

PSB NO.: P-0021

DATE: 06/15/88

PAGE: 1 of 1

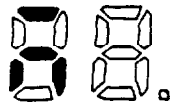


SUBJECT: GQ-3500 MEMORY SIZE STATUS DISPLAY

The purpose of this bulletin is to clarify how the GQ-3500 displays memory size during the power up selftest.

The characters appear on the "STATUS" display, for a moment, immediately after the GQ-3500 is powered on.

Table 1 shows the 3 memory sizes and status indications used in the GQ-3500.

Table 1

Memory Size	Description	Product Code	Status Display
512K	Standard Memory Size	EIIMM	
1.5Meg	Initial Memory Up-grade	5190	
2.0Meg	Current memory up-grade	5192-A	

DATE: 05-04-88
SUBJECT: PRINTING SPREADSHEETS WITH THE GQ-3500
NUMBