
**WORDSTAR.
PROFESSIONAL**

RELEASE 5

**PRINTER
INFORMATION**

PRINTER INFORMATION

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Printer Information

This booklet gives you all the information you need to use your printer with WordStar®. It includes the following sections:

- **Installing Your Printers** This section gives you information on how to install WordStar for your printer. It includes a chart of all the printers on the WordStar Printer Selection Menu, and tells you what to do if your printer isn't listed on the menu.
- **Specifying a Default Printer** This section explains what a default printer is and tells you how to choose your default printer.
- **Modifying How Your Printer Works with WordStar** This section tells you how to customize WordStar to work best with your printer; for example, you can customize the WordStar Font Menu by specifying which fonts you have on your printer.
- **Laser Printers** This section gives you information on using PostScript, LaserJet, and LaserJet-compatible printers with WordStar.
- **Troubleshooting Printer Problems** This section reviews the most common printer problems and how to solve them. It covers everything from your printer not printing to the wrong fonts printing in documents.
- **Editing a PDF (for advanced users)** This section gives an overview of the very technical PDFEDIT program.

Installing Your Printers

WordStar Professional Release 5 works with more than 100 printers. When you install WordStar, simply choose your printer from the Printer Selection Menu. (See the "Starting" section of the manual for information on installing WordStar, or see "Modifying How Your Printer Works with WordStar" in this booklet for information on using the printer installation and modification program, PRCHANGE.)

Refer to the following chart, *Printers on the WordStar Printer Selection Menu*, for a list of the printers on the Printer Selection Menu and information on how each printer works with WordStar.

Even if your printer isn't on the Printer Selection Menu, it may work like a printer that *is* on the menu. Check your printer manual to see if your printer emulates a printer that is on the menu. To install your printer, choose the printer that works like yours.

When you choose a printer from the Printer Selection Menu, WordStar copies the information about that printer to a special file called a printer description file (PDF). Every time you install a printer, you create another PDF. You can have as many PDFs as you want. When you print a document, WordStar shows you a list of the PDFs you've created and lets you choose the one you want to print with.

If your printer isn't listed on the Printer Selection Menu, you can use one of the generic printer selections: Typewriter or Draft. If your printer can backspace, choose Typewriter; if your printer can't backspace, use the Draft PDF. These generic printer installations may not take full advantage of all your printer's features, but they will work with almost any printer.

TIP *Many lesser-known printers work like well-known printers. If you have a daisy wheel printer that isn't listed on the Printer Selection Menu, try choosing the Diablo Daisy Wheel during installation. If you have a dot matrix printer that isn't listed, try choosing the Epson MX-80. If your printer works like one of these printers, you can take advantage of more of its features than if you use the Typewriter or Draft PDF.*

For more information on how your printer works with WordStar, refer to the printer information screen when you install your printer. You should also see README for late-breaking printer information.

Note: If you're a more advanced user, you may want to program your own PDF. See "Editing a PDF (for advanced users)" at the back of this booklet for more information.

