

# BARR/PRINT390 *for IPDS*

Solutions for Connecting Your Mainframe to Your  
Channel-attached Printer



Documentation Edition 4  
Software Version 2.0.6 or later

## Editors

Becky Senn  
Michele Nylander

## Programmers

Ken Clark  
Dennis Mahoney  
Mario Montes

Copyright © 2003-2008 by Barr Systems, LLC  
All Rights Reserved.



Barr Systems, LLC  
4500 NW 27 Avenue  
Gainesville, FL 32606-7031

Phone: 800-BARR-SYS  
800-227-7797  
352-491-3100

Fax: 352-491-3141

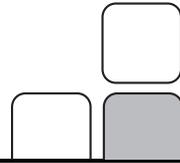
Internet: [support@barrsystems.com](mailto:support@barrsystems.com)  
Web site: [www.barrsystems.com](http://www.barrsystems.com)  
FTP site: [ftp.barrsystems.com](ftp://ftp.barrsystems.com)

The Barr logo is a registered trademark and BARR/PRINT 390 *for IPDS*, BARR/CHANNEL-OUT, BARR/PRINT CHANNEL *for IPDS*, and Barr Enterprise Print Server are trademarks of Barr Systems, LLC. Microsoft, Windows, Windows 2000, Windows 2003, and Windows XP are registered trademarks of Microsoft Corporation in the United States and other countries. AS/400, ESCON, and IBM are registered trademarks of International Business Machines Corporation. Pentium is a registered trademark of Intel Corporation. All other trademarks are the sole property of their respective owners.

March 27, 2008

# Preface

---



BARR/PRINT390 *for IPDS* comes with both a printed manual with getting started information and extensive online documentation.

## **This manual**

Follow the instructions in this manual to install the BARR/PRINT390 *for IPDS* hardware and software. The manual provides basic information to help get you started. Refer to the Help for detailed instructions on configuring and operating BARR/PRINT390 *for IPDS*. Chapter 8 explains how to launch and use the Help.

## **HTML Help**

The Help gives you comprehensive step-by-step configuration and operation instructions for BARR/PRINT390 *for IPDS*. You can view up-to-date Help files for the current software release by visiting the support page of the Barr Systems Web site ([www.barrcentral.com](http://www.barrcentral.com)).

## **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, excluding bank holidays. Refer to the Technical Support Web site ([www.barrcentral.com](http://www.barrcentral.com)) for specific information regarding the hours of operation.

Other methods of technical support include on-site visits, remote control service, and FTP server access. You have two easy-to-use support options available 24 hours a day, 7 days a week using the Internet.

- **Knowledgebase** – The knowledgebase system ([www.barrcentral.com/support/kb](http://www.barrcentral.com/support/kb)) offers a complete database of solutions to known problems. Our knowledgebase is designed to locate solutions based on the symptoms you are experiencing. We search the same knowledge when you call or e-mail us! When we solve your problem, we add it to our knowledgebase.
- **Case Manager** – If you’ve looked in our latest Help and knowledgebase and you still didn’t find your answer, you probably need our Technical Support. We’ve opened our case tracking system up to you on Barr Central through Case Manager ([www.barrcentral.com/support/cases](http://www.barrcentral.com/support/cases)). With Case Manager you can create a new case, add notes to the case, check its status, and attach diagnostics. Barr Systems is notified of these events so our Support team knows what you need, and we keep in contact with you while the issue is being worked on.

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

## Barr Messages

Barr Systems provides messages that help to resolve problems concerning the installation, configuration, tuning, testing, and operation of our products. Message boxes display when the system needs to notify you about a particular situation or condition. See the *Interpreting Barr Messages* Help topic to learn more about the Barr messages.

The following buttons provide more detailed information about the message. They link directly to the Help or Knowledgebase system.

Button	Explanation
	Provides a link to the Help where additional information can be found. This will open an associated Help topic or the <i>Getting help</i> topic where you can search for related information.
	Provides a link to Barr Central ( <a href="http://www.barrcentral.com">www.barrcentral.com</a> ) where an updated message might be available. You can link from this page in Barr Central to the knowledgebase, a complete database of solutions to known problems. The knowledgebase will locate solutions based on the symptoms you are experiencing.

## Software version number

Once BARR/PRINT390 *for IPDS* has been installed, from the taskbar, click Start | Programs | Barr Print390 for IPDS | **PRINT390 for IPDS**. From the BARR/PRINT390 *for IPDS* menu bar, select Help | **About BARR/PRINT390 for IPDS**. The software version number and the hardware key serial number display in this window.

The Barr Technical Support analyst may also request version numbers for additional program files. Use the Windows Explorer and navigate to the folder where you installed the Barr software (usually \\Program Files\\Barr\\PRINT390 for IPDS). Select the program file name, right-click, and then select **Properties**. Select the **Version** tab and note the **File version** number.

## Hardware serial numbers

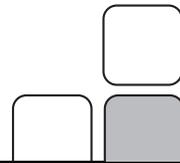
You can obtain the hardware key serial number from the blue sticker on the hardware key. Once BARR/PRINT390 *for IPDS* has been installed, click Start | Programs | Barr Print390 for IPDS | **PRINT390 for IPDS**. From the BARR/PRINT390 *for IPDS* menu bar, select Help | **About BARR/PRINT390 for IPDS**. The software version number and the hardware key serial number display in this window.

You can also 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 it is handwritten in permanent ink
- Blue sticker on the adapter box

*Notes:*

# Contents



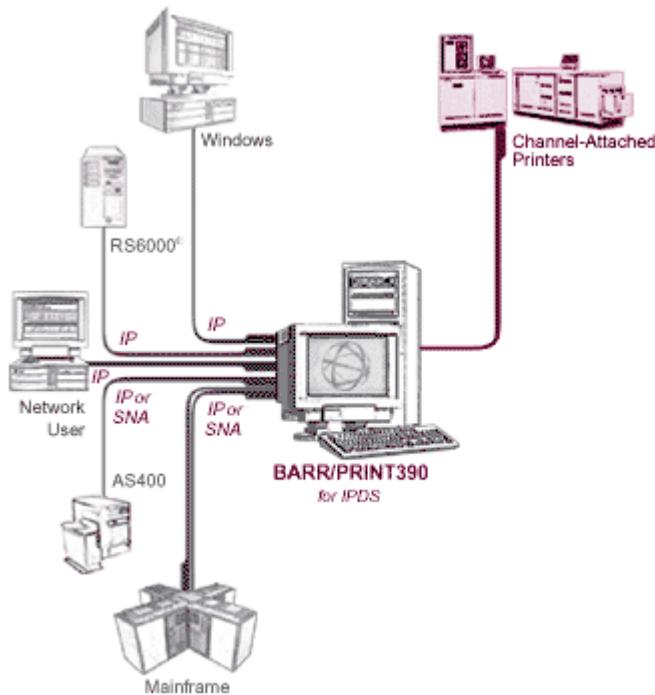
<b>Preface</b> .....	<b>iii</b>
<b>1. Introduction</b> .....	<b>1</b>
1.1 Features .....	2
1.2 System requirements .....	2
1.3 Section 508 – Software accessibility .....	3
1.4 Package contents.....	4
<b>2. Configure the Host</b> .....	<b>5</b>
2.1 Configure PSF.....	5
2.2 Configure JES2 .....	8
2.3 Configure VTAM (SNA connections only) .....	9
2.4 Configuration examples .....	11
<b>3. Configure the SNA Gateway</b> .....	<b>13</b>
3.1 Configure the mode table .....	13
3.2 Configure the local LU name.....	13
3.3 Configure the remote LU name .....	14
<b>4. Install the Software and Hardware</b> .....	<b>15</b>
4.1 Install or reinstall the software.....	15
4.2 Install the hardware key .....	17
4.3 Install the CHANNEL-OUT hardware .....	17
4.4 Install the device driver .....	17
<b>5. Run Hardware Diagnostics</b> .....	<b>21</b>
5.1 Phase 1: Test the adapter .....	21
5.2 Phase 2: Test the cable .....	22
5.3 Phase 3: Test the entire printer chain .....	23
<b>6. Configure and Use the Software</b> .....	<b>25</b>
6.1 Add connections.....	26
6.2 Start and stop connections.....	28
6.3 Interpret connection status.....	29

<b>7. Conduct a Trace</b> .....	<b>31</b>
7.1 Trace the problem .....	31
7.2 Gather and send the diagnostics file .....	32
<b>8. Use HTML Help</b> .....	<b>35</b>
8.1 Launch the Help .....	35
8.2 Navigate within the Help .....	36
8.3 Get more out of HTML Help .....	39
8.4 Copy or print a Help topic.....	39
8.5 Customize your Help.....	40
<b>Glossary</b> .....	<b>41</b>
<b>Index</b> .....	<b>47</b>

# Introduction

## chapter 1

BARR/PRINT390 *for IPDS* provides an inexpensive alternative to channel extenders. This product allows you to connect your channel-attached IPDS (Intelligent Printer Data Stream) printers directly to the print server running on a Windows platform anywhere on your TCP/IP network. Your host's PSF will convert the AFP (Advanced Function Presentation) data stream to IPDS and communicate using TCP/IP or SNA directly to your channel-attached IPDS printer through the print server.



