Apple® AppleShare™ PC Update

AppleTalk® PC Printer Driver

```
 Chooser      Assignments      Special      Options
=========Connect a LaserWriter========
  Printer: LaserWriter

  ┌Choose Application Output════════
» │1 Epson LQ2500                   │
  │2 PostScript                     │
  └─────────────────────────────────┘

  Assign as LPT3  (Free)

  Connect automatically
  at startup?          Yes    No

  Timeout:   5 Seconds

  Margins (1/10th inch):
  Left:  5  Top:  5  Bottom:  5

  Page Size: 11  LPI: 6   CPI: 10
  Tabs: every  8 characters

 └F2:Attach───────────────
```

Apple®

AppleTalk® PC Printer Driver

AppleShare™ PC contains an important feature not documented in the *AppleShare PC User's Guide*—the new AppleTalk PC Printer Driver. The driver enables you to print to Apple LaserWriter®, ImageWriter® II, and ImageWriter LQ printers on the AppleTalk network system from within an active program. Best of all, the driver enables you to print to network printers transparently. Once you choose the printer you want, you can use it from within any program—just as you'd use a locally attached printer.

AppleShare PC's printing facility enables you to:

□ Find LaserWriter, ImageWriter II, and ImageWriter LQ printers on the network.

□ Attach DOS LPT designators to network printers.

□ Reconfigure your printer connection without leaving your program.

□ Print over the network from within a program.

□ Select from several program output types, including Epson LQ2500 and PostScript.

□ Use the full capability of the LaserWriter when printing from a program that supports PostScript.

□ Use Epson graphic and Courier text emulation with programs that do not support PostScript.

The AppleTalk PC Printer Driver provides a somewhat different set of features than the PC LaserWriter Program included with the LocalTalk PC Card. Note that the AppleTalk PC Printer Driver is not a replacement for the PC LaserWriter Program. You'll still want to use the PC LaserWriter Program for some printing tasks when using programs that do not support PostScript output. For example:

☐ printing high-quality Lotus 1-2-3 graphics (using PostScript rather than bitmap descriptions)

☐ merging Lotus 1-2-3 graphics into word processor text files

☐ substituting built-in LaserWriter fonts like Helvetica and Times into documents created by non-PostScript applications like WordStar and MultiMate

☐ printing in Landscape orientation

☐ scaling your printed output to a different size

☐ substituting unusually large or small font sizes, or using proportional characters while printing

In short, the AppleTalk PC Printer Driver is the right tool when your application prints in PostScript. The AppleTalk PC Printer Driver is also a good choice for your everyday non-PostScript printing needs because it's easy to use—you don't have to save your output to a file and quit your program before printing. The PC LaserWriter Program is best suited to special-purpose printing with non-PostScript applications where you need greater flexibility and control over your printed output.

Connecting to a network printer

Before you can use a printer on the network, you need to select the printer you want and configure the connection.

Selecting a printer

1. Start the AppleTalk PC Desk Accessory by pressing the hot key or by typing DA at the DOS prompt.

The option you chose when installing DA determines how you start the program.

When DA appears for the first time, it displays the Chooser window (Figure 1). If you are using DA as a memory-resident program and you've already performed another operation with it since turning on or rebooting your PC, the window you used most recently will be displayed. Use the Left Arrow key to display the Chooser window.

❖ *Note:* The DOS Print Screen command will not work while the Chooser window is displayed.
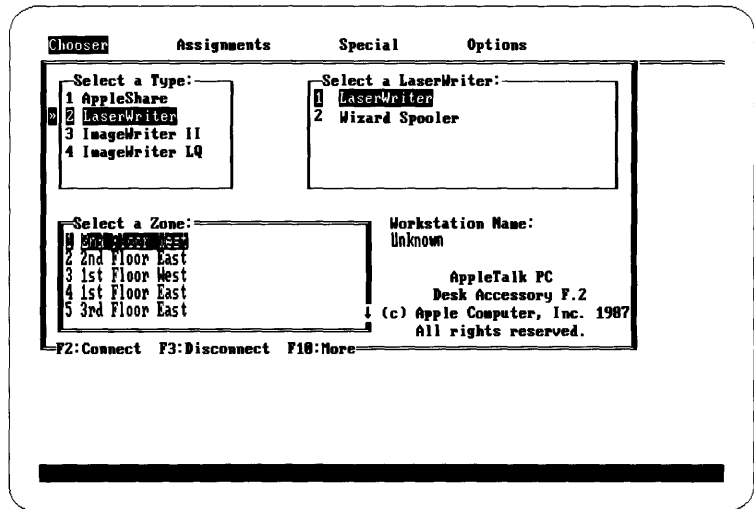
Figure 1
The Chooser window