Printers on the WordStar® Printer Selection Menu

PRINTER	DRIVER	UND ¹	PS ²	NLQ ³	ECS ⁴	COLOR ⁵
ASCTI	DRIVER A					
Draft Printer (nonbackspacing)	DRIVERT	B	N	N	BS	N
Typewriter Printer (backspacing)	DRIVERT	B	N	N	BS	N
Auto Line Feed Printer	DRIVERT	B	N	N	BS	N
Custom	DRIVERN					
Simple	DRIVERT					
AT&T 470	DRIVERN	B	J	A	PI	N
Brother HR-20	DRIVERN	C	J	A	PI	Y
Brother HR-40	DRIVERN	C	J	A	PI	Y
C. Itoh 1550/8510	DRIVERN	B	J	A	PI	N
C. Itoh Starwriter	DRIVERN	C	J	A	BS	N
Canon LBP-8 A1/A2	DRIVERN	C	J	A	BS	N
Canon Series II	DRIVERN	C	J	A	DF	N
Citizen 120D	DRIVERN	C	U	Y	BS	N
Citizen MSP 10/20	DRIVERN	C	N	Y	BS	N
Cordata LP-300	DRIVERN	C	J	A	DF	N
Diablo Daisy Wheel	DRIVERN	B	J	A	BS	N
Diablo 630 ECS	DRIVERN	C	J	A	DF	N
Diablo 630 w/WP option	DRIVERN	C	J	A	BS	Y
Diconix 150	DRIVERN	C	U	Y	BS	N
Diconix 150 (IBM Mode)	DRIVERN	C	N	Y	BS	N
Diconix 300	DRIVERN	B	J	Y	BS	N
Epson FX-80/100	DRIVERN	C	N	N	BS	N
Epson FX-85/185/286	DRIVERN	C	N	Y	BS	N
Epson FX-86e/286e/EX800/EX1000	DRIVERN	B	J	Y	BS	N
Epson CQ-3500	DRIVERN	C	J	A	BS	N
Epson LQ-800/1000	DRIVERN	C	J	Y	PI	N
Epson LQ-800/1000 w/ESC P	DRIVERN	C	J	Y	FI	N
Epson LQ-1500	DRIVERN	C	J	Y	PI	N
Epson LQ-2500	DRIVERN	C	J	Y	FI	Y
Epson LX-80	DRIVERN	C	N	Y	BS	N
Epson MX-80/100 w/Graftrax+	DRIVERN	B	N	N	BS	N
Epson RX-80/100	DRIVERN	C	N	N	BS	N
HP Deskjet	DRIVERN	C	J	A	FI	N
HP LaserJet	DRIVERN	C	J	A	DF	N
HP LaserJet+	DRIVERN	C	J	A	DF	N
HP LaserJet Series II	DRIVERN	C	J	A	DF	N
HP QuietJet	DRIVERN	C	J	Y	FI	N
HP ThinkJet (HP Mode)	DRIVERN	C	U	N	DF	N
HP ThinkJet (IBM Mode)	DRIVERN	C	U	N	FI	N
IBM Color Graphics	DRIVERN	C	U	Y	FI	Y
IBM Graphics	DRIVERN	C	N	N	FI	N
IBM Proprinter	DRIVERN	C	N	Y	FI	N
IBM Proprinter II and XL	DRIVERN	C	U	Y	FI	N
IBM Proprinter XL24	DRIVERN	C	J	Y	FI	N
IBM QuickWriter	DRIVERN	C	J	Y	FI	N
IBM QuietWriter	DRIVERN	C	U	Y	FI	N
IBM QuietWriter II	DRIVERN	C	J	Y	FI	N
IBM QuietWriter III	DRIVERN	C	J	Y	FI	N

1. **UND** (Underscore between words): C=Continuous underscore B=Broken underscore
2. **PS** (Proportional spacing): J=Justified proportional U=Unjustified proportional N=Not available
3. **NLQ** (Near letter quality): A=Always on Y=Available N=Not available
4. **ECS** (Extended character set): FI=Full IBM PI=Partial IBM BS=Foreign characters created by backspacing DF=Depends on font or print wheel
5. **Color**: Y=Supports color N=Not available

PRINTER INFORMATION

PRINTER	DRIVER	UND	PS	NLQ	ECS	COLOR
IBM WheelPrinter	DRIVERN	C	J	A	BS	N
IBM WheelPrinter E	DRIVERN	C	J	A	BS	N
Mannesmann Tally MT-160	DRIVERN	B	N	Y	BS	N
NEC 8023A	DRIVERN	B	J	A	PI	N
NEC Pinwriter P2/P3	DRIVERN	C	U	Y	FI	N
NEC Pinwriter P5/6/7	DRIVERN	C	J	Y	FI	Y
NEC Pinwriter P2200	DRIVERN	C	J	Y	FI	N
NEC Spinwriter 2010/2030	DRIVERN	B	J	A	BS	N
NEC Spinwriter 2015	DRIVERN	B	J	A	BS	N
NEC Spinwriter 2050/3550/8850	DRIVERN	C	J	A	BS	N
Okidata LaserLine 6	DRIVERN	C	J	A	DF	N
Okidata ML84 Step 2	DRIVERN	C	N	Y	BS	N
Okidata ML92/93	DRIVERN	C	N	Y	BS	N
Okidata ML84/92/93 (IBM Mode)	DRIVERN	C	N	Y	PI	N
Okidata ML182/183	DRIVERN	C	N	N	FI	N
Okidata ML182/183 (IBM Mode)	DRIVERN	C	N	N	FI	N
Okidata ML192/193	DRIVERN	C	J	Y	FI	N
Okidata ML192/193 (IBM Mode)	DRIVERN	C	J	Y	FI	N
Okidata ML292/293	DRIVERN	C	J	Y	FI	Y
Okidata ML292/293 (IBM Mode)	DRIVERN	C	J	Y	FI	Y
Okidata ML393	DRIVERN	B	J	Y	FI	N
Okidata Okimate 20	DRIVERN	C	N	Y	FI	N
Okidata Pacemark 2410	DRIVERN	C	N	Y	BS	N
Olivetti PG108 Laser	DRIVERN	C	J	A	DF	N
Olympia Laserstar 6	DRIVERN	C	J	A	BS	N
Panasonic P1080i	DRIVERN	C	U	Y	BS	N
Panasonic P1090	DRIVERN	C	N	N	BS	N
Panasonic P1091	DRIVERN	C	N	Y	BS	N
Panasonic P1091 (IBM Mode)	DRIVERN	C	N	Y	BS	N
Panasonic P1091i	DRIVERN	C	U	Y	BS	N
Panasonic P1091i (IBM Mode)	DRIVERN	C	N	Y	BS	N
Panasonic P4450 Laser Partner	DRIVERN	C	J	A	DF	N
PostScript Generic	DRIVERPS	C	J	A	DF	Y
PostScript Generic Two-Page	DRIVERPS	C	J	A	DF	Y
Qume Sprint 11+	DRIVERN	C	J	A	BS	N
Qume Sprint w/WVP Option	DRIVERN	C	J	A	BS	N
Ricoh LP4080C	DRIVERN	C	J	A	BS	N
Silver Reed EXP 550	DRIVERN	B	J	N	BS	N
Star Gemini 10X	DRIVERN	B	N	N	BS	N
Star NB-10/15	DRIVERN	C	J	A	FI	N
Star Radix 10/15	DRIVERN	B	N	Y	BS	N
Star NB-24/10-15	DRIVERN	C	J	A	FI	N
Star ND-10/15	DRIVERN	C	J	A	FI	N
Star NX-10	DRIVERN	B	U	Y	BS	N
Star SB-10	DRIVERN	B	U	Y	BS	N
Star SD/SG/SR 10/15	DRIVERN	B	N	Y	BS	N
Star SD/SG/SR 10/15 (IBM Mode)	DRIVERN	B	N	Y	BS	N
Tandy DMP-130	DRIVERN	C	J	Y	PI	N
Tandy DMP-2100P	DRIVERN	C	J	Y	PI	N
Tandy DMP-2110i	DRIVERN	C	J	Y	PI	N
Tandy DMP-2110	DRIVERN	C	J	Y	PI	N
Tandy DWP-210	DRIVERN	C	J	A	BS	N
Tandy DWP-230	DRIVERN	C	J	A	BS	N
Tandy DWP-520	DRIVERN	C	J	A	BS	N
TI 855/865	DRIVERN	C	J	Y	BS	N
Toshiba P351	DRIVERN	C	J	Y	PI	N
Toshiba P1340	DRIVERN	C	N	Y	PI	N
Toshiba P1351	DRIVERN	C	J	Y	PI	N

Specifying a Default Printer

If you install more than one printer, use WSCCHANGE to specify which printer you want as the default printer. When WordStar shows you a list of fonts while editing, it shows the fonts available on the default printer. (See Appendix C, "Customizing WordStar," in the WordStar manual for information on using WSCCHANGE.)

If you want to see a list of fonts for a printer other than the default printer, you can specify a different default printer for a single document. To change the default printer for a document, open the document and press **^P?**. Then choose the printer you want from the list of available printers. Whenever you change fonts in this document, you'll see the fonts available on the printer you specified.

Of course, you can print the document on any printer by simply choosing another printer name at print time. WordStar automatically translates the fonts in the document to the closest fonts available on the printer you choose.

Modifying How Your Printer Works with WordStar _____

After you've installed your printer, you may want to customize the printer description file (PDF) for your printer; for example, you may want to specify which font cartridges you have on your printer or specify a different printer port at the back of your computer.

You can customize PDFs by using the printer installation program, PRCHANGE. To start PRCHANGE, follow these instructions:

IF YOU HAVE A TWO FLOPPY DISK COMPUTER

- 1 Put your copy of the Program disk in drive A and the Installation disk (which contains the PRCHANGE.EXE and PRCHANGE.OVR files) in drive B.
- 2 Type **b:** and press ↵ to log on to the B drive. *B>* should appear on your screen.
- 3 Type **prchange** and press ↵. You'll see the PRCHANGE Main Menu.
- 4 Choose **Modify PDF settings**, then type **a:** to see a list of the PDFs on your Program disk.
- 5 At the Installed Printer Menu, you'll see a list of your PDFs. Move the highlighting to the name of the PDF you want to modify and press ↵. You'll see the PDF Modification Menu.

IF YOU HAVE A HARD DISK COMPUTER

- 1 Log on to your WordStar directory (\WS5).
- 2 Type **prchange** and press ↵. You'll see the PRCHANGE Main Menu.
- 3 Choose **Modify PDF settings**.
- 4 At the Installed Printer Menu, you'll see a list of your PDFs. Move the highlighting to the name of the PDF you want to modify (or type the name of another directory to see other PDFs) and press ↵. You'll see the PDF Modification Menu.

The PDF Modification Menu offers the following choices:

Add or remove fonts

When you edit a document and press **^P=** to choose a font, you see a menu of the fonts available on your printer. You can customize this Font Menu to include extra fonts you've added to your printer, or you can delete fonts that you don't use. For example, if you have a Hewlett-Packard® LaserJet® printer, you can specify which cartridges you use with your printer, or you can specify which soft (downloaded) fonts you use. You customize the Font Menu by using the **Add or remove fonts** option to add or delete fonts from the PDF.

When you choose the **Add or remove fonts** option, you're shown a list of the fonts currently included in the PDF, and you're asked whether you want to change the fonts.

Press **Y** to change fonts, then select the type of font you want to change.

- Internal fonts are the fonts that come preinstalled in the printer.
- Cartridge fonts are fonts that are included on cartridges you insert into slots on your printer.
- Soft fonts are fonts that you download to your printer's memory by copying them from a disk.
- Third-party laser fonts are additional soft fonts for an HP® LaserJet or PostScript® printer. (You must use the LSRFONTS program to add fonts to this list before you can choose the fonts for your PDF. See the "Laser Printers" section in this booklet for instructions on using the LSRFONTS program.)

Choose the type of font you want to add. If you want to add different types of fonts, you can return to this screen as often you like.

Note: The list shows all the fonts that are available for your printer. Be sure to add only the fonts your printer actually has. For example, if you have an HP LaserJet printer, the soft font list shows all the soft font sets available for an HP LaserJet printer. While you can add any of these fonts to a WordStar PDF, you need to purchase the soft fonts and download them to your printer before you can actually print with them.

TIP *Add just the fonts you use. If your printer has a large number of fonts available and they all appear on the WordStar Font Menu, choosing a font can be unnecessarily time consuming. You can always add additional fonts later or create a second PDF for this printer that contains a different list of fonts.*

If you specify internal fonts, you'll see a list of the internal font groups available on your printer. Most printers have only one internal font group that includes all the internal fonts available on the computer. But some printers, such as the HP DeskJet™, have a large number of internal fonts, and you may want to add only some of these fonts to the PDF. Mark all the internal font groups you want, then press **F10**. All the fonts in these font groups are added to the PDF.

Note: Some fonts have a symbol set attached to them, for example ROMAN8 or PC-8. When choosing these fonts, be sure to select only one version of the font. However, if the font has a legal symbol set, you can have both the legal and one other symbol set.

If you specify cartridge fonts, you'll see a list of the cartridges available for your printer. Mark all the cartridges you want to use with this PDF, then press **F10**. All of the fonts in these cartridges are added to the PDF.

If you specify soft fonts, you'll see a list of all the fonts currently installed in this PDF. To add fonts, press +. You'll see a list of the soft font sets available for this printer; for example, if you have an HP LaserJet, you'll see the AC font set, the AE font set, and so on.

Choose all the sets you'll be adding fonts from. When you've marked all the sets you want, press **F10**. You'll see a list of all the typefaces available in these font sets. For example, if you choose the HP AC font set, the list of typefaces includes Times Roman and Helvetica.

Choose all the typefaces you want to use and press **F10**. Next, choose the sizes of the fonts you want. At the bottom of the screen, you'll see detailed information about the highlighted font. As you move the highlighting from font to font, notice that this information changes.

When you finish selecting soft fonts, press **F10**. All the fonts you specified are added to the PDF.

If you specify third-party fonts, you'll see a list of the fonts you added to your customized database using the third-party laser fonts program, LSRFONTS. Choose any fonts you want to add to the PDF, then press **F10**. For information on using the LSRFONTS program, see the next section, "Laser Printers."

TIP Before you print your document, make sure you insert the correct cartridge in the printer and download the soft fonts you want to use.

Rename PDF

Use this option to change the name of the PDF. The PDF name is the name that appears on the menu when you choose a printer at print time, or when you change the default printer for a particular document. You may want to rename a PDF to distinguish it from another PDF; for example, if you have two laser printers on a network, you could call one LASER1 and the other LASER2.

Modify sheet feeder

Use this option to change the sheet feeder you've specified for this PDF. If you sometimes use the printer with the sheet feeder and sometimes without, you can install the printer twice to create two PDFs. Give the two PDFs descriptive names, for example, WITHFEED and NOFEED.

Change printer adapter port

WordStar assumes your printer is connected to the LPT1 port at the back of your computer. If your printer is connected to a different port, use this option to specify that port.

Change custom print control

Use this option to customize the custom print commands (^PQ, ^PW, ^PE, ^PR, ^PF, and ^PG) so they choose special features on your printer. For example, if your printer has a half-speed mode, you can add the hex code for this feature to one of the custom print commands. Once you've customized these commands, whenever you use the command in a document, WordStar inserts the specified code.

Refer to your printer manual for the codes for your printer. You can type up to 73 characters in each code. Note that for some printers, special features have already been added to the custom print controls.

Note: If you have a PostScript printer, you can create PostScript program files that contain the PostScript code for such things as page borders or company logos. To add these files to your WordStar documents, use the custom print commands. As the code for the custom print command, type %F"filename" where filename is the name of the PostScript program file. The filename can include a drive and directory. (You can also add a PostScript program file to your document by using the user print control command, ^P!. See "PostScript Printers" in the next section for more information.)

Create preview screen fonts

If you have an HP LaserJet or compatible printer with soft fonts, use this option to create screen fonts for the Advanced Page Preview™ feature. WordStar translates most printer fonts to screen fonts so you can see your document onscreen exactly as it will print. This option lets you create screen fonts for HP LaserJet or compatible soft fonts.

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Create download batch file

Use this option to create a batch file that you can use to download fonts to your printer. To create a batch file that downloads all the soft fonts in this PDF, type a name for the batch file or choose the name of an existing batch file and press ↵.

Note: To download the fonts to your printer, log on to the drive or directory where the batch file is located and type the name of the batch file at the system prompt. If you see a message *Bad command or filename*, make sure the file PECHO.EXE is on the same disk or in the same directory as the batch file.

TIP *If you share the printer with other users, be sure no one else is using the printer when you download fonts.*

Return to Main Menu

When you finish modifying the PDF, choose **Return to Main Menu**. At the Main Menu, you can install another printer, choose another PDF to modify, or you can choose **Quit and save changes** to quit PRCHANGE.

Laser Printers

This section includes information for PostScript, LaserJet, and LaserJet-compatible printers.

When you install WordStar for a PostScript or LaserJet printer, WordStar automatically adds the basic fonts for these printers to the WordStar Font Menu. If you've purchased extra cartridges or soft fonts for your printer, the printer installation program, PRCHANGE, makes it easy to add these fonts to the Font Menu. For example, if you have a LaserJet B cartridge, run the printer installation program and choose *B Cartridge* from a menu of LaserJet cartridges—all of the fonts on this cartridge are automatically added to the WordStar Font Menu. For information on using the printer installation program, read the previous section, "Modifying How Your Printer Works with WordStar."

Remember, using PRCHANGE adds the font names to the WordStar Font Menu; you must add the fonts to your printer before you can actually print with them.

If you've purchased third-party laser fonts that aren't included in the printer installation selections, you can use the third-party laser fonts program, LSRFONTS, to include these fonts. Once you've included the fonts in the printer installation program, you can use PRCHANGE to add them to the WordStar Font Menu. See the section below on using the LSRFONTS program.

Hewlett-Packard LaserJet and Compatible Printers

LaserJet printers have three types of fonts:

Internal fonts come with your printer and are stored permanently in your printer's memory. Different LaserJet printers come with different sets of internal fonts.

Cartridges can include a variety of different fonts. These cartridges are plugged into slots in the printer.

Soft, or downloaded, fonts come on disks. Before you use these fonts, you must load them into your printer's memory. The number of fonts you can download depends on the size of the font files and the amount of memory in your printer.

Note: To use soft fonts with WordStar, you must download them as permanent fonts. WordStar resets the LaserJet at the start of a document, and any temporary fonts are erased.

Because of the way laser printers feed paper through the printer, most laser printers require special margin settings. Try setting the top margin to 1.6", the bottom margin to 1.3", the header margin to .3", and the page length to 11" (for a landscape orientation, set the page length to 8.5"). If text still creeps up or down on the page as you print, try adjusting these margins.

Be sure to read the sections on "Modifying How Your Printer Works with WordStar" and "Troubleshooting Printer Problems" for more LaserJet information.

PostScript Printers

When you install for a PostScript printer in PRCHANGE, a PostScript PDF is created that contains some basic PostScript fonts. Before you print, make sure you've copied the files DRIVERPS.OVR and WSPROL.PS (a customized WordStar prologue file) to the same drive or directory as your WordStar program files. These files come on the PostScript Files/Font Utility disk.

If you want to add more fonts to the PDF, use the laser fonts utility described below to add the PostScript fonts to PRCHANGE. Then use PRCHANGE to add the fonts to the PDF.

PostScript lets you create special program files that can, for example, print borders on your page or print your company logo. You can use these files with your WordStar documents by using the WordStar user print control command, **^P!**. After you press this command, WordStar prompts you for the characters to send to the printer. Type **%F"filename"** where filename is the name of the PostScript program file. The filename can include a drive and directory. When prompted for the characters to display onscreen, type a descriptive name that will help you remember what the file does, for example, **logo**. (You can also add PostScript files by customizing the custom print commands. For more information, see "Change Custom Print Control" in the previous section.)

Note: In order for your PostScript printer to work with your computer, you need to add a DOS MODE command to your AUTOEXEC.BAT file. Be sure to read your printer manual and set up your printer and computer correctly.

For more information on using a PostScript printer with WordStar, see README.

Using Third-Party Laser Fonts

If you've purchased laser fonts that don't appear on the PRCHANGE soft fonts list, you can add these fonts to the PRCHANGE third-party fonts list by using the LSRFONTS utility.

To run the LSRFONTS program, log on to the drive or directory containing LSRFONTS.EXE and type **lsrfonts**. (This file comes on the PostScript Files/Font Utility disk.) You'll see a list of all the soft font files in the current directory. To see fonts in a different directory, press **F8** and specify the directory name. Mark any fonts you want to add to your customized third-party font database. Note that as you move the highlighting to each font name, information about the font appears onscreen. When you've marked all the fonts you want, press **F10**. The fonts are added to a customized third-party font database file (with the extension .DTU). If you store the database on a floppy disk, label the disk "Printer Data 0."

Note: The LSRFONTS program can add either PostScript fonts or LaserJet fonts, but it can't add both at the same time. If you have both PostScript and LaserJet fonts, keep the fonts in separate directories or on separate disks. Then log on to the appropriate directory before you start the LSRFONTS program, and start LSRFONTS by typing **\path\lsrfont** where *path* is the path to the LSRFONTS program.

Troubleshooting Printer Problems

This section offers solutions to the most common printer problems.

The printer isn't printing.

Most often when a printer doesn't print, it indicates a problem with the printer, or with the way the printer is connected to the computer.

- Make sure your printer is plugged in and has paper. If your printer has an online switch, the printer should be online.

Note: If the printer is on a network, you may need to link to it before you can use it. Check with your system administrator for details.

- Check to make sure you specified the correct port for this printer when you installed the printer. Printers are connected by cables to ports at the back of your computer. Since a computer has more than one port, you need to tell WordStar which port your printer is connected to. Use the printer modification program, PRCHANGE, to see which port you've specified for this printer. Then make certain the printer is connected to that port on your computer.
- If you specified the correct port during installation, check the cable that runs between the computer and the printer. If these cables aren't working properly or aren't firmly connected, your printer can't print.

Follow these steps to test the cables and connections:

- 1 Log on to the drive or directory where the DEBUG program is located. (This program is on your DOS Supplemental Programs disk if you're using a two floppy disk system.) At the system prompt, type **debug** and press ↵. The DEBUG prompt (a dash) appears onscreen.
- 2 Press **^P** to establish a connection between the screen and the printer. After you press **^P**, everything appearing on the screen is also sent to the printer.
- 3 At the DEBUG prompt, type **D 100 1000** and press ↵.

If the printer is connected properly, it will begin printing. The printer cannot print as fast as the characters appear onscreen, so after a short time, the screen will stop filling while the printer catches up.

TIP Press **^C** to stop the debug display.

- 4 To stop your printer from printing everything that appears onscreen, press **^P** again. Then type **Q** and press ↵ to exit DEBUG. It's also a good idea to turn your printer off and then on again to clear its buffer.

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Look at what your printer just printed. The DEBUG output should appear in columns of numbers and letters. If the columns are misaligned (indicating missing letters) or incomplete, your printer is not working properly. Contact your printer dealer for help.