With BARR/PRINT390 *for IPDS over SNA*, you can connect to MVS mainframes running PSF/MVS through Microsoft's SNA gateway – Microsoft SNA Server or Microsoft Host Integration Server (HIS) – and use BARR/CHANNEL with ESCON or Bus & Tag cables as your physical host connection.

With BARR/PRINT390 *for IPDS over IP*, you can connect to any host through an IP socket.

# 1.1 Features

BARR/PRINT390 *for IPDS* includes the following features and benefits.

- Supports up to eight printers per adapter
- Supports the following Bus & Tag printers:
  - IBM – 3825, 3827, 3828, 3835, 3900
  - Xerox – IPS printers
  - Océ (Siemens) – 2030-2, 2050-200, 2075-200, 2090-4, 2140-4, 2240-4, 2300-4, A-twin (when used with BARR/PRINT CHANNEL *for IPDS*)
  - Other – IPDS Group3 equivalent printers
- Keeps control of the printer with PSF on the mainframe, keeping all commands for restarting and reprinting in one place
- Attaches printers to any suitable client computer in the SNA gateway domain
- Shares the BARR/CHANNEL-OUT adapter with Barr Enterprise Print Server
- Supports up to four adapters per installation

# 1.2 System requirements

Install BARR/PRINT390 *for IPDS* on a computer server or workstation that meets the following requirements.

## Software requirements

For BARR/PRINT390 *for IPDS*, you need the following software installed.

- Microsoft Windows Server 2003, Microsoft Windows XP, or Microsoft Windows 2000  
Because of the differences in the operating systems, some procedures will vary. When completing a procedure, follow the steps appropriate for your operating system. For Windows Server 2003, follow the steps for Windows XP.
- Microsoft Internet Explorer version 5.5 or later
- BARR/PRINT390 *for IPDS over SNA* requires Microsoft SNA Server 4.0 or Microsoft Host Integration Server (HIS)
- When used in conjunction with Barr Enterprise Print Server, the Barr Enterprise Print Server must be version 5.0 or later
- When used in conjunction with BARR/PRINT CHANNEL, the BARR/PRINT CHANNEL must be version 2.0.26 or later
- When used in conjunction with BARR/PRINT CHANNEL *for IPDS*, the BARR/PRINT CHANNEL *for IPDS* must be version 2.0.15 or later

## Hardware requirements

The computer where you install BARR/PRINT390 *for IPDS* must meet the minimum hardware requirements.

### Minimum:

- 1.0 GHz Pentium processor
- 512 megabytes (MB) of RAM
- 30 GB hard drive
- CD-ROM drive
- SVGA display
- Parallel or USB port
- PCI slots half length and full height for Barr adapters

### Recommended:

- 2.8 GHz processor with hyper-threading
- 1 GB of RAM
- 36 GB SCSI or SATA hard drive
- CDRW drive or USB flash drive
- Configured/tested backup system (dependent on downtime tolerance)



These are basic recommendations. Specific requirements are dependent on the operating system, expected production volume, and other applications.

---

## 1.3 Section 508 – Software accessibility

In 1998, Congress amended the Rehabilitation Act to require Federal agencies to make their electronic and information technology accessible to people with disabilities. Inaccessible technology interferes with an individual's ability to obtain and use information quickly and easily. Section 508 was enacted to eliminate barriers in information technology, to make available new opportunities for people with disabilities, and to encourage development of technologies that will help achieve these goals. The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology.

Barr Systems believes that Section 508 compliance is important for industry, government, and essential for people with disabilities. We proactively design accessible products and document how our products meet the Section 508 Standards. BARR/PRINT390 *for IPDS* meets the Section 508 software accessibility standards.

## 1.4 Package contents

Your BARR/PRINT390 *for IPDS* package includes these items:

- CD-ROM containing the BARR/PRINT390 *for IPDS* software and HTML Help
- Hardware key used for software copy protection
- BARR/PRINT390 *for IPDS* manual (this manual)

See the corresponding hardware manual for a list of the hardware package contents for the channel hardware.

# Configure the Host



You must configure the host if you are adding printer definitions to the mainframe for the first time. Host configuration differs depending on the type of connection you will be using.



If you are replacing an existing channel-attached IPDS printer, you do not need to change your host definitions.

Use the following table to determine which host configuration sections must be completed.

IP Connections	SNA Connections
2.1 Configure PSF	2.1 Configure PSF
2.2 Configure JES2	2.2 Configure JES2
	2.3 Configure VTAM

## 2.1 Configure PSF

PSF procedures describe the type of printer attachment (in this case, remote) and set up the different resource libraries needed for IPDS printing. The host programmer must define a separate procedure in the SYS1.PROCLIB for each IPDS printer.

The PSF configurations for IP and SNA connections are almost identical. In the following sample definitions, the differences are shown in bold.

**FIGURE 2-1**  
PSF configuration for IPDS over IP connections

```
//psfproc PROC LIB='JES2.....'
//***** THE PSF SNA WRITER PROCEDURE *****
//STEP01 EXEC PGM=APSPPIEP,REGION=1750K
//STEPLIB DD DSN=&LIB,DISP=SHR
//SYSUDUMP DD SYSOUT=A
//JOBHDR OUTPUT PAGEDEF=V06483, /* JOB SEPARATOR PAGEDEF */
// FORMDEF=010110,CHARS=GT12 /* JOB SEPARATOR FORMDEF @H3C */
//JOBTLR OUTPUT PAGEDEF=V06483, /* JOB SEPARATOR PAGEDEF */
// FORMDEF=010110,CHARS=GT12 /* JOB SEPARATOR FORMDEF @H3C */
//DSHDR OUTPUT PAGEDEF=V06483, /* DS SEPARATOR PAGEDEF */
// FORMDEF=010110,CHARS=GT12 /* DS SEPARATOR FORMDEF @H3C */
//MSGDS OUTPUT PAGEDEF=V06483, /* MESSAGE DATASET PAGEDEF */
// FORMDEF=010110,CHARS=GT12 /* MESSAGE DATASET FORMDEF @H3C */
//*
//FONT01 DD DSN=SYS1.FONT3820,DISP=SHR /* SYSTEM FONTS */
// DD DSN=MVS.PSF.FONTLIB,DISP=SHR /* EXTRA FONTS */
//PSEG01 DD DSN=SYS1.PSEGLIB,DISP=SHR /* SYSTEM PAGE SEG */
// DD DSN=MVS.PSF.PSEGLIB,DISP=SHR /* EXTRA PAGE SEGMENTS */
//OLAY01 DD DSN=SYS1.OVERLIB,DISP=SHR /* SYSTEM OVERLAYS */
// DD DSN=MVS.PSF.OVERLIB,DISP=SHR /* EXTRA OVERLAYS */
//PDEF01 DD DSN=SYS1.PDEFLIB,DISP=SHR /* SYSTEM PAGEDEFS */
// DD DSN=MVS.PSF.PDEFLIB,DISP=SHR /* EXTRA PAGEDEFS */
//FDEF01 DD DSN=SYS1.FDEFLIB,DISP=SHR /* SYSTEM FORMDEFS */
// DD DSN=MVS.PSF.FDEFLIB,DISP=SHR /* EXTRA FORMDEFS */
//*
//PRTxx CNTL
//PRTxx PRINTDEV FONTDD=*.FONT01. /* FONT LIBRARY DD */
// OVLYDD=*.OLAY01, /* OVERLAY LIBRARY DD */
// PSEGDD=*.PSEG01, /* SEGMENT LIBRARY DD */
// PDEFDD=*.PDEF01, /* PAGEDEF LIBRARY DD */
// FDEFDD=*.FDEF01, /* FORMDEF LIBRARY DD */
// JOBHDR=*.JOBHDR, /* JOB HEADER SEPARATOR OUTPUT */
// JOBTLR=*.JOBTLR, /* JOB TRAILER SEPARATOR OUTPUT */
// DSHDR=*.DSHDR, /* DATA SET HEADER SEPARATOR */
// MESSAGE=*.MSGDS, /* MESSAGE DATA SET OUTPUT */
// PAGEDEF=V06483, /* DEVICE PAGEDEF DEFAULT */
// CHARS=(GT12), /* DEFAULT FONT SET */
// FORMDEF=010110, /* DEVICE FORMDEF DEFAULT */
// PIMSG=YES, /* ACCUMULATE DATA SET MESSAGES */
// DATAACK=BLOCK, /* DO NOT NOTIFY PSF OF DATA ERRORS */
// TRACE=NO, /* CREATE INTERNAL TRACE ENTRIES */
// FAILURE=WCONNECT, /* PSF ACTION ON PRINTER FAILURE */
// MGMTMODE=OUTAVAIL, /* START WHEN OUTPUT IS AVAILABLE */
// TIMEOUT=REDRIVE, /* PSF ACTION ON TIMEOUT */
// DISCINTV=10, /* DISCONNECT INTERVAL IN SECONDS */
// IPADDR=' 999. 999. 999' /* PRINTER IP ADDRESS */
// PORTNO=5001 /* PRINTER PORT (SOCKET) NUMBER */
// PRTxx ENDCNTL
```