The list of device types in the Select a Type pane now includes LaserWriter, ImageWriter II, and ImageWriter LQ.

2. Select the printer type you want to use and press Enter.

If necessary, press the Tab key until the Type pane is active.

Use the Up and Down Arrow keys to select the printer type you want to use, or type the number of the printer.

If your network has zones, the pane titled Select a Zone is now active. Go on to step 3.

If your network does not have zones, the pane titled Select a Printer is now active. Go on to step 4.

3. Select the zone that contains the printer you want to use and press Enter.

Use the Up or Down Arrow key to select the zone, or type the number of the zone.

The pane titled Select a Printer is now active.

4. Select the printer you want to use.

Use the Up or Down Arrow key to select the printer, or type the number of the printer.

5. Press F2, the Connect function key, to complete your connection to the printer you've selected.

After you press F2, you'll see a Connect window similar to the one shown in Figure 2.

Configuring the connection

The Connect window you see depends on the type of printer you selected. There are slight variations among the LaserWriter, ImageWriter II, and ImageWriter LQ Connect windows.

```
 Chooser        Assignments      Special     Options
==========Connect a LaserWriter==========
 Printer: LaserWriter

  ┌Choose Application Output===========
» 1 Epson LQ2500
  2 PostScript


 Assign as LPT3  (Free)

 Connect automatically
 at startup?           Yes      No

 Timeout:    5 Seconds

 Margins (1/18th inch):
 Left:  5 Top:  5 Bottom:  5

 Page Size: 11  LPI: 6   CPI: 10
 Tabs: every  8 characters

 F2:Attach
```
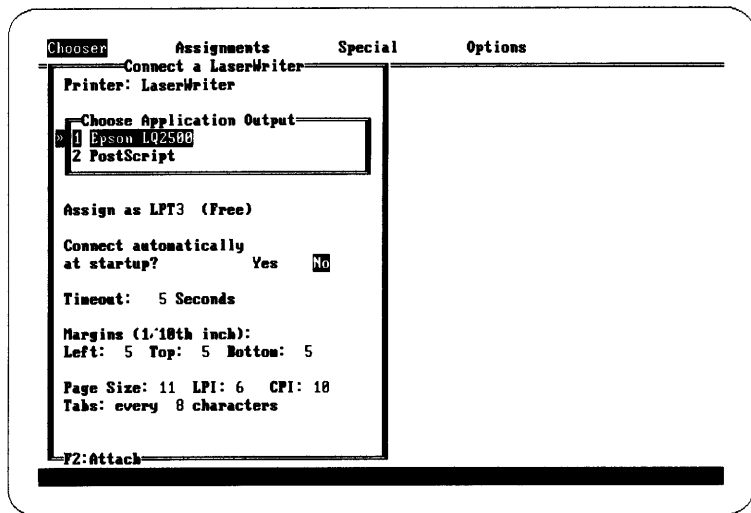
Figure 2
The LaserWriter Connect window

1. Choose your application output and press Enter.

Remember, you're configuring the driver (not the printer) so it knows what kind of output to expect from the program you plan to print with.

Use the Up or Down Arrow key to select the output you want.

If you've selected a LaserWriter, choose PostScript if the program you're running produces PostScript output. Otherwise, select Epson.

If you've selected an ImageWriter II or ImageWriter LQ, select Epson unless your program produces ImageWriter output.

❖ *A note on Epson emulation:* The AppleTalk PC Printer Driver emulates the Epson LQ2500 command set. If the program you want to print from cannot produce LQ2500 output, configure the program so it produces output compatible with one of the following Epson printers: LQ1000, LQ800, LQ1500, EX series, FX series, LX series, RX series, MX series, Epson printer, Standard printer, Draft printer. Note that you should choose the first compatible printer possible in the list above.

