn,      X
               TRANSFR=16
```


Required parameters

linename

The VTAM name of the communications line.

ADDRESS=(aaa, FULL)

Indicates the line interface address, **aaa**, when **DATMODE=FULL** is specified on the **SDLC Connection Configuration** dialog box and the VTAM PU definition.



To maximize performance, when you set **ADDRESS** to **FULL** and there is only one address on the line (this is not a multi-drop line), VTAM automatically keeps RTS high at all times. This setting also helps improve performance, especially on high-speed lines.

DUPLEX=FULL

The line and modem can send and receive data simultaneously.

NRZI=YES | NO

NRZI is a method to encode binary data over a serial interface. Check if the host uses **NRZI** encoding.

YES – Use **NRZI** encoding. Use this option if frequent SDLC aborts occur.

NO – Do not use **NRZI** encoding.

RETRIES=(m, t, n)

The number of attempts the system should make to recover from communications errors.

m – Maximum retransmissions of a frame while waiting for a normal response. The recommended value is 8.

t – Time in seconds paused after **m** retransmissions have failed. The recommended value is 2.

n – Number of times the above error recovery sequence is repeated. The recommended value is 20.

SPEED=nnnnnn

Required. Because the modem provides the bits-per-second clock, this parameter has no effect on BARR/RJE functions. The IBM Network Performance Monitor uses this value to calculate statistics.

TRANSFR=16

The number of NCP buffers. This value corresponds to the maximum amount of data (the data transfer limit) that NCP will receive from the line during a single data transfer operation.

System default values

CHECK=NODCD

The DCD line from the modem will not be monitored.

CLOCKNG=EXT

External clocking indicates that the modem's clock controls the transmission rate.

SERVICE macro

The **SERVICE** macro controls the order in which the PUs get serviced on a dedicated line.

```
service    SERVICE  ORDER=(puname)
```

service

The name of the **SERVICE** macro is arbitrary. You can have multiple **SERVICE** statements with the same name.

ORDER=(*puname*)

The operands in the **ORDER** list give the order in which the PUs will be polled on a multipoint line. You can preferentially service one of the PUs on a multipoint line by listing it more than once in the **ORDER** list.

PU macro

The **PU** macro names and describes a PU. You can operate several PUs on the same line (multipoint). Each unit requires a separate **PU** macro instruction.

```
puname  PU  ADDR=C1,DATMODE=FULL,          X  
          MAXDATA=1033,MAXOUT=7,        X  
          PACING=7,PASSLIM=7,VPACING=7
```

Required parameters

puname

The PU's name conforms to the naming convention at your site. The name is used to vary the unit active or inactive and to query the unit's status.

ADDR=*aa*

The 8-bit address used by SDLC. This address, the first byte of every frame, separates messages sent to different PUs on the same line.

DATMODE=FULL | HALF

Specify whether the PU data mode is full or half duplex.

FULL – Default. The system sends and receives data simultaneously resulting in twice the throughput. The V.32 modem standard supports full duplex on dial-up lines. Some modems do not support full-duplex communications.

If **DATMODE=FULL** is specified on the **SDLC Connection Configuration** dialog box, it must also be specified at the host. If the personal computer and host settings do not match, the software might have communication problems such as timeouts or lowered performance when it sends data to the host.

HALF – In half duplex, the communications line is either in a send or a receive mode, so less than half the capacity of the line is available for use.



To maximize performance, **DATMODE=FULL** should be specified on the **SDLC Connection Configuration** dialog box and the VTAM PU definition. Maximum BARR/RJE performance can be achieved with full-duplex mode. Full duplex enables you to send and receive data simultaneously, often doubling throughput. You can even improve one-way throughput because you can receive acknowledgments while you send data.

MAXDATA=265 | 521 | 1033 | 2057

The maximum amount of data you can send on the PU in one frame. This value includes 9 bytes of header information plus the data length. The default value is 1033.



To maximize performance, you can increase throughput by sending larger frames of data. By setting **MAXDATA** to **1033** on the **SDLC Connection Configuration** dialog box and the VTAM PU definition, 1024 bytes can be sent. This step reduces the amount of control information and total number of frames sent. Setting **MAXDATA** to **2057** can result in greater system throughput, but it is not recommended for Ethernet or other LAN equipment that will not support the larger packet size.

MAXOUT=n

Specifies that up to **n** frames of information will be sent before pausing for a response. The maximum **MAXOUT** value of 7 will result in the highest throughput.

PACING=n

Determines how much data will be sent to BARR/RJE before requiring a pacing response to send more data. Pacing is a flow-control mechanism that prevents the host from sending data faster than BARR/RJE can print or otherwise handle it. Values smaller than the **MAXOUT** parameter often lower performance.

PASSLIM=n

The maximum number of information frames sent to the PU at one time, which is usually set to the same value as **MAXOUT**.

VPACING=*n*

Similar to the **PACING** parameter, but **VPACING** determines pacing between the RJE system and VTAM. **VPACING** is usually set to the same value as **MAXOUT**.



To maximize performance, setting parameters to larger values can improve BARR/RJE performance. With **PACING=7** and **VPACING=7** in the VTAM PU definition, the host can send 7 data frames before it requires a pacing response. On a half-duplex line, the host sends 7 frames at a time. When you use **PACING=7**, the pacing response could be returned in time for you to send 7 more frames of data. The PU definition should include **MAXOUT=7**.

System default values

DISCNT= (NO)

Do not disconnect the PU until BARR/RJE requests it.

ISTATUS=ACTIVE

The PU will be activated automatically.

PUTYPE=2

BARR/RJE uses the Physical Unit Type 2 protocol.

Other useful parameters

DLOGMOD=nnnnnnnn

Specify the logon mode table entry to use by default.

MODETAB=nnnnnnnn

Specify the mode table containing the logmode entries. **ISTINCLM** is the default IBM-supplied mode table usually present with VTAM.

SSCPFM=USSSCS

If this parameter is set, then the host's logon type and the **Logon Type** selected on the **RJE Description** tab, must be configured as **Character Coded**. The system default is **SSCPFM=FSS**, which indicates that the **Logon Type** must be **Formatted**.

LU macro

The **LU** macro instruction defines LUs allocated to the RJE devices.

```
luname02 LU LOCADDR=2, BATCH=YES ** RJE LU
```

You need to define one LU for each RJE session (printers, punches, and readers). You must specify two extra LUs for sending commands from the keyboard and receiving console messages. Use the following formula to calculate the number of LUs needed:

$$\text{number of LUs} = \text{total printers} + \text{total punches} + \text{total readers} + 2$$

Each LU requires a separate **LU** macro instruction. The number of RJE sessions that can simultaneously be active equals the number of LUs you define.



For example, if your remote is configured for 2 printers, 1 punch, and 1 reader in BARR/RJE, you will add 6 LUs to the PU definition (2PR + 1PU + 1RD + 2).

Required parameters

lunamenn

The LU name conforms to the naming convention at your site. BARR/RJE does not use this name.

LOCADDR=*i*

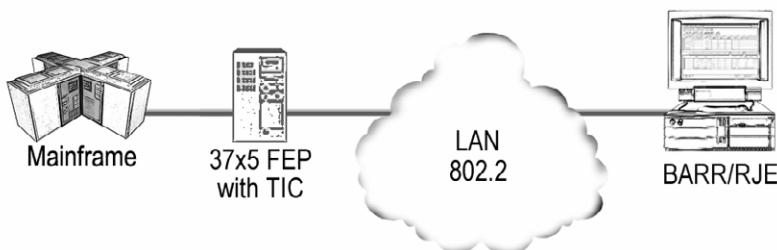
The local addresses must be unique. The maximum value for ***i*** is 20 when you use Barr software. MVS/JES2 supports a maximum of 13 LUs.

BATCH=YES

Indicates the processing priority. Batch applications such as RJE require low priority while interactive applications such as 3270 usually have higher priority. For VTAM version 4, release 3 or later, this parameter is replaced by the Class of Service (**COS**) parameter in the **LOGMODE** for the host application.

4.3 802.2 LLC2 connections

As shown in the following figure, the 3725 and 3745 front-end processors (FEPs) attach to an 802.2 network through a TIC.



FEPs attach to an 802.2 network through TICs.

The BARR/SNA 802.2 Link Service configuration utility and the **802.2 Connection Configuration** dialog box are used to configure the 802.2 LLC2 link service for the BARR/RJE software. VTAM and NCP also use the parameters specified on the mainframe. You will need to provide these parameter values to the RJE user. After the RJE user enters the communication link parameters in the software, BARR/RJE produces samples of the statements you will need to enter in the host VTAM and NCP parameter libraries. The RJE user can print these screens for you by clicking **NCP** and **Physical Unit** on the RJE Configuration Utility's **Communication Link** tab.

NCP definition for 802.2

Clicking **NCP** on the RJE Configuration Utility's **Communication Link** tab can access the recommended NCP definition for an 802.2 LLC2 connection. The parameters that appear in the dialog box vary depending on the settings configured in the BARR/RJE software. The parameters that change will display in blue text on the screen. The following NCP definition is recommended.

```
Source statements are in SYS1.VTAMLST(NCP) .

group      GROUP  ECLTYPE=PHYSICAL
linename   LINE  ADDRESS=(aaaa,FULL),LOCADD=400000000001, X
           PORTADD=pp,RCVBUFC=4095
group      GROUP  ECLTYPE=LOGICAL,AUTOGEN=100, X
           CALL=INOUT,PHYPORT=pp
puname     PU    MAXLU=5
```

GROUP macro for physical group

The **GROUP** macro instruction for the physical group includes common parameter settings for all **LINE** macros in the group.

```
group      GROUP  ECLTYPE=PHYSICAL
```

Required parameters

group

Optional macro label.

ECLTYPE=PHYSICAL

This **GROUP** macro defines a physical connection to the 802.2 LLC2.

LINE macro

The **LINE** macro defines the line at the host.

```
linename      LINE      ADDRESS=(aaaa,FULL),LOCADD=400000000001, X
                PORTADD=pp,RCVBUFC=4095
```

Required parameters

linename

The VTAM name of the communications line.

ADDRESS=(aaaa,FULL)

Specifies the logical address of the TIC in the NCP definition where **aaaa** is the address.

LOCADD=4000abbbbbbb

The locally administered address for the TIC where **a** is a digit from 0 to 7 and **b** is a hexadecimal digit from 0 to F.

PORTADD=pp

The port number **pp** that associates a physical line with a logical line. The number must be the same as the **PHYPORT** parameter on the logical line.

RCVBUFC=4095

This parameter sets the maximum amount of data the host can receive from the 802.2 LLC2 link.

GROUP macro for logical group

The **GROUP** macro for the logical group defines a logical connection to the 802.2 network.

```
group          GROUP    ECLTYPE=LOGICAL,AUTOGEN=100, X
                CALL=INOUT,PHYPORT=pp
```

Required parameters

group

Optional macro label.

ECLTYPE=LOGICAL

This **GROUP** macro defines a logical connection to the 802.2 LLC2.

AUTOGEN=100

The number of lines and groups supported by NCP.

CALL=INOUI

Both VTAM and BARR/RJE can initiate the connection.

PHYPORT=pp

The portnumber **pp** that associates a physical line with a logical line. The number must be the same as the **PORTADD** parameter on the physical line.

PU macro

The **PU** macro names and describes a physical unit. The **PU** macro in the NCP definition is replaced at logon with the **PU** macro from VTAM.

```
puname      PU      MAXLU=5
```

Required parameters

puname

The PU's name conforms to the naming convention at your site. The name is used to vary the unit active or inactive and to query the unit's status.

MAXLU=n

The maximum number of LUs to use with this line. Use the following formula to calculate the number of LUs needed:

$$\text{number of LUs} = \text{total printers} + \text{total punches} + \text{total readers} + 2$$

You must specify two extra LUs for sending commands from the keyboard and receiving console messages.



For example, if your remote is configured for 2 printers, 1 punch, and 1 reader in BARR/RJE, you will add 6 LUs to the PU definition (2PR + 1PU + 1RD + 2).

PU definition for 802.2

The recommended PU definition for an 802.2 LLC2 connection is accessed by clicking **Physical Unit** on the RJE Configuration Utility's **Communication Link** tab. The parameters that appear in the dialog box vary depending on the settings configured in the BARR/RJE software. The parameters that change will display in blue text on the screen. The following PU definition is recommended.

```
Source statements are in SYS1.VTAMLST(SWITCHED).

puname      PU      ADDR=01,                X
              IDBLK=03D,            X
              IDNUM=12345,          X
              MAXDATA=1033,         X
              PACING=7, PASSLIM=7, VPACING=7
luname02    LU      LOCADDR=2,      ** RJE LU
luname03    LU      LOCADDR=3,      ** RJE LU
luname04    LU      LOCADDR=4,      ** RJE LU
luname05    LU      LOCADDR=5,      ** RJE LU
luname06    LU      LOCADDR=6,      ** RJE LU
```

PU macro

The **PU** macro names and describes a physical unit.

```
puname      PU      ADDR=01,                X
              IDBLK=03D,            X
              IDNUM=12345,          X
              MAXDATA=1033,         X
              PACING=7, PASSLIM=7, VPACING=7
```

Required parameters

puname

The PU's name conforms to the naming convention at your site. The name is used to vary the unit active or inactive and to query the unit's status.

ADDR=01

Required.

IDBLK=bbb

IDNUM=nnnnn

Parameters used on an 802.2 network to identify the remote's PU definition. During **Xid** negotiation, the remote sends an Exchange ID that contains the **IDBLK** and **IDNUM** parameters. VTAM searches for the PU identified by **IDBLK** and **IDNUM** and uses this PU for the rest of the communications session.

MAXDATA=265 | 521 | 1033 | 2057

The maximum amount of data you can send on the PU in one frame. This count includes 9 bytes of header information plus the data length. The default value is 1033.



To maximize performance, you can increase throughput by sending larger frames of data. By setting **MAXDATA** to **1033** on the **SDLC Connection Configuration** dialog box and the VTAM PU definition, 1024 bytes can be sent. This step reduces the amount of control information and total number of frames sent. Setting **MAXDATA** to **2057** can result in greater system throughput, but it is not recommended for Ethernet or other LAN equipment that will not support the larger packet size.

PACING=*n*

Determines how much data the host sends to BARR/RJE before it needs a pacing response to send more data. Pacing is a flow-control mechanism that prevents the host from sending data faster than BARR/RJE can print or otherwise handle it. Values smaller than 7 often lower performance.

PASSLIM=*n*

The maximum number of information frames sent to the PU at one time.

VPACING=*n*

Similar to the **PACING** parameter, but **VPACING** determines pacing between the RJE system and VTAM. Values less than 7 lower efficiency.



To maximize performance, setting parameters to larger values can improve BARR/RJE performance. With **PACING=7** and **VPACING=7** in the VTAM PU definition, the host can send 7 data frames before it requires a pacing response. On a half-duplex line, it sends 7 frames at a time. When you use **PACING=7**, the pacing response could be returned in time to send 7 more frames of data.

System default values

DISCNT=(NO , F)

Does not disconnect the PU until BARR/RJE requests it.

ISTATUS=ACTIVE

Activates the PU automatically.

PUTYPE=2

BARR/RJE uses the Physical Unit Type 2 protocol.

Other useful parameters

DLOGMOD=nnnnnnnn

Names the logon mode table entry to use by default.

MODETAB=nnnnnnnn

Specifies the mode table containing the logmode entries. **ISTINCLM** is the default IBM-supplied mode table usually present with VTAM.

SSCPFM=USSSCS

If this parameter is set, then the host's logon type and the **Logon Type** selected on the **RJE Description** tab, must be configured as **Character Coded**. The system default is **SSCPFM=FSS**, which indicates that the **Logon Type** must be **Formatted**.

LU macro

The **LU** macro instructions define LUs allocated to the RJE devices.