**FIGURE 2-2**  
PSF configuration for IPDS over SNA connections

```

//psfproc PROC LIB='JES2.....'
//***** THE PSF SNA WRITER PROCEDURE *****
//STEP01 EXEC PGM=APSPPIEP,REGION=1750K
//STEPLIB DD DSN=&LIB,DISP=SHR
//SYSUDUMP DD SYSOUT=A
//JOBHDR OUTPUT PAGEDEF=V06483, /* JOB SEPARATOR PAGEDEF */
// FORMDEF=010110,CHARS=GT12 /* JOB SEPARATOR FORMDEF @H3C */
//JOBTLR OUTPUT PAGEDEF=V06483, /* JOB SEPARATOR PAGEDEF */
// FORMDEF=010110,CHARS=GT12 /* JOB SEPARATOR FORMDEF @H3C */
//DSHDR OUTPUT PAGEDEF=V06483, /* DS SEPARATOR PAGEDEF */
// FORMDEF=010110,CHARS=GT12 /* DS SEPARATOR FORMDEF @H3C */
//MSGDS OUTPUT PAGEDEF=V06483, /* MESSAGE DATASET PAGEDEF */
// FORMDEF=010110,CHARS=GT12 /* MESSAGE DATASET FORMDEF @H3C */
//*
//FONT01 DD DSN=SYS1.FONT3820,DISP=SHR /* SYSTEM FONTS */
// DD DSN=MVS.PSF.FONTLIB,DISP=SHR /* EXTRA FONTS */
//PSEG01 DD DSN=SYS1.PSEGLIB,DISP=SHR /* SYSTEM PAGE SEG */
// DD DSN=MVS.PSF.PSEGLIB,DISP=SHR /* EXTRA PAGE SEGMENTS */
//OLAY01 DD DSN=SYS1.OVERLIB,DISP=SHR /* SYSTEM OVERLAYS */
// DD DSN=MVS.PSF.OVERLIB,DISP=SHR /* EXTRA OVERLAYS */
//PDEF01 DD DSN=SYS1.PDEFLIB,DISP=SHR /* SYSTEM PAGEDEFS */
// DD DSN=MVS.PSF.PDEFLIB,DISP=SHR /* EXTRA PAGEDEFS */
//FDEF01 DD DSN=SYS1.FDEFLIB,DISP=SHR /* SYSTEM FORMDEFS */
// DD DSN=MVS.PSF.FDEFLIB,DISP=SHR /* EXTRA FORMDEFS */
//*
//PRTxx CNTL
//PRTxx PRINTDEV FONTDD=*.FONT01. /* FONT LIBRARY DD */
// OVLYDD=*.OLAY01, /* OVERLAY LIBRARY DD */
// PSEGDD=*.PSEG01, /* SEGMENT LIBRARY DD */
// PDEFDD=*.PDEF01, /* PAGEDEF LIBRARY DD */
// FDEFDD=*.FDEF01, /* FORMDEF LIBRARY DD */
// JOBHDR=*.JOBHDR, /* JOB HEADER SEPARATOR OUTPUT */
// JOBTLR=*.JOBTLR, /* JOB TRAILER SEPARATOR OUTPUT */
// DSHDR=*.DSHDR, /* DATA SET HEADER SEPARATOR */
// MESSAGE=*.MSGDS, /* MESSAGE DATA SET OUTPUT */
// PAGEDEF=V06483, /* DEVICE PAGEDEF DEFAULT */
// CHARS=(GT12), /* DEFAULT FONT SET */
// FORMDEF=010110, /* DEVICE FORMDEF DEFAULT */
// PIMSG=YES, /* ACCUMULATE DATA SET MESSAGES */
// DATAK=BLOCK, /* DO NOT NOTIFY PSF OF DATA ERRORS */
// TRACE=NO, /* CREATE INTERNAL TRACE ENTRIES */
// FAILURE=WCONNECT, /* PSF ACTION ON PRINTER FAILURE */
// MGMTMODE=OUTAVAIL, /* START WHEN OUTPUT IS AVAILABLE */
// TIMEOUT=REDRIVE, /* PSF ACTION ON TIMEOUT */
// DISCINTV=10, /* DISCONNECT INTERVAL IN SECONDS */
// APPLID=psflu, /* VTAM APPLICATION PGM NODE NAME */
// LUNAME=luname01 /* VTAM LOGICAL UNIT NAME */
// LOGMODE=BarrPSF /* VTAM LOGMODE TO BE USED */
// PRTxx ENDCNTL

```

The **APPLID** (**psflu**), **LUNAME** (**luname01**), and **LOGMODE** (**BarrPSF**) must match the values in the VTAM host configuration and the SNA gateway configuration.

## 2.2 Configure JES2

The following example shows the printer definition portion of the JES2 remote definition. Define IPDS printers according to the example.

```
PRTxx CKPTPAGE=100,  
CLASS=ACFJT,  
COPYMARK=JOB,  
DRAIN,  
FSS=fssname,  
MARK,  
MODE=FSS,  
PRESELCT=NO,  
PRMODE=(LINE,PAGE),  
ROUTECD=Uxx,  
WS=(W,R,Q,PMD,LIM,F/P)  
DESTID NAME=hostprn,DEST=Uxx  
FSSDEF FSSNAME=fssname,PROC=psfproc
```

Parameter	Description
PRTxx	Replace the <b>xx</b> with the printer number on the mainframe. This number is also used in PSF host configuration.
FSS=fssname and FSSNAME=fssname	Enter the PSF procedure that describes the printer attributes. This can be found in the PSF host configuration.
ROUTECD=Uxx	Replace <b>xx</b> with the routing label for the printer. This will typically match the <b>DEST=Uxx</b> parameter.
DEST=Uxx	Replace <b>xx</b> with the routing label for the printer. This will typically match the <b>ROUTECD=Uxx</b> parameter.

## 2.3 Configure VTAM (SNA connections only)

In VTAM, the host programmer must define a logical unit (LU), physical unit (PU) and LU macros, and a PSF logmode table.

### LU definition

PSF uses an application LU to communicate with the remote IPDS printer. The host programmer enters the LU definition in the SYS1.VTAMLST (APPL) library. The LU definition that the Barr software requires is shown below.

```
psflu      VBUILD    TYPE=APPL
           APPL      AUTH=ACQ,EAS=1,SONSCIP=YES
```

Where **psflu** is the macro name. This must match the **APPLID** value in the PSF host configuration.

### PU and LU macros

The host programmer must enter the following definitions in an existing PU definition. PU definitions will be located on your host in the SYS1.VTAMLST library. The following is the **LU** macro for the IPDS LU.

```
luname01  LU      LOCADDR=n,DLOGMOD=BarrPSF
```

Parameter	Description
luname01	Enter the logical unit name for the IPDS LU. This value must match the <b>luname01</b> in PSF host configuration. It must also match the IPDS remote <b>LU Alias</b> in the SNA gateway configuration.
LOCADDR= <i>n</i>	Enter a valid local address from 1 to 255. This value must match the IPDS local <b>LU Number</b> in the SNA gateway configuration.
DLOGMOD=BarrPSF	Enter the logon mode table entry. This must match the PSF logmode table entry below and the <b>Mode Name</b> in SNA gateway configuration.

## PSF logmode table

This is an example of a typical PSF logmode table definition. The logmode is defined in the SYS1.VTAMLIB library.

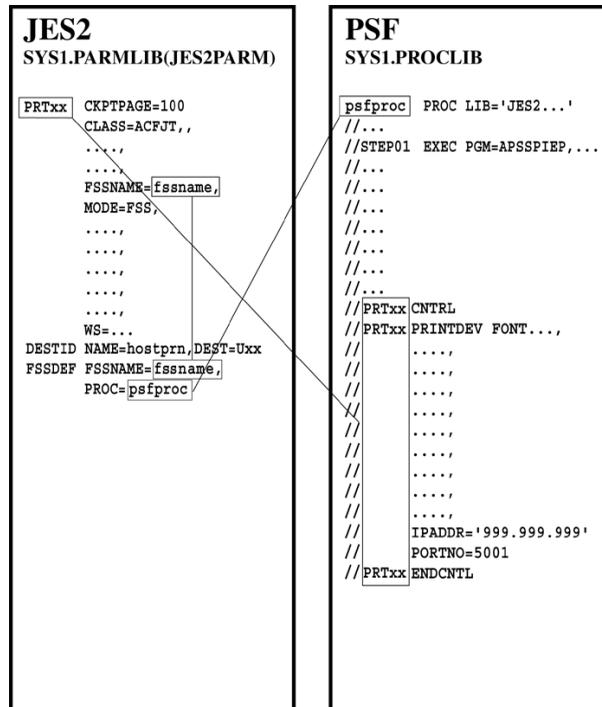
```
BarrPSF MODEENT LOGMODE=BarrPSF
      FMPROF=X'13',TSPROF=X'07',PRIPROT=X'B0',
      SECPROT=X'B0',COMPROT=X'D0B1',RUSIZES=X'8686',
      PSERVIC=X'060200000000000000002000',
      PSNDPAC=X'07',SRCVPAC=X'07',SSNDPAC=X'00'
```

For **LOGMODE=BarrPSF**, enter the logon mode table entry. This must match the **DLOGMOD** in the LU macro and the **Mode Name** in SNA gateway configuration. In some cases, IBM's predefined logmode **IBM3820** may work. You may want to reference the IBM logmode for required settings.