❖ *A note to ImageWriter users:* Very few PC programs produce ImageWriter output (although you can print plain ASCII text in ImageWriter mode). In most cases, choose Epson in the Choose Application Output pane. Virtually all PC programs can produce Epson output. See the user's guides of the programs you work with for more information on program output.

Also note that the printer driver does not print italic characters in ImageWriter mode—they appear as normal characters.

2. Type the LPT designator you want to assign to the printer you've selected, and press Enter.

The next free LPT designator appears in the pane, with that designator's status in parentheses to its right. If the designator assigned is acceptable, press Enter.

If no designator is available, only the cursor will appear in the pane. You can move the cursor to the left and type an LPT designator, but the number you type may be in use or the status notation may be "Illegal."

If you type an LPT designator that is already in use and complete the attachment process, DA will recognize your new designation and remove the previous designation for that number. If the designator was attached to a local printer or parallel port, that printer or port will be unavailable until you detach the network printer assignment.

A Verification window appears, in which you confirm the new assignment.

❖ *LPT designators:* The driver allows you to choose any LPT designator number between 1 and 9. Note, however, that some programs only allow you to print to LPT1, LPT2, or LPT3.

❖ *PRN:* Some programs print to the device PRN. PRN is a synonym for LPT1. To connect a printer to the designator PRN, choose 1 as the LPT designator.

3. If you want to connect to this printer automatically at startup, select Yes.

Use the Left Arrow key to toggle from No to Yes.

Press Enter to move to the next pane.

4. If you selected Epson as the application output, check the default margin, page size, and tab settings.

The program sets initial default margins, page size, and tab spacing. You can change these default values by activating the appropriate pane and typing the new setting. Note that the program from which you're printing may set different default values that will override these settings.

5. Check the timeout setting.

Timeout sets the number of seconds the driver waits for a printer command before it sends an end-of-document command. Generally, you won't change this setting unless the program you're using takes a long time to produce a graphic after it starts printing. For more information, see "Sending a Manual End-of-Document Command" in the "Printing" section that follows.

6. If you've selected an ImageWriter printer, choose the print quality you want.

Your output will appear in the Courier font: `it looks like this.`

Use the Right or Left Arrow key to toggle between Draft mode and NLQ (Near Letter Quality) mode.

7. Press F2, the Attach function key, to attach the LPT number you selected to the printer you selected.

You're now ready to print.

Printing

Printing to a network printer is very much like printing to a local printer. There are, however, two important points to remember:

☐ Your program output must match the Application Output you selected when you configured the printer connection. For example, if you selected PostScript in the Application Output pane, select PostScript output when you configure the program you're using to print.

□ Your program output must go to the LPT number you selected when you established the printer connection. For example, if you made the network LaserWriter LPT2, then be sure to choose LPT2 when you direct your program output.

Sending a manual end-of-document command

Print spoolers and the DOS print program may require long timeout settings, or that you send the end-of-document command manually.

If your program takes a long time to send print commands, the printer driver may send an end-of-document command to the printer. If this happens, try increasing the timeout setting you specified when you configured the connection. If the driver still sends inappropriate end-of-document commands, you can disable the timeout feature and notify the printer driver manually when your program is finished printing. To send a manual end-of-document command:

□ Reconfigure your connection to the network printer you're using and leave the timeout field blank.

□ Print your document.

□ When your program is finished printing, press Ctrl-Alt-F10 to send an end-of-document command to the printer.

Important   If you disable the timeout feature, be sure that you send an end-of-document command manually, or you'll tie up the network printer as long as your session is open.

Disconnecting from network printers

You can also manage your printer connections by using familiar DA commands such as List All Connections and Review Auto-Connections. See Chapter 4 of the *AppleShare PC User's Guide* for more information.

You can disconnect from one network printer or all network printers.

Disconnecting from a printer

1. Start DA and select Chooser at the top of the screen.

The Chooser window appears.

2. **Select the printer type that you want to disconnect and press Enter.**

   If necessary, press the Tab key until the Type pane is active.

   Use the Up and Down Arrow keys to select the printer type you want, or type the number of the printer.

   If your network has zones, the pane titled Select a Zone is now active. Go on to step 3.

   If your network does not have zones, the pane titled Select a Printer is now active. Go on to step 4.

3. **Select the zone that contains the printer you want to disconnect and press Enter.**

   Use the Up or Down Arrow key to select the zone, or type the number of the zone.

4. **Select the printer you want to disconnect.**

   The printers to which you have active connections in the selected zone are identified with an asterisk to the left of their names.

5. **Press F3, the Disconnect function key.**

   When you press the Disconnect function key the Verification window appears.

6. **Select Yes in the Verification window to disconnect.**

   When you select Yes, the connection is broken.

   If you select No, the connection remains intact.

Disconnecting from all printers

1. **In the Chooser window, select the appropriate printer type in the Type pane, and press F4 to begin logging off all printer connections.**

   The Verification window appears, asking you to confirm your command.

2. **Select Yes and press Enter to log off all printer connections.**

   If you select No, all connections remain intact.

You can also use the Disconnect All Devices command in the Special window to disconnect your PC from all network devices, including network printers.

Connecting to a printer using ANET

The AppleTalk PC Printer Driver supports the following ANET commands.

Connect

```
CONNECT [LPTn: N(printername) [P(printtype)]
[X(conversion)] [Z(zone)] [L(leftmargin)]
[T(topmargin)] [B(bottommargin)] [C(cpi)]
[S(pagesize)] [#(tabpos)] [Q(quality)] [I(lpi)]
[D(timeout)]]

CONNECT LPT1: N(Short Stuff Printer)
P(LaserWriter) X(Epson)
```

CONNECT connects an LPT designator to a printer called printername.

Printtype must be LaserWriter, ImageWriter, or LQ.

Conversion must be Epson, None, PostScript, or ImageWriter.

Left, top, and bottommargin are set in tenths of an inch.

CPI must be 10, 12, or 15.

LPI must be either 6 or 8.

Pagesize must be 11 or 14.

Tabpos is a number indicating the default tab spacing; for example, every eight characters.

Quality must be D, for Draft, or N, for NLQ.

Timeout indicates the number of seconds the printer will wait for a new character to arrive before deciding that the print session is complete.

Typing CONNECT without arguments returns a list of LPT designators and the printers they're connected to.

Disconnect

```
DISCONNECT LPTn: [LPTn:] | /ALL

DISCONNECT LPT2:
```

DISCONNECT disconnects an LPT designator from a printer.
When you use the ALL option, you disconnect all LPT designators
from all printers.

If something goes wrong

This section covers some of the common problems you may
encounter when you work with network printers.

You can't connect to a network printer

If you can't connect to a network printer, then one of the following
may be the problem:

□ There may be a problem with the printer or the network. Check
   the printer to see if it's switched on and physically connected to
   the network.

□ There may not be enough memory for the driver to run. Each
   printer connection requires the AppleTalk driver to have an
   additional 4K of memory. See "About the Driver" at the end of
   this supplement and "Memory Considerations" in Chapter 10 of
   the *AppleShare PC User's Guide* for more information.

□ The LPT designator you're trying to attach to may be currently
   attached to another device and that device is in use. Wait a few
   moments and try again, or try another LPT designator.

Your program doesn't respond

If you're trying to print a file and your program doesn't respond,
then one of the following may be the problem:

□ The printer may be out of paper or jammed. Check the printer paper tray and paper feed path.

□ You may be trying to print to a printer that you haven't configured. For example, you may be printing to LPT2: when you haven't attached that designator to a printer. Check your program's printing configuration. Use DA to check your current printer connections.

You're printing a PostScript file and get an error message from the LaserWriter

If you're printing a PostScript file and get an error message from the LaserWriter, your program may be generating a PostScript header that's incomprehensible to network printers. Call the program vendor to learn how to modify the program so you can print to a network printer.

You're printing in Epson emulation mode and get an error message from the LaserWriter

If you're printing in Epson emulation mode and get an error message from the LaserWriter, you may have defined the LaserWriter you're printing to as a PostScript printer instead of an Epson printer. Use DA to check your current printer connections.

Your printed copy looks bad

If your file prints but looks bad, then one of the following may be the problem:

□ Your program's output format may not match the printer configuration you set up. For example, your program output may be in Epson format while you configured the printer connection for PostScript. Check both your program output settings and the printer configuration settings to see that they match.

□ Your program may be attempting to download a character set—a feature not supported by the printer driver. See the "Command Support Table" section that follows.

Your ImageWriter II graphics look bad

If you're printing to an ImageWriter II and your file contains graphics that look bad, you may be using a 24-pin graphics command that the ImageWriter II doesn't support. Redefine your program's print output to Epson FX-80 mode.

Your printed copy is missing characters

If your file prints, but is missing characters, your file may contain graphic and/or foreign characters that are not currently supported by the printer driver. These characters will appear as blank spaces in your printed copy.

About the driver

The AppleTalk PC Printer Driver loads into memory during startup, just like the other drivers in the AppleShare PC package. The drivers all share the same memory pool.

The following information supplements the information on memory given in Chapter 10 of the AppleShare PC User's Guide.

The Installer program automatically configures your memory pool so that your workstation can support:

□ one printer connnection

□ two file server connections, each with one attached volume

If you plan to connect to more file server volumes or printers, you need to edit the ATALK/mem=xxk command in your AUTOEXEC.BAT file to include additional memory. Each additional printer connection requires that an additional 4k of memory be added to the ATALK memory pool.

See the "Memory Considerations" section in Chapter 10 for additional information on memory allocation if you plan to connect more than two file servers volumes.

Configuration options

The AppleTalk PC Printer Driver has three configuration options:

☐ PostScript pass-through, which gives your program full access to the features of the LaserWriter, including use of its built-in fonts.

☐ ImageWriter pass-through, which gives your program full access to the features of the ImageWriter II and LQ printers.

☐ Epson LQ2500 emulation, which takes Epson LQ2500 output from your program and translates it into PostScript or ImageWriter output.

When the driver is configured for Epson LQ2500 emulation, there are some limitations on your printed output (imposed by the driver or network printer):

☐ Documents print in the Courier font. Font substitution is not supported.

☐ Printed documents will contain only the characters included in the built-in font set of the selected printer. Unsupported characters will be created as a combination of other characters where possible. If no character can be created, another related character will be substituted or, as a final option, the character will appear as a blank space. The Courier font sets built into the LaserWriter and ImageWriter printers differ slightly and are detailed in the character support tables that follow.

☐ Proportional characters are not supported.

☐ Italic characters are not supported on ImageWriter printers. Italic characters appear as normal characters.

☐ Downloadable character sets are not supported in Epson LQ2500 emulation mode.

Character support tables

The following tables list the characters supported in the Epson LQ2500 emulation mode. Note that the lists are slightly different for the LaserWriter and ImageWriter families.

LaserWriter character sets

Epson graphics character set

	0	@	P	'	p	Ç	É	á
	0	@	P	'	p	Ç	É	á
!	1	A	Q	a	q	ü		í
"	2	B	R	b	r	é		ó
#	3	C	S	c	s	â	ô	ú
$	4	D	T	d	t	ä	ö	ñ
§ %	5	E	U	e	u	à	ò	Ñ
&	6	F	V	f	v	å	û	a̲
'	7	G	W	g	w	ç	ù	o̲
(	8	H	X	h	x	ê	ÿ	¿
)	9	I	Y	i	y	ë	Ö	
*	:	J	Z	j	z	è	Ü	
+	;	K	[	k	{	ï	¢	
,	<	L	\	l	¦	î	£	
-	=	M	]	m	}	ì	¥	¡
.	>	N	^	n	~	Ä		«
/	?	O	_	o		Å	ƒ	»