- If your printer prints using the test above, but does not print with WordStar, the problem may be with how WordStar sends information to your printer. Start WordStar and press **P** to print a document. When you see the Print dialog box, type the name of the document. At the *Redirect output* prompt, type the name of the port your printer is connected to, for example, **LPT1** or **COM1**. (Do not type a colon after the name of the port.)

If this method works to print your document, use the printer modification program, PRCHANGE, to specify this port as the default redirection device for this printer.

- If the method above does not work, there are two more options you can try. You can use WSCHANGE to turn off the printer busy test (on the Printer Busy Handshaking menu), or you can use PRCHANGE and choose PRN as the default port for this printer.

TIP If you use either of these methods, you may notice that editing slows down when you print in the background. To solve this problem, use WSCHANGE to set the print speed delay to the speed of your printer. For a daisy wheel printer, set the speed to about 20; for any other type of printer, set the speed to 100. See Appendix C, "Customizing WordStar," for information on using WSCHANGE.

The printer prints garbage.

Garbled output may be caused by one of two problems: you may be installed for the wrong printer, or the cable that runs between your printer and computer may be bad. To test the cable, use the procedure explained in the third bulleted item of the previous problem.

To see which printer you're installed for, start WordStar and press **P** to print a document. Look at the default printer listed in the *Printer to use* field. Does this match your printer? If you have more than one printer, make sure you have specified the correct port for each of your printers. Read the second bulleted item in the previous problem for information on checking your printer port.

The printer prints fine for awhile, then it prints garbage.

This often indicates that your printer can't accept information as fast as WordStar sends it. Use WSCHANGE to set the print speed delay to the speed of your printer. For a daisy wheel printer, set the speed to about 20; for any other type of printer, set the speed to 100. See Appendix C, "Customizing WordStar," for information on using WSCHANGE.

WordStar displays a "Print Wait" message.

This message does not indicate a problem. It just lets you know that printing has paused for some reason, for example, you may have added a pause printing command to the file, or your printer may be out of paper. You need to display the Printing screen to see an explanation of why the printer paused.

To display the Printing screen, choose **Print a file** from the File pull-down, or press **P** at the classic Opening Menu or **^KP** from the editing screen.

Do whatever you need to do, then follow the instructions onscreen to start printing again or to abandon printing if you prefer.

WordStar displays a "Printer may not be ready" message.

Check that your printer is turned on and has paper. If the printer is ready, you may have specified the wrong printer port. See the second bulleted item for the problem "The printer isn't printing" at the beginning of this section for information on checking the printer port.

The wrong fonts appear in the printed document.

When you add fonts to a document, you choose from a list of fonts available on the default printer for this document. If you print the document on any other printer, WordStar automatically chooses the closest available font on the new printer.

If you print the document on your default printer but don't get the fonts you specified, it may be due to one of the following reasons:

- If your printer uses downloaded fonts, remember to download the fonts to the printer each time the printer is turned off and on again.
- You may have inadvertently cleared fonts from your printer's memory. If you specified that the fonts you downloaded be temporary and then reset your printer, the fonts were erased. Download the fonts again.
- Your difficulty may be due to the memory limitations of your printer. Every printer has a limit to the number of fonts it can print on one page.
- If you are connected to your printer by means of a network, you can lose access to fonts in the following ways:

Another network user may have downloaded fonts, overwriting yours. Network users should arrange some kind of system for downloading and clearing fonts to avoid this type of problem.

The network may not be able to download all the fonts you specified. Some networks have a "hold" command that waits until you unlink from the printer before downloading fonts.

Text creeps up or down on successive pages.

Two separate problems can cause this to happen: page length and form feeds.

Page length Some printers, such as laser printers, can't use the very top of the page for printing, so the page length they use is shorter than 66 lines per page. For these printers, try changing the top margin to 1, the bottom margin to 2, and the page length to 62. You may need to experiment to find the proper top and bottom margins and lines per page for your printer.

If you always use one of these printers, use WSCCHANGE to change the default settings for these margins and the page length.

Form feeds WordStar uses form feeds to advance the paper. This method works on most printers. If your printer can't accept a form feed command, the default answer to the *Use form feeds* prompt at print time should be **No**. (You can change this answer at print time, or you can change the default answer by using PRCHANGE.) If this still doesn't work, try changing the form feeds switch on your printer: if it's off, turn it on; if it's on, turn it off.