## 2.4 Configuration examples

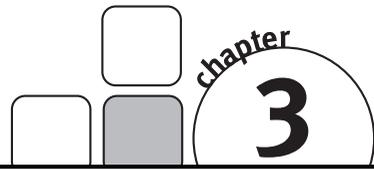
The following diagrams show how parameter values are shared in host configurations. IPDS over IP connections share values in JES2 and PSF (see Figure 2-3). IPDS over SNA connections share values in JES2, PSF, and VTAM (see Figure 2-4).

**FIGURE 2-3**  
Configuration example for IPDS over IP connections





# Configure the SNA Gateway



To configure the Microsoft SNA gateway for BARR/PRINT390 *for IPDS over SNA*, you must configure the mode table, local LU name, and remote LU name. The following steps assume you have already established a link service and a connection. If you need assistance establishing the connections, refer to the Microsoft SNA Server or HIS Help.

## 3.1 Configure the mode table

Complete the following steps to configure the mode table.

1. Open Microsoft SNA Manager.
2. For Microsoft SNA Server, on the menu bar, select Insert | APPC | **Mode Definition**. For HIS, right-click **APPC Modes** on the left side of the window and select New | **Local LU**.
3. From the **General** tab, enter the **Mode Name**. This name must match the **LOGMODE** in the PSF host configuration and the **DLOGMOD** in the VTAM host configuration.
4. Click **OK** to close.

## 3.2 Configure the local LU name

Complete the following steps to configure the local LU name.

1. For Microsoft SNA Server, on the menu bar, select Insert | APPC | **Local LU**. For HIS, under the connections folder right-click **Local APPC LUs** and select New | **Local LU**.
2. From the **General** tab, enter the following:
  - **LU Alias** – This must match the **Local LU name** you enter when you add an IPDS connection and the **LUNAME** specified in the PSF host configuration.
  - **Network Name** – This must match the local APPC LU network name. You can get this name from your network administrator.
  - **LU Name** – This must match the **LU Alias** entered above.

3. From the **Advanced** tab, make the following changes:
  - **LU 6.2 Type** – Change the type to **Dependent**.
  - **LU Number** – This must match the **LOCADDR** used in VTAM host configuration.
  - **Connection** – Select the connection from the drop-down list.
4. Click **OK** to close.

### 3.3 Configure the remote LU name

Complete the following steps to configure the remote LU name.

1. For Microsoft SNA Server, on the menu bar, select Insert | APPC | **Remote LU**. For HIS, under the connections folder right-click **Local APPC LUs** and select New | **Remote LU**.
2. Select the connection from the drop-down list.
3. From the **General** tab, make the following changes:
  - **LU Alias** – This must match the **APPLID** specified in PSF host configuration.
  - **Network Name** – This must match the network name. You can get this name from your network administrator.
  - **LU Name** – This must match the **LU Alias** entered above.
  - **Uninterpreted Name** – This must match the **LU Name** entered above.
4. From the **Options** tab, make the following changes:
  - **Support Parallel Sessions** – Clear the check box.
  - **Implicit Incoming Mode** – This must match the **Mode Name** specified in the mode table, the **DLOGMOD** in VTAM host configuration, and the **LOGMODE** in PSF host configuration.
5. Click **OK** to close.
6. Right-click the Local LU you created and select **Properties**.
7. From the **Advanced** tab, set the **Implicit Incoming Remote LU** as the remote LU you just defined.
8. Click **OK** to close.

# Install the Software and Hardware



Follow the instructions in this chapter to install the BARR/PRINT390 *for IPDS* software and hardware on your computer. When you finish the installation, refer to the subsequent chapters of this manual or the Help for configuration instructions. Complete the following steps to install BARR/PRINT390 *for IPDS*.

1. Install or reinstall the software
2. Install the hardware key
3. Install the CHANNEL-OUT hardware
4. Install the device driver

## 4.1 Install or reinstall the software



You must be a member of the local **Administrators** group on the computer where you install BARR/PRINT390 *for IPDS*.

Follow these steps to install the BARR/PRINT390 *for IPDS* software. The setup program copies files from the BARR/PRINT390 *for IPDS* CD to your computer.



If you are reinstalling BARR/PRINT390 *for IPDS* or installing a newer version, first perform the steps in the following section, "Remove BARR/PRINT390 *for IPDS*."

1. Before you run the setup program, exit all Windows programs.
2. Insert the BARR/PRINT390 *for IPDS* CD into the CD-ROM drive. The BARR/PRINT390 *for IPDS* Setup program automatically displays. If auto run is disabled on your system or if the setup program does not automatically display, right-click **Start** on the taskbar and select **Explore**. Navigate to the CD-ROM drive and double-click **Setup.exe**.
3. Read the information on the **Welcome** dialog box, and then click **Next**.
4. Review the license agreement, and then click **Yes**. (To install the software, you must accept the terms of the license agreement.)
5. On the **User Information** dialog box, enter your name and your company name, and then click **Next**. This information is required.
6. On the **Select Program Folder** dialog box, select the folder for storing BARR/PRINT390 *for IPDS* program icons, and then click **Next**. As files are installed, installation progress displays on your screen.

7. On the **Setup Complete** dialog box, choose whether or not to launch BARR/PRINT390 *for IPDS* or the online Help.
8. Click **Finish**. You may be prompted to restart your computer.
9. Open the BARR/PRINT390 *for IPDS* window to activate the software before your grace period expires (usually 30 days). You can receive your activation code by clicking **Barr Central** on the activation dialog, visiting [www.barrcentral.com/activate](http://www.barrcentral.com/activate), or contacting Barr Systems Technical Support. Activation codes are valid only for a single version of the BARR/PRINT390 *for IPDS* software.

## Remove BARR/PRINT390 *for IPDS*

Use the Windows Add or Remove Programs utility to remove BARR/PRINT390 *for IPDS* from your computer. Before reinstalling the program, you must remove the existing software. Complete the following steps.

1. Stop all BARR/PRINT390 *for IPDS* connections, if they are not already stopped.
  - a. Open BARR/PRINT390 *for IPDS*. (From the taskbar, click Start | Programs | Barr Print390 for IPDS | **PRINT390 for IPDS**.)
  - b. Right-click each connection, and click **Stop**.
2. Close BARR/PRINT390 *for IPDS*.
3. Open the Windows Add or Remove Programs utility.
  - For Windows 2000, from the taskbar, select Start | Settings | Control Panel | **Add or Remove Programs**.
  - For Windows XP, from the taskbar, select Start | Control Panel | **Add or Remove Programs**.
4. Select **BARR/PRINT390 for IPDS**, and then click **Remove**.
5. A confirmation message box displays. Click **Yes** to remove the software. Click **No** to return to the Windows Add or Remove Programs utility.
6. A message box displays asking if you want to remove your configuration data. If you are permanently removing the software, click **Yes** to remove the BARR/PRINT390 *for IPDS* configuration data. If you are upgrading, click **No** to leave the configuration data.
7. When removing the software, the **Remove Shared File** dialog box may display. If you choose **Yes** and other Barr programs use the file, those programs may not function properly. Because leaving the file will not harm your system, we recommend choosing **No**.
8. A message will display once the software is removed. Click **OK**.
9. To reinstall the software, follow the steps in the preceding section. If you are permanently removing the software, remove the hardware key from the parallel or USB port.

## 4.2 Install the hardware key

After you install the Barr software, you must install the hardware key on a parallel port (LPT1, LPT2, or LPT3) or a USB port on your computer. Hardware keys that attach to parallel ports act as a pass-through to the printer or other peripherals so it does not prevent the port from being used for other purposes. If more than one device requires a parallel port, daisy chain the hardware keys together from the same port. For example, plug the hardware key into the parallel port, and then plug the printer into the hardware key. Hardware keys that attach to the USB port can be attached to a hub to allow other connections to the USB port. You may be required to restart your computer before the BARR/PRINT390 *for IPDS* software can be installed.

After you install the hardware key and the Barr software, you can display the hardware key serial number by selecting Help | **About BARR/PRINT390 for IPDS** on the BARR/PRINT390 *for IPDS* menu bar.

## 4.3 Install the CHANNEL-OUT hardware

Your BARR/PRINT390 *for IPDS* package comes with a separate manual for your CHANNEL-OUT hardware. Follow the instructions in the *CHANNEL-OUT (BT)* manual to install the hardware.

## 4.4 Install the device driver

The BARR/PRINT390 *for IPDS* setup program installs the BARR/PRINT390 *for IPDS* software files. To complete installation, you need to install the device driver. Use the Device Manager in Windows 2000 or Windows XP to install and configure the device driver.

Windows 2000 or Windows XP will automatically detect the hardware and install the device driver for you. Although you can manually configure device properties and settings, you should let Windows do it. When you manually configure properties and settings, the settings become fixed, which means Windows cannot modify them if a problem arises or there is a conflict with another device. After you have installed the Barr software, complete the following steps for your operating system.



If Windows 2000 or Windows XP does not detect the CHANNEL-OUT device, you may have to use the Add/Remove Hardware utility in the Control Panel to tell Windows what type of device you are installing. See the Microsoft Help for additional information.

---

## Windows 2000

Complete the following steps if you are using Windows 2000.

1. After you've installed the CHANNEL-OUT hardware, turn on your computer.
2. Once Windows successfully locates and begins installing the appropriate device driver, the **Found New Hardware** dialog box displays. When this dialog closes, the hardware installation is complete.
3. If your printer is configured for data streaming, complete the following steps to set the channel transfer mode.
  - a. Open Device Manager. (From the taskbar, click Start | Control Panel | System. The **System Properties** dialog box displays. On the **Hardware** tab click **Device Manager**.)
  - b. Under **Barr adapters**, right-click the appropriate adapter and select **Properties**. The **Adapter Properties** dialog box displays.
  - c. Select the appropriate **Channel transfer mode** from the drop-down menu. The channel transfer mode must match the data streaming rate configured on your printer.
  - d. Click **OK**.

## Windows XP

Complete the following steps if you are using Windows XP.

1. After you've installed the CHANNEL-OUT hardware, turn on your computer.
2. Windows displays a message that the Device Manager is scanning for Plug and Play compliant hardware, then the Found New Hardware Wizard opens.



3. Select **Install the software automatically** and click **Next**. Windows will search for the software and then install the appropriate device driver.
4. Once Windows has successfully located and installed the appropriate device driver, a dialog box will confirm that the Found New Hardware Wizard has finished installing the software.
5. Click **Finish** to close the wizard.
6. If your printer is configured for data streaming, complete the following steps to set the channel transfer mode.
  - a. Open Device Manager. (From the taskbar, click Start | Control Panel | **System**. The **System Properties** dialog box displays. On the **Hardware** tab click **Device Manager**.)
  - b. Under **Barr adapters**, right-click the appropriate adapter and select **Properties**. The **Adapter Properties** dialog box displays.
  - c. Select the appropriate **Channel transfer mode** from the drop-down menu. The channel transfer mode must match the data streaming rate configured on your printer.
  - d. Click **OK**.

*Notes:*

# Run Hardware Diagnostics



Run the hardware diagnostics immediately after you install the hardware to verify that you correctly installed the CHANNEL-OUT adapter and cable and that they function properly. Thereafter, you can perform the diagnostics whenever you want to confirm that the hardware functions properly.

The test transfers data to and from the adapter and compares the data to make sure the adapter is working. When you install the test plugs, the diagnostics test raises signals and expects the signals to be looped back.

Use one of the following methods to verify that you correctly installed the CHANNEL-OUT adapter and cable and that they function properly.



---

You can only perform diagnostics on an adapter when no other program is using the adapter.

---



---

Windows 2000 and Windows XP users can also use Windows Device Manager to run hardware diagnostics.

---

## 5.1 Phase 1: Test the adapter

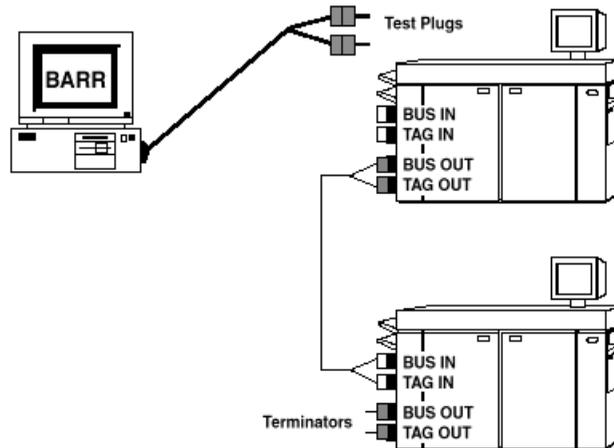
Phase 1 confirms that all connections are valid, the adapter drivers are valid, and the adapter and its components are working. The software locates the adapter and performs an internal adapter test. Complete the following steps to test the adapter.

1. Stop all programs or services using the CHANNEL-OUT device driver.
2. Connect the adapter test plug to the adapter. Adapter test plugs can only be used with Revision 3 or later adapters.
3. Open the BARR/CHANNEL-OUT utility. (From the taskbar, click Start | Programs | Barr Hardware | **Channel Out**.)
4. From the **Diagnostics** tab, select a device, and then click **Start** to begin the test.
5. As the self-test runs, diagnostic status messages display. Review the status messages. If Phase 1 reports an error, see the *Adapter installation and settings errors* Help topic for possible resolutions.

## 5.2 Phase 2: Test the cable

Phase 2 confirms that the cable is working. The software verifies correct functioning of the cable by sending a data string through the adapter in a rotating pattern. The adapter test plug returns the data through the receive-side of the adapter. The test verifies that the returned data matches the sent data. Complete the following steps to test the cable.

1. Stop all programs or services using the CHANNEL-OUT device driver.
2. Connect the adapter cable to the adapter.
3. Attach the test plugs(s) to the other end of the cable.



4. Open the BARR/CHANNEL-OUT utility.
5. From the **Diagnostics** tab, select a device to test, and then click **Start**.
6. As the test runs, diagnostic status messages display. Review the status messages.



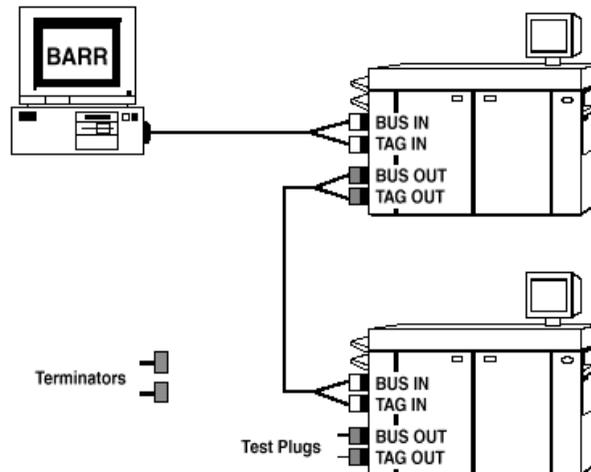
If this test passes but you still suspect a malfunction in the printer chain, perform the Phase 3 test of the entire printer chain.

## 5.3 Phase 3: Test the entire printer chain

Perform this test if the adapter and CHANNEL-OUT cable test passes but you still suspect a malfunction in the printer chain. This test is the same as the adapter and CHANNEL-OUT cable test, except that you install the test plugs on printers or daisy-chain cables instead of on the CHANNEL-OUT cable.

First, test the entire printer chain. If the test reports an error, you can systematically rule out problems with each cable or printer by running the test several more times, each time with the test plugs attached to the next cable or printer in the chain. Complete the following steps to test the printer connectors and daisy-chain cables. The following diagram shows how to connect the cables and test plugs.

1. Stop all programs or services using the CHANNEL-OUT device driver.
2. Turn off all printers. The test is not accurate if the printers are turned on.
3. Cut the test plugs from the end of the CHANNEL-OUT cable. Be careful not to misplace the test plugs because you might need them later. You might want to re-attach the test plugs to the cable when you finish testing.
4. Re-attach the CHANNEL-OUT cable to the first printer's Bus In and Tag In connectors.
5. Remove the terminator plugs from the last printer and install the test plugs on the last printer's Bus Out and Tag Out connectors.



6. Open the BARR/CHANNEL-OUT utility.
7. From the **Diagnostics** tab, select a device to test, and then click **Start**.
8. As the test runs, diagnostic status messages display. Review the status messages.



If the test passes, all of the hardware components are functioning properly. If the test fails, refer to the *Isolating the error* Help topic.

*Notes:*

# Configure and Use the Software



You must be a member of the local **Administrators** group to configure and start connections.

Once you have completed the steps in the preceding chapters, you are ready to set up and manage your connections. Use the *BARR/PRINT390 for IPDS* window to set up communication between your IPDS printers and the mainframe. Define your channel-attached printers, and then use *BARR/PRINT390 for IPDS* to start or stop the printer connections. Complete the following steps to configure and use the software.



If you are adding a new printer definition to the mainframe, you must configure the host before you use *BARR/PRINT390 for IPDS*. Follow the steps in Chapter 2 to configure the host. If you are replacing an existing channel-attached printer, you do not need to configure the host.

1. Add connections
2. Start and stop connections
3. Interpret connection status

## 6.1 Add connections

Complete the following steps to add an IPDS connection.



You must be a member of the local **Administrators** group to add, modify, and remove connections.

1. Open BARR/PRINT390 *for IPDS*. (From the taskbar, click Start | Programs | Barr Print390 for IPDS | **PRINT390 for IPDS**.)
2. On the menu bar, select Connection | Click **Add**. The **Connection Configuration** dialog box displays.

The screenshot shows the 'Connection Configuration' dialog box with the following fields and options:

- Connection properties:**
  - Name: [Empty text box]
  - Startup:  Manual  Automatic
- Host properties:**
  - IP attached IP port number: 5001
  - SNA attached Local LU name: BARRLU01
- Channel properties:**
  - Adapter: Channel Out Adapter 1 -- 320352 (dropdown menu)
  - Channel address: 1E

Buttons: OK, Cancel, Help

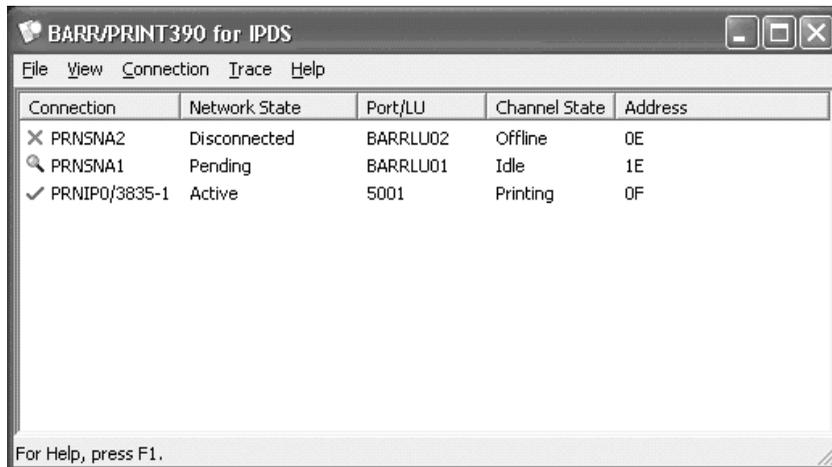
3. In the **Name** box, type the name you want to display in the BARR/PRINT390 *for IPDS* window.
4. Next to **Startup**, select how you want to start the connection.