```
luname02 LU LOCADDR=2, ** RJE LU
luname03 LU LOCADDR=3, ** RJE LU
luname04 LU LOCADDR=4, ** RJE LU
luname05 LU LOCADDR=5, ** RJE LU
luname06 LU LOCADDR=6, ** RJE LU
```

You need to define one LU for each RJE session (printers, punches, and readers). You must specify two extra LUs for sending commands from the keyboard and receiving console messages. Use the following formula to calculate the number of LUs needed:

$$\text{number of LUs} = \text{total printers} + \text{total punches} + \text{total readers} + 2$$

Each LU requires a separate **LU** macro instruction. The number of RJE sessions that can simultaneously be active equals the number of LUs you define.



For example, if your remote is configured for 2 printers, 1 punch, and 1 reader in BARR/RJE, you will add 6 LUs to the PU definition (2PR + 1PU + 1RD + 2).

Required parameters

lunamenn

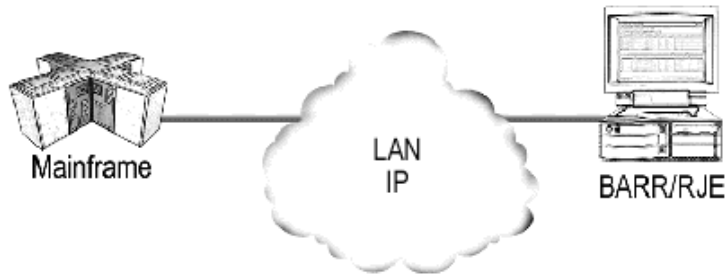
The LU name conforms to the naming convention at your site. BARR/RJE does not use this name.

LOCADDR=i

The local addresses must be unique. The maximum value for **i** is 20 when you use Barr software. MVS/JES2 supports a maximum of 13 LUs with BARR/RJE.

4.4 HPR/IP (Enterprise Extender) connections

As shown in the following graphic, HPR/IP uses any interface network card, such as Ethernet to connect to the mainframe.



HPR/IP connections attach to the mainframe using IP.

The BARR/SNA HPR/IP Link Service configuration utility and the **HPR/IP Connection Configuration** dialog box are used to configure the HPR/IP link service for the BARR/RJE software. The parameters specified are also used by VTAM on the mainframe. You will need to provide these parameter values to the RJE user. After the RJE user enters the communication link parameters in the software, BARR/RJE produces a sample of the statements you will need to enter in the host VTAM parameter library. The RJE user can print these statements for you by **clicking Physical Unit** on the **Communication Link** tab.

For HPR/IP connections, you must also configure TCP/IP and a VTAM major node definition.

PU definition for HPR/IP

The recommended PU definition for an HPR/IP connection is accessed by clicking **Physical Unit** on the **Communication Link** tab. The parameters that appear in the dialog box vary depending on the settings configured in the BARR/RJE software. The parameters that change are displayed in blue text. The following PU definition is recommended.

```

Source statements are in SYS1.VTAMLST(SWITCHED).

puname      PU      ADDR=01,                X
              IDBLK=03D,            X
              IDNUM=12345,          X
              MAXDATA=1033,        X
              PACING=7, PASSLIM=7, VPACING=7
luname02    LU      LOCADDR=2,      **   RJE   LU
luname03    LU      LOCADDR=3,      **   RJE   LU
luname04    LU      LOCADDR=4,      **   RJE   LU
luname05    LU      LOCADDR=5,      **   RJE   LU
luname06    LU      LOCADDR=6,      **   RJE   LU

```

PU macro

The **PU** macro names and describes a physical unit.

```

puname PU      ADDR=01,                X
              IDBLK=03D,            X
              IDNUM=12345,          X
              MAXDATA=1033,        X
              PACING=7, PASSLIM=7, VPACING=7

```

Required parameters

puname

The PU's name conforms to the naming convention at your site. The name is used to vary the unit active or inactive and to query the unit's status.

ADDR=01

Required.

IDBLK=bbb

IDNUM=nnnnn

Parameters used on an IP network to identify the remote's PU definition. During **xid** negotiation, the remote sends an Exchange ID that contains the **IDBLK** and **IDNUM** parameters. VTAM searches for the PU identified by **IDBLK** and **IDNUM** and uses this PU for the rest of the communications session.

MAXDATA=265 | 521 | 1033 | 2057

The maximum amount of data you can send on the PU in one frame. This value includes 9 bytes of header information plus the data length. The default value is 1033.



To maximize performance, you can increase throughput by sending larger frames of data. By setting **MAXDATA** to **1033** on the **HPR/IP Connection Configuration** dialog box and the VTAM PU definition, 1024 bytes can be sent. This step reduces the amount of control information and total number of frames sent. Setting **MAXDATA** to **2057** can result in greater system throughput, but it is not recommended for Ethernet or other LAN equipment that will not support the larger packet size.

PACING=*n*

Determines how much data gets sent to BARR/RJE before the system needs a pacing response to send more data. Pacing is a flow-control mechanism that prevents the host from sending data faster than BARR/RJE can print or otherwise handle it. Values smaller than 7 often lower performance. This parameter overrides the **SRCVPAC** value in the **LOGMODE**.

PASSLIM=*n*

The maximum number of information frames sent to the PU at one time.

VPACING=*n*

Similar to the **PACING** parameter, but **VPACING** determines pacing between the RJE system and VTAM. Values less than 7 lower efficiency.



To maximize performance, setting parameters to larger values can improve BARR/RJE performance. With **PACING=7** and **VPACING=7** in the VTAM PU definition, the host can send 7 data frames before it requires a pacing response. On a half-duplex line, the host sends 7 frames at a time. When you specify **PACING=7**, the pacing response could be returned in time for 7 more frames of data to be sent. The PU definition should include **MAXOUT=7**.

System default values

DISCNT= (NO)

Do not disconnect the PU until BARR/RJE requests it.

ISTATUS=ACTIVE

The PU will be activated automatically.

PUTYPE=2

BARR/RJE uses the Physical Unit Type 2 protocol.

Other parameters

DLOGMOD=nnnnnnnn

Specify the logon mode table entry to use by default.

MODETAB=nnnnnnnn

Specify the mode table containing the logmode entries. **ISTINCLM** is the default IBM-supplied mode table usually present with VTAM.

SSCPFM=USSSCS

If this parameter is set, then the host's logon type and the **Logon Type** selected on the **RJE Description** tab, must be configured as **Character Coded**. The system default is **SSCPFM=FSS**, which indicates that the **Logon Type** must be **Formatted**.

LU macro

The **LU** macro instructions define LUs allocated to the RJE devices.