Note: Laser printers and other printers with sheet feeders must use form feeds to advance the paper.

TIP Before printing any document longer than one page, be sure the paper is properly positioned and ready to print on line one. On some printers, you need to set the top-of-form switch from the front panel. You may need to turn the printer off and on again to clear its buffer. Check your printer manual for further information.

On an HP LaserJet printer, the spacing of the letters is wrong.

If the spacing is only slightly off, you may not be getting the correct font. If you have a soft font with the same name as the internal or cartridge font you want, the soft font choices override internal or cartridge font choices, and you get the soft font. This can result in poor spacing. If you want to use the internal or cartridge version of the font, delete the soft font from the printer's memory.

An extreme spacing problem, where some letters print on top of one another and others spread out across the page, usually indicates that you've chosen a font that your printer doesn't have. If the LaserJet doesn't have the font you specify, it chooses a different font, and it may have chosen a font with different spacing.

Keep in mind that when the LaserJet looks for a matching font, it looks first for a font with the same symbol set (such as ROMAN8 or USASCII) as the font you requested. So if you request a Times Roman 10 font with the ROMAN8 symbol set, the LaserJet won't use a Times Roman 10 font with the USASCII symbol set. Instead, it tries to find a font with the ROMAN8 symbol set, such as the Lineprinter font. See your LaserJet manual for more information on how the LaserJet chooses replacement fonts.

Editing a PDF (for advanced users)

Experienced printer users can use the PDFEDIT program to edit a PDF. This program is useful if you want to create a customized PDF for a special printer. When you use PDFEDIT, you type in the codes your printer uses to obtain print enhancements such as boldface, underline, and sub- or superscript.

PDFEDIT is a very technical program. Before you begin, be sure to make a copy of any PDFs you plan to edit. That way, if you make a mistake, you can restore your original PDF.

To start PDFEDIT, follow these steps:

IF YOU HAVE A TWO FLOPPY DISK COMPUTER

- 1 Put your copy of the Program disk in drive A, and put the Customization disk (which contains the PDFEDIT.EXE and PDFEDIT.OVR files) in drive B.
- 2 Type **b:** and press ↵ to log on to the B drive. *B>* appears on your screen.
- 3 Type **pdfedit** and press ↵. At the opening screen, press any key to continue.
- 4 At the *PDF name* prompt, type **a:** and press ↵ to see a list of the PDFs on your Program disk.
- 5 Move the highlighting to the name of the PDF you want to modify and press ↵. You'll see the PDF Editor Main Menu.

IF YOU HAVE A HARD DISK COMPUTER

- 1 Log on to your WordStar directory (\WS5).
- 2 Type **pdfedit** and press ↵. At the opening screen, press any key to continue.
- 3 Move the highlighting to the name of the PDF you want to modify and press ↵. You'll see the PDF Editor Main Menu.

The PDF Editor Main Menu offers the following choices:

Printer ID information Specify driver name, WordStar release number, and the name that appears on the WordStar sign-on screen.

Vertical positioning Specify codes for vertical down position, vertical up position, VMI definition, absolute position, page length definition, and vertical positioning type.

PRINTER INFORMATION

Horizontal positioning Specify codes for relative right position, relative left position, intercharacter space position, HMI position, absolute position, graphics position, horizontal printer dots per inch, and directional movement strings.

Control strings Specify codes for portrait orientation, landscape orientation, form feed string, carriage return/linefeed string, carriage return only string, job init and de-init string, document init and de-init string, quit job string, offline (pause) string, delay before and after job init/de-init/quit strings, and printer busy wait delay.

Attribute control Specify codes for superscript, subscript, bold, underline, double-strike, Xout, italics, double underscore, overscore, and EOL mask.

Miscellaneous control Specify the number of strikes for printer emulated boldface and double strike, microjustification value, microjustification type, underscore emulation character, double underscore character, character alignment type, form feed type, and pause between pages.

Minimum printer definition Specify codes for initialization and de-initialization strings, 10-pitch and 12-pitch font select string, and 6- and 8-lines-per-inch select strings.

Color definitions Specify colors and selection codes for colors on your printer.

Typestyle/font information Specify typestyle definitions, and edit width tables, kerning table, style definition, character translation tables, character set selection tables, and the composed character table.

Inset driver name Specify the name of the Inset printer driver.

Additional modification Specify printer output device, handshake protocol, ETX count, background print speed, page/nonpage type, print extras, sheet feeder strings and values, and sheet feeder trays.