You must be a member of the local **Administrators** group to start connections. If the operator is not a member of the local **Administrators** group, select **Automatic** so the connection will start automatically with Windows startup.

- **Manual** – Requires you to start the connection manually from the BARR/PRINT390 *for IPDS* window.
- **Automatic** – The connection will start automatically with Windows startup.

5. Under **Host properties**, select the appropriate options based on your host connection type.
  - If you are connecting using an IP connection, select **IP attached** and then enter the **IP port number**. This number must match the **PORTNO** entered during PSF host configuration. The default value is 5001.
  - If you are connecting using an SNA gateway, select **SNA attached** and then enter the **Local LU name**. This name must match the **LU Alias** entered in SNA gateway configuration. The default value is BARRLU01.
6. From the **Adapter** drop-down list, select the adapter to use for this printer.
7. Enter the **Channel address** of the printer you are adding. You can get this number from your printer vendor. The default value is 1E.
8. Click **OK**. The BARR/PRINT390 *for IPDS* window now displays the connection you just added. The connection will remain disconnected until you start it.



## 6.2 Start and stop connections

The connection you created must be started in order to use BARR/PRINT390 *for IPDS*. Refer to the following sections for information on starting, stopping, and restarting connections.



You must be a member of the local **Administrators** group to start and stop connections.

---

### To start connections

1. Open BARR/PRINT390 *for IPDS*.
2. Use one of the following methods to start the connection.
  - Select the connection, and then on the menu bar, select Connection | **Start**.
  - Right-click the connection and select **Start**.



---

Once the connection is started, BARR/PRINT390 *for IPDS* is ready to receive jobs from the host. Control of the printer remains with PSF on the mainframe.

---

### To stop connections



---

Stopping the connection will stop the data stream.

---

1. Open BARR/PRINT390 *for IPDS*.
2. Use one of the following methods to stop the connection.
  - Select the connection, and then on the menu bar, select Connection | **Stop**.
  - Right-click the connection and select **Stop**.

### To restart connections

1. Open BARR/PRINT390 *for IPDS*.
2. Use one of the following methods to restart the connection.
  - Select the connection, and then on the menu bar, select Connection | **Restart**.
  - Right-click the connection and select **Restart**.

## 6.3 Interpret connection status

Use the following table to review common connection states. The table corresponds directly to the status columns in the BARR/PRINT390 *for IPDS* window.

Connection	Network State	Port/LU	Channel State	Address
------------	---------------	---------	---------------	---------

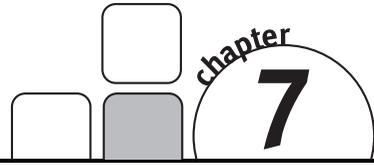
Connection	Network State	Channel State	Description
✘	Disconnected	Offline	The connection has not been started.
✔	Pending	Idle	The connection is ready to accept communications from a host.
✔	Pending	Not Ready	While waiting to accept communications from a host, the printer switched to a Not Ready state.
✔	Inactive	Not Ready	A connection has just been started. The network state will remain Inactive until the channel printer is recognized and the channel state changes to Idle.  Verify the channel printer is ready.
✔	Inactive	No Device	The connection was unable to find a channel-attached printer at the configured channel address.  Verify that the correct channel address is specified on the <b>Connection Configuration</b> dialog box. Also verify that the printer is attached correctly and is turned on.

✘ Stopped

✔ Started

*Notes:*

# Conduct a Trace



With BARR/PRINT390 *for IPDS*, you can capture a trace of the network or the channel adapter. Depending on the type of trace you need to do, complete the steps in the following sections.

1. Trace the problem
2. Gather and send the diagnostics file

## 7.1 Trace the problem

If you have communication problems, you can capture a trace of the IP network or channel adapter from the BARR/PRINT390 *for IPDS* window. When capturing a channel adapter trace, all connections using the selected adapter will be traced.



You must be a member of the local **Administrators** group to conduct a trace.

Tracing may cause performance degradation and should only be used for troubleshooting purposes.

Complete the following steps to capture a trace.

1. Open BARR/PRINT390 *for IPDS*. (From the taskbar, click Start | Programs | Barr Print390 for IPDS | **PRINT390 for IPDS**.)
2. Select the connection you want to trace.
3. Use one of the following methods to start the trace.
  - For a network trace, on the menu bar, select Trace | Network | **Long Format** or **Short Format**, depending on how detailed you want the trace to be. You can also right-click the connection and select Network Trace | **Long Format** or **Short Format**.
  - For a channel trace, on the menu bar, select Trace | Channel | **Long Format** or **Short Format**, depending on how detailed you want the trace to be. You can also right-click the connection and select Channel Trace | **Long Format** or **Short Format**.
  - For an internal trace, on the menu bar, select Trace | **Internal**. You can also right-click the connection and select **Internal Trace**. A checkmark will appear next to the menu item when the trace has been enabled. This option should only be enabled if a Barr Systems support analyst advises you to do so.

4. Use one of the following methods to start the connection.
  - On the menu bar, select Connection | **Start**.
  - Right-click the connection and select **Start**.
5. Recreate the problem.

For IP connections, the trace file is saved in the \\Program Files\Common Files\Barr\Trace folder. The trace file name will be the name of the service, with an .ipt extension for network traces and a .cht extension for channel traces.

For SNA connections, the trace files are saved in the folder specified in Microsoft SNA Server or HIS. The trace files will be named Cliapi1.atf and Cliapi2.aft. You can also capture a trace of SNA connections using Microsoft SNA Server or HIS. Refer to Microsoft's Help for more information.
6. Use one of the following methods to stop the trace.
  - For a network trace, on the menu bar, select Trace | Network | **Off**. You can also right-click the connection and select Network Trace | **Off**.
  - For a channel trace, on the menu bar, select Trace | Channel | **Off**. You can also right-click the connection and select Channel Trace | **Off**.
  - For an internal trace, on the menu bar, select Trace | **Internal**. You can also right-click the connection and select **Internal Trace**.
7. Follow the steps in Section 7.2 to gather and send the diagnostics file to Barr Systems Technical Support. The trace file will be included as part of the diagnostic file.

## 7.2 Gather and send the diagnostics file

If you have trouble operating BARR/PRINT390 *for IPDS* and contact Barr Systems Technical Support, a support analyst may request that you capture a trace and use the Diagnostics Utility to send the resulting diagnostic file.

The Diagnostics Utility automatically gathers diagnostics information into a single compressed file that you can e-mail or mail to Barr Systems Technical Support. This file includes such information as: version, registry, general computer information, hardware serial numbers for adapters and the hardware key, message and error logs, and user comments.

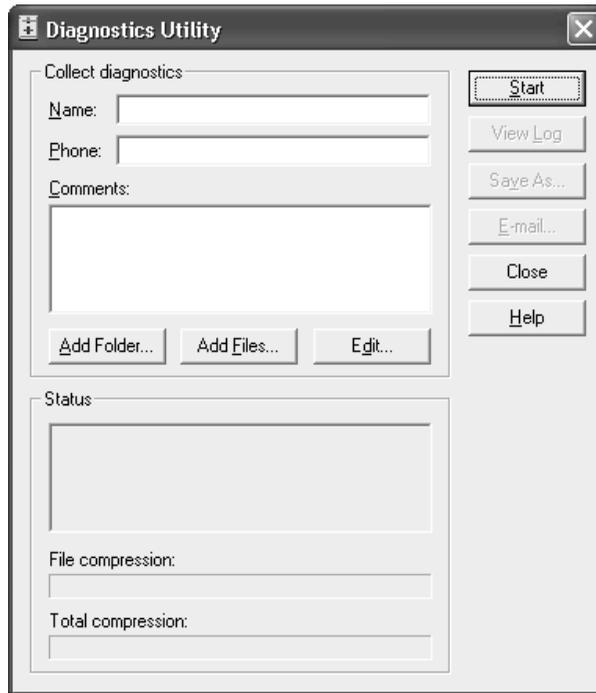


When you capture diagnostics, all trace files located in the \\Program Files\Common Files\Barr\Trace folder will be included in the diagnostics. You can select additional folders or files to be included in the diagnostics file from the Diagnostics Utility.

---

Complete the following steps to gather and send the diagnostic files to Barr Systems Technical Support.