```
luname02 LU          LOCADDR=2,          ** RJE LU
luname03 LU          LOCADDR=3,          ** RJE LU
luname04 LU          LOCADDR=4,          ** RJE LU
luname05 LU          LOCADDR=5,          ** RJE LU
luname06 LU          LOCADDR=6,          ** RJE LU
```

You need to define one LU for each RJE session (printers, punches, and readers). You must specify two extra LUs for sending commands from the keyboard and receiving console messages. Use the following formula to calculate the number of LUs needed:

$$\text{number of LUs} = \text{total printers} + \text{total punches} + \text{total readers} + 2$$

Each LU requires a separate **LU** macro instruction. The number of RJE sessions that can simultaneously be active equals the number of LUs you define.



For example, if your remote is configured for 2 printers, 1 punch, and 1 reader in BARR/RJE, you will add 6 LUs to the PU definition (2PR + 1PU + 1RD + 2).

Required parameters

lunamenn

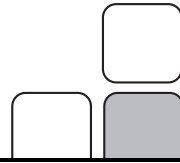
The LU name conforms to the naming convention at your site. BARR/RJE does not use this name.

LOCADDR=i

The local addresses must be unique. The maximum value for **i** is 20 when you use Barr software. MVS/JES2 supports a maximum of 13 LUs with BARR/RJE.

Notes:

Glossary



adapter

Add-on equipment you can plug into a computer to allow the computer to connect to another device.

binds

In SNA communications, the operation in which the host and remote LUs initiate a session and agree upon the protocol to be used within that session.

buffer

An area of computer memory used to perform input or output operations. The software reads data into a buffer or writes data from a buffer.

channel

(1) A path along which signals can be sent. (2) A functional unit that directs the flow of information between control units and main storage.

checkpoint

(1) A processing juncture at which the normal operation of a program or system is momentarily suspended in order to determine its environmental status. (2) A file containing information that describes the state of the system (the environment) at a particular time.

communication link

The physical connection and link protocol between the remote workstation and the host computer.

compaction

The process of gathering and packing the currently allocated regions of memory or auxiliary storage into as small a space as possible, so as to create as much continuous free space as possible.

console

A control unit, such as a terminal, through which a user communicates with a computer.

data compression

A means of reducing the amount of space or bandwidth needed to store or transmit a block of data, used in data communications, facsimile transmission, file storage and transfer, and CD-ROM publishing. Also called data compaction.

dial-up

Of, pertaining to, or being a connection that uses the public switched telephone network rather than a dedicated circuit or some other type of private network.

disconnect

To break a communications link.

Ethernet

One of the LAN physical standards. It allows multiple stations to access the transmission medium.

FCB

Acronym for Forms Control Buffer. A buffer that controls the vertical format of printed output. The FCB can include information about the number of lines per page, lines per inch, and channel stops.

FEP

Acronym for Front-End Processor. (1) Generally, a computer or processing unit that produces and manipulates data before another processor receives it. Compare back-end processor (definition 2). (2) In communications, a computer that is located between communications lines and a main (host) computer and is used to relieve the host of housekeeping chores related to communications; sometimes considered synonymous with communications controller.

host computer

A large computer that controls the communications network, stores databases, and has a large computing and memory capacity. Other computers can connect to the host to share its resources.

host programmer

The person who installs and maintains host computer software.

JES

Acronym for Job Entry Subsystems of the IBM MVS Operating System. These subsystems are used for entering jobs into the MVS operating system and dispensing the output from the jobs. JES2, a replacement for the earlier HASP II program that was used for this same purpose, is smaller and simpler than JES3 and can handle 99% of most jobs that run on IBM's MVS operating system.

LAN

Acronym for Local Area Network. A high-speed communications network within a limited geographic area. LANs link several computers together within a single building or campus. (In contrast, a wide area network might span hundreds or thousands of miles.)