Epson italics character set

	0	@	P	'	p			0	@	P	'	p
	0	@	P	'	p			0	@	P	'	p
!	1	A	Q	a	q		!	1	A	Q	a	q
"	2	B	R	b	r		"	2	B	R	b	r
#	3	C	S	c	s		#	3	C	S	c	s
$	4	D	T	d	t		$	4	D	T	d	t
%	5	E	U	e	u		%	5	E	U	e	u
&	6	F	V	f	v		&	6	F	V	f	v
'	7	G	W	g	w		'	7	G	W	g	w
(	8	H	X	h	x		(	8	H	X	h	x
)	9	I	Y	i	y		)	9	I	Y	i	y
*	:	J	Z	j	z		*	:	J	Z	j	z
+	;	K	[	k	{		+	;	K	[	k	{
,	<	L	\	l	¦		,	<	L	\	l	¦
-	=	M	]	m	}		-	=	M	]	m	}
.	>	N	^	n	~		.	>	N	^	n	~
/	?	O	_	o			/	?	O	_	o	

International character set

USA	#	$	@	[	\	]	^	`	{	|	}	~
France	#	$	à	°	ç	§	^	`	é	ù	è	¨
Germany	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
UK	£	$	@	[	\	]	^	`	{	|	}	~
Denmark I	#	$	@		Ø	Å	^	`		ø	å	~
Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
Italy	#	$	@	°	\	é	^	ù	à	ò	è	ì
Spain		$	@	¡	Ñ	¿	^	`	¨	ñ	}	~
Japan	#	$	@	[	¥	]	^	`	{	|	}	~
Norway	#	¤	É		Ø	Å	Ü	é		ø	å	ü
Denmark II	#	$	É		Ø	Å	Ü	é		ø	å	ü
Spain II	#	$	á	¡	Ñ	¿	é	`	í	ñ	ó	ú
Latin America	#	$	á	¡	Ñ	¿	é	ü	í	ñ	ó	ú

ImageWriter character sets

Epson graphics character set

		O	@	P	`	p	Ç	É	ä
	!	1	A	Q	a	q	ü	æ	ï
	"	2	B	R	b	r	ë	Æ	ö
	#	3	C	S	c	s	â	ô	ü
	$	4	D	T	d	t	ä	ö	ñ
§	%	5	E	U	e	u	à	ö	Ñ
	&	6	F	V	f	v	å	û	
	'	7	G	W	g	w	ç	ù	
	(	8	H	X	h	x	ê	ÿ	¿
	)	9	I	Y	i	y	ë	Ö	
	*	:	J	Z	j	z	è	Ü	
	+	;	K	[	k	{	ï	¢	
	,	<	L	\	l	|	î	£	
	−	=	M	]	m	}	ì		
	.	>	N	^	n		Ä		«
	/	?	O	_	o		Å		»

Epson italics character set

	0	@	P	`	p			0	@	P	`	p
!	1	A	Q	a	q		!	1	A	Q	a	q
"	2	B	R	b	r		"	2	B	R	b	r
#	3	C	S	c	s		#	3	C	S	c	s
$	4	D	T	d	t		$	4	D	T	d	t
%	5	E	U	e	u		%	5	E	U	e	u
&	6	F	V	f	v		&	6	F	V	f	v
'	7	G	W	g	w		'	7	G	W	g	w
(	8	H	X	h	x		(	8	H	X	h	x
)	9	I	Y	i	y		)	9	I	Y	i	y
*	:	J	Z	j	z		*	:	J	Z	j	z
+	;	K	[	k	{		+	;	K	[	k	{
,	<	L	\	l	|		,	<	L	\	l	|
−	=	M	]	m	}		−	=	M	]	m	}
.	>	N	^	n			.	>	N	^	n	
/	?	O		o			/	?	O		o	

International character set

USA	#	$	@	[	\	]	^	`	{	|	}	~
France	#	$	à	°	ç	§	^	`	é	ù	è	¨
Germany	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	
UK	£	$	@	[	\	]	^	`	{	|	}	~
Denmark I	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	~
Sweden	#		É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
Italy	#	$	@		\	é	^	ù	ä	ö	è	ì
Spain		$	@	¡	Ñ	¿	^	`	ñ	}	~	
Japan	#	$	@	[		]	^	`	{	|	}	~
Norway	#		É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Denmark II	#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Spain II	#	$	á	¡	Ñ	¿	é	`	ì	ñ	ö	ú
Latin America	#	$	á	¡	Ñ	¿	é	ü	í	ñ	ó	ü