1. Open the Diagnostics Utility. (From the BARR/PRINT390 *for IPDS* menu bar, select Trace | **Send.**)



2. In the **Name** box, type the name of the contact person. This is a required field.
3. In the **Phone** box, type the phone number of the contact person. This is a required field.
4. In the **Comments** box, type your assigned problem tracking number and a brief description of the problem.
5. Click **Add Folder** to select a folder (and all of its subfolders and files) to be included with the diagnostics.
6. Click **Add Files** to select individual files to be included with the diagnostics. Barr software configuration files and all trace files located in the \\Program Files\Common Files\Barr\Trace folder will be included in the diagnostics. Once the files in the trace folder are included in the trace, they will be moved to the \\Program Files\Common Files\Barr\Old Trace folder. If a file with the same name exists in the Old Trace folder, the existing file is replaced with the new file.

7. Click **Start**. The status of the progress of the diagnostics being gathered will be indicated in the **Status** box. The name and location of the compressed .bct file will display, indicating that all diagnostics have been collected.
8. To view the details of the diagnostics, click **View Log**.
9. To save the BarrDiag.bct file to an alternate location, click **Save As**. This is useful because the BarrDiag.bct file is saved to a hidden folder by default.
10. Use one of the following methods to send the diagnostics file.
  - If you have Internet e-mail access, click **E-mail** to send files to Barr Systems Technical Support. The e-mail will be sent to support@barrsystems.com.
  - Use the FTP server at ftp.barrsystems.com. Contact Barr Systems Technical Support for more information.
  - Use a software disk. Send your disk to:

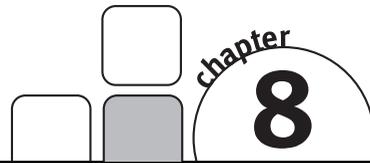
**ATTN: Technical Support – BARR/PRINT390 for IPDS**

*Barr Systems, LLC*

*4500 NW 27 Avenue*

*Gainesville, FL 32606-7031*

# Use HTML Help



HTML Help provides information on installing, configuring, and operating the BARR/PRINT390 *for IPDS* software. In HTML Help, the familiar WinHelp window has been refashioned into an HTML Help viewer – a combination of the standard Help window with the added functionality of an Internet browser. HTML Help incorporates an easy-to-use table of contents, a comprehensive index and glossary, and a full text search with advanced search capabilities. HTML Help can be accessed at any time by pressing F1 or by clicking a **Help** button. You can also access new Help topics by visiting our Web site at [www.barrsystems.com](http://www.barrsystems.com).

## 8.1 Launch the Help

Use any of these methods to open the BARR/PRINT390 *for IPDS* Help.

### From the window

You can launch the HTML Help by selecting Help | **Contents and Index** on the menu bar. Alternatively, press F1 to launch HTML Help and display information about the software window.

### From dialog boxes

From any BARR/PRINT390 *for IPDS* dialog box, click **Help** to launch HTML Help and open the topic relating to the dialog box. Alternatively, press F1.

### From the taskbar

After you install the software, you can launch HTML Help from the program menu, even when the software is not running. From the taskbar, click Start | Programs | Barr Print390 for IPDS | **Help**.

## 8.2 Navigate within the Help

You can browse through Help topics or use the **Contents**, **Index**, **Search**, or **Favorites** tabs to locate the topic of your choice.

### Browse through Help topics

It is often helpful to browse through Help topics when looking for information.

Use the **Back** button to move backward in the sequence of topics you have viewed.  
Use the **Forward** button to move forward in the sequence of topics you have viewed.

### Use the Contents tab

The table of contents in an HTML Help system is a tree outline that displays topics in an expandable/collapsible hierarchy.

Complete the following steps to find a topic in the table of contents.

1. Select the **Contents** tab.
2. Open or close books by clicking them. A closed book has a plus sign (+) next to it, and an open book has a minus sign (-).
3. Click the topic you want to view.

### Use the Index tab

The index provides a multilevel list of keywords that are found in the Help. The index is hierarchical – like the kind you find at the back of a book – and can include multiple levels.

Complete the following steps to find a topic using the index.

1. Select the **Index** tab.
2. Type a word or scroll through the list of index entries.
3. To see any topics associated with a keyword, double-click it or select it from the list and click **Display**.
4. If there is more than one topic associated with a keyword, select a topic from the **Topics Found** dialog box.



---

Topics are often indexed under more than one entry.

---

## Use the Search tab

With the **Search** tab you can perform a full-text search. With full-text searching, you can search through every word in the Help system. A basic search consists of the word or phrase you want to find. Advanced searches can incorporate Boolean operators, wildcard expressions, nested expressions, similar word matches, a previous results list, or topic titles to further define a search.

The basic rules for formulating search queries are as follows.

- Searches are not case-sensitive, so you can type your search in uppercase or lowercase characters.
- You can search for any combination of letters (a-z) and numbers (0-9).
- Punctuation marks such as the period, colon, semicolon, comma, and hyphen are ignored during a search.
- Group the elements of your search using double quotes or parentheses to set apart each element. You cannot search for quotation marks.



When searching for words in Help topics, you can have each occurrence of the word or phrase highlighted in the topics that are found. To highlight all instances of a search word or phrase, on the Help toolbar, select Options | **Search Highlight On**.

---

## To run a simple search

Complete the following steps to run a simple search.

1. Select the **Search** tab.
2. Type the word or phrase you want to find.
3. Press ENTER or click **List topics**.
4. To view a found topic, double-click it or select the topic and click **Display**.

## Advanced search features

The following are the available advanced search features.

- **Boolean operators** – You can include Boolean operators in your search. To insert a Boolean operator in your search, click the arrow next to the search text box and select **AND**, **OR**, **NOT**, or **NEAR**.
- **Advanced search options** – Use the check boxes at the bottom of the **Search** tab to select advanced search options **Search previous results**, **Match similar words**, and **Search titles only**.



For more information on advanced search features, refer to the *Using the Help* Help topic.

---

## Use the Favorites tab

It might be helpful to maintain a list of favorite Help topics that you reference frequently. Complete the following steps to add topics to a list, return to a favorite topic, rename a topic, or remove a topic.

### Add a topic

Complete the following steps to add a topic to your list of favorites.

1. Locate the Help topic you want to make a favorite topic.
2. Select the **Favorites** tab and click **Add**.

### Return to a favorite topic

Complete the following steps to open a topic in your list of favorites.

1. Select the **Favorites** tab and find the topic in your list.
2. Double-click the topic or click **Display**.

### Rename a topic

Complete the following steps to rename a topic in your list of favorites.

1. Select the **Favorites** tab.
2. Right-click the topic and select **Rename**.
3. Type a new name and press ENTER.

### Remove a favorite topic

Complete the following steps to remove a topic from your list of favorites.

1. Select the **Favorites** tab.
2. Select the topic and click **Remove**.

## Use the Glossary tab

The glossary provides an alphabetized list of terms and definitions related to BARR/PRINT390 *for* IPDS. Complete the following steps to use the glossary.

1. Select the **Glossary** tab.
2. Scroll through the list of glossary entries.
3. Select a term from the list and view the definition in the lower portion of the **Glossary** tab.



You can also search for a glossary term by typing the first letter of the word you are looking for. The **Term** window will focus on words beginning with that letter.

---

## 8.3 Get more out of HTML Help

Here are some tips on how to find more information when using HTML Help.

- To link to another topic, a Web page, a list of other topics, or a program, click the colored, underlined words.
- To view topics that contain related information, use the “See also:” and “What do you want to do?” topic links.
- To see if a word or phrase contained in a topic is in the index, select the word, and then press F1.
- If you use a particular Help topic often, you can add it to your favorites list.
- Right-click in the **Contents** tab or **Topic** pane for shortcut menu commands.

## 8.4 Copy or print a Help topic

When HTML Help is displayed, you can copy or print Help topics.

### Copy a Help topic

You can copy Help topics to the Clipboard with one of these methods. You can paste the topic text into a text editor, such as Microsoft Word, or into an e-mail message.

1. In the topic pane, right-click anywhere in the topic you want to copy and select **Select All**.
2. Right-click again, and then select **Copy**. This copies the topic to the Clipboard.



---

If you want to copy only part of a topic, select the text you want to copy, right-click, and then select **Copy**.

---

3. Open the document you want to copy the topic to.
4. Place the pointer where you want the information to appear.
5. On the menu bar, select Edit | **Paste**.

### Print a Help topic

You can print a Help topic with one of these methods.

- To print the currently displayed topic, click **Print** on the Help toolbar.
- In the topic pane, right-click anywhere in the topic and select **Print**.
- From the **Contents** tab, right-click a topic, and then select **Print**. You will be given the option of printing the current topic, or the current heading and all subtopics.



---

When printing an HTML Help topic, you can control the margins and headers and footers. On the Microsoft Internet Explorer's menu bar, select File | **Page Setup** to access these features. Changes made in Internet Explorer affect printing from the Help view. Use the ? on the **Page Setup** dialog box to learn more.

---

## 8.5 Customize your Help

As with any window, you can easily change the size and location of the Help viewer. In addition, you can resize the navigation and topic panes and set color, font, and accessibility options.

### Show or hide the navigation pane

- Click **Hide** to close the navigation pane from view.
- Click **Show** to display the navigation pane.

### Resize the navigation or topic pane

Complete the following steps to change the size of the navigation pane or the topic pane.

1. Point to the divider between the two panes.
2. When the pointer changes to a double-headed arrow, drag the divider right or left.

### Resize the Help viewer

Complete the following steps to change the size of the Help viewer.

1. Point to any corner of the Help viewer so the pointer changes to a double-headed arrow.
2. Press the left mouse button and drag up, down, left, or right. The viewer is resized after you release the mouse button.