LU

Acronym for Logical Unit. In SNA communications, an independent stream of data that is multiplexed with other streams within a physical unit.

macro

An instruction in a source language that points to a sequence of instructions in the same language to replace it. The macro can also specify values for parameters in the replacement instructions.

mainframe

Term used for a large central computer that offers a full set of computing services. The term originated in the days when the central processor, memory, and input/output channels were located in one central housing, called the mainframe. Synonymous with host computer.

modem

Short for modulator/demodulator. A communications device that enables a computer to transmit information over a standard telephone line.

NCP

Acronym for Network Control Protocol. The protocol responsible for negotiating network-layer details related to the transmission of TCP/IP packets over dial-up telephone connections, such as between a computer and the Internet.

network

An arrangement of nodes and connecting branches for information interchange.

NRZI

Acronym for Non-Return-to-Zero Inverted. A transmission method in which the polarity of the bit is reversed when a 1 bit is encountered in the data stream. All subsequent zeros following the 1 are encoded at the same polarity. In SNA communications, a way to code data transmission so that the sender changes the signal from a binary 0 to the opposite state and leaves the signal for binary 1 in the same state. Also known as invert on zero coding.

parameter

In programming, a value that is given to a variable, either at the beginning of an operation or before an expression is evaluated by a program.

PDIR

Acronym for Peripheral Data set Information Record. PDIRs include job name, form name, FCB name, and copy information.

port

An access point for data entry or exit. Also, a connector on a device to which cables for other devices, such as printers, are attached.

PU

Acronym for Physical Unit. In SNA communications, an independent unit attached to an SDLC line. The component that manages and monitors the resources (such as attached and adjacent link stations) associated with a node as requested by an SSCP through an SSCP-PU session. An SSCP activates a session with a PU to indirectly manage resources of the node, such as attached links, through the PU. This term applies to type 2.0, type 4, and type 5 nodes only.

remote

A computer or other device located in another place (room, building, or city), but accessible through a cable or communications link.

RJE

Acronym for Remote Job Entry. A computing environment in which you can create programs and data on the computer, then transmit them to the mainframe, receive the printouts at high speed on disk or printers, and control the status of jobs by using remote operator commands.

S/390

IBM mainframe machine architecture.

SDLC

Acronym for Synchronous Data Link Control. A low-level communications protocol for synchronous communications. It is defined for both full-duplex and half-duplex operation. SNA uses SDLC as its low-level communications protocol.

SNA

Acronym for Systems Network Architecture. The description of logical structure, formats, protocols, and operational sequences for transmitting information units through and controlling the configuration and operation of networks.

switched line

A standard dial-up telephone connection; the type of line established when a call is routed through a switching station.

throughput

In printing programs, the rate of data transfer from the program, through the printer, onto paper.

token ring

A LAN formed in a ring (closed loop) topology that uses token passing as a means of regulating traffic on the line. On a token ring network, a token governing the right to transmit is passed from one station to the next in a physical circle.

token ring interface coupler (TIC)

An interface adapter installed in the 3745 or 3725 front-end processor to connect to a token ring network.

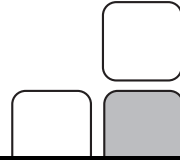
VTAM

Acronym for Virtual Telecommunications Access Method. An IBM operating systems program that resides on the mainframe controlling SNA communications between the mainframe applications software and the remote terminals.

Xid

The mainframe sends an exchange ID request (Xid) as the first message to a dial-up remote to identify the remote's physical unit (PU). The host responds with an Exchange ID response (Xidr).

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