### Change colors, fonts, and accessibility options

Complete the following steps to change the colors, fonts, or accessibility options of your viewer.



---

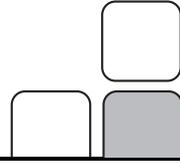
Changing these settings will also change your settings for Internet Explorer.

---

1. On the Help toolbar, select Options | **Internet Options**.
2. On the **General** tab, click **Colors, Fonts, or Accessibility**.
3. Select the options you want, and then click **OK**.
4. To apply the new settings, in the **Internet Options** dialog box, click **OK**.

# Glossary

---



## **adapter**

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

## **attributes**

Parameters that describe files and printers.

## **buffer**

A region of memory reserved for use as an intermediate repository in which data is temporarily held while waiting to be transferred between two locations or devices. For instance, a buffer is used while transferring data from an application, such as a word processor, to an input/output device, such as a printer.

## **bus**

A set of hardware lines (conductors) used for data transfer among the components of a computer system. A bus is essentially a shared highway that connects different parts of the system -- including the processor, disk-drive controller, memory, and input/output ports -- and enables them to transfer information. Most computers contain one or more expansion slots into which additional boards can be plugged to connect them to the bus.

## **Bus & Tag cables**

Cables used to connect devices to mainframe channels. The bus cable transmits data and the tag cable controls information on the bus.

## **byte**

Short for binary term. A unit of data, today almost always consisting of 8 bits. A byte can represent a single character, such as a letter, a digit, or a punctuation mark.

## **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.

## **channel-attached**

Direct method of attaching printers to S/390 mainframes.

## **command**

An instruction to a computer program that, when issued by the user, causes an action to be carried out. Commands are usually either typed at the keyboard or chosen from a menu.

**configuration**

A specific combination of hardware that forms a system. When referring to IBM computers, the term configuration describes characteristics such as the type of video adapter, the number and description of printers, the amount of memory, and description of serial ports.

**daisy chain**

(1) A set of devices (such as printers) connected in series. In order to eliminate conflicting requests to use the channel (bus) to which all the devices are connected, each device is given a different priority. SCSI (Small Computer System Interface) and the newer USB (Universal Serial Bus) both support daisy-chained devices. (2) To connect a series of devices, one to another, like daisies in a chain of flowers.

**data streaming**

The uninterrupted transfer of information over an interface to achieve high data transfer rates (for channel data streaming, 3 or 4.5 MBps). Data streaming is not adversely affected by signal delays introduced by long cable lengths.

**device**

An input and output unit connected to the computer such as a printer, plotter, or monitor.

**diagnostics**

A program to detect and isolate errors in programs and faults in equipment.

**disconnect**

To break a communications link.

**driver**

A program that controls a device, such as a printer, disk drive, or keyboard. Every device has a driver program; many come with the operating system.

**extension**

In a file name, one to three characters that follow the period. Example: STUDY5.JOB.

**FTP**

Acronym for File Transfer Protocol. In TCP/IP, an application protocol used to transfer files to and from host computers. FTP requires a user ID and perhaps a password to allow access to files on a remote host system. FTP assumes that TCP is the underlying protocol.

**GB**

Abbreviation for gigabyte. One billion (technically 1,073,741,824) bytes.

**hardware key**

A small device used for software protection that plugs into the computer's input/output port. The software will not work correctly unless the hardware key is installed.

**host programmer**

The person who installs and maintains host computer software.

**interface**

The connection between two elements so that they can work with each other or exchange information. The term is used for the connection between both software and hardware components.

**IP address**

Short for Internet Protocol address. A 32-bit (4-byte) binary number that uniquely identifies a host (computer) connected to the Internet to other Internet hosts, for the purposes of communication through the transfer of packets. An IP address is expressed in "dotted quad" format, consisting of the decimal values of its 4 bytes, separated with periods; for example, 127.0.0.1.

**IPDS**

Acronym for Intelligent Printer Data Stream. A printer data stream generated from AFP documents and resources by the Print Services Facility (PSF).

**JES2**

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.

**job**

A specified amount of processing performed as a unit by a computer.

**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.

**MB**

Abbreviation for megabyte. Usually 1,048,576 bytes; sometimes interpreted as 1 million bytes.

**network**

A group of computers and associated devices that are connected by communications facilities. A network can involve permanent connections, such as cables, or temporary connections made through telephone or other communication links. A network can be as small as a LAN (local area network) consisting of a few computers, printers, and other devices, or it can consist of many small and large computers distributed over a vast geographic area (WAN or wide area network).

**offline**

Logically (or physically) disconnected and unable to communicate with the host computer.

**operating system**

Software that controls the execution of computer programs and that might provide services such as resource allocation, scheduling, input/output control, and data management.

**parameter**

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

**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.

**port number**

A number that enables IP packets to be sent to a particular process on a computer connected to the Internet. Some port numbers, called "well-known" port numbers, are permanently assigned; for example, e-mail data under SMTP goes to port number 25. A process such as a telnet session receives an "ephemeral" port number when it starts; data for that session goes to that port number, and the port number goes out of use when the session ends.

**program**

Program that operates in tandem with a program window. When you start the program window, the program starts. When you exit the program window, the program stops. Contrasts with service.

**program window**

Window that is associated with an application program or service.

**PSF**

Acronym for Print Services Facility. A set of processes that translate AFP data to Intelligent Printer Data Streams (IPDS).

**remote**

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

**service**

Program that operates independently of a program window. You can start the program without opening the program window. You can exit the window without affecting program operation. Contrasts with application program.

**TCP/IP**

Acronym for Transmission Control Protocol/Internet Protocol. A suite of protocols designed to allow communication between networks regardless of the technologies implemented in each network.

**terminator plug**

A part that ends the cable path on a computer system. The terminator plug is attached to the last device in a series.

**trace**

A recording of the frames sent and received on a communication line useful for diagnosing communications problems.

**window**

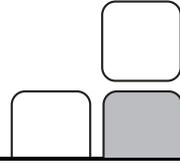
In programs and graphical interfaces, a portion of the screen that can contain its own document or message. In windows-based programs, the screen can be divided into several windows, each of which has its own boundaries and can contain a different document (or another view into the same document).

**workstation**

(1) A combination of input, output, and computing hardware that can be used for work by an individual. (2) A powerful stand-alone computer of the sort used in computer-aided design and other applications requiring a high-end, usually expensive, machine with considerable calculating or graphics capability. (3) A microcomputer or terminal connected to a network.

*Notes:*

# Index



## **A**

- Accessibility · 3
- Activate software · 16
- Adapter · 41
  - installation · 17
  - serial number · v
  - trace · 31–32
- Add a connection · 26–27
- Attributes · 8, 41

## **B**

- BARR/CHANNEL-OUT · 20–23
- BARR/PRINT390 for IPDS
  - activate · 16
  - managing connections · 25–29
  - overview · 1–4
- Bus & Tag · 2, 41

## **C**

- Capture diagnostics · 20–23
- Channel · 1, 41
- Channel adapter trace · 31–32
- Computer requirements · 2–3
- Configure
  - connections · 26–27
  - example · 11–12
  - host · 5–12
  - JES2 · 8
  - PSF · 5–8
  - SNA gateway · 13–14
  - software · 25–29
  - VTAM · 9–10
- Connections
  - add · 26–27
  - restart · 28
  - start · 28
  - status · 29
  - stop · 28

Contact Barr Systems · ii

## **D**

- Device driver · 17–21
- Diagnostics · 20–23, 42
  - channel adapter trace · 31–32
  - gathering the diagnostics file · 32–34
  - network trace · 31–32
- Diagnostics Utility · 32
- Driver · 17–21, 42

## **F**

Features · 2

## **H**

- Hardware
  - key · 17, 42
  - serial numbers · v
- Help
  - contacting Barr Systems · ii
  - HTML · 35–40
  - technical support · iii–iv
- Host
  - configure · 5–12
  - JES2 · 8
  - programmer · 5, 42
  - PSF · 5–8
  - VTAM · 9–10

## **I**

- Install
  - device driver · 17–21
  - hardware · 17
  - software · 15–16
- Interpret status · 29
- IP connection · 31–32
- IPDS · 1–4, 43

## **J**

JES2 · 8, 43

## **K**

Key · 17

Knowledgebase · iv

## **L**

Local LU name · 13

LU · 9

## **M**

Mainframe · 1, 43

Mode table · 13

## **N**

Network trace · 31–32

## **P**

Package contents · 3–4

Printers · 2

Program features · 2

PSF · 5–8, 44

PU · 9

## **R**

Reinstall · 15–16

Remote LU name · 14

Requirements · 2–3

Restart a connection · 28

## **S**

Section 508 · 3

Send the diagnostics file · 32–34

Serial numbers · v

SNA gateway · 13–14

Software

    activate · 16

    Barr · 15

    reinstall · 15

    remove components · 16

Start a connection · 28

Status · 29

Stop a connection · 28

System requirements · 2–3

## **T**

TCP/IP · 1, 44

Technical Support · iii

Trace

    channel adapter · 31–32

    network · 31–32

## **U**

Uninstall · 16

Use

    BARR/CHANNEL-OUT · 20–23

    BARR/PRINT390 for IPDS · 25–

    29

    Diagnostics Utility · 32–34

    HTML Help · 35–40

## **V**

VTAM · 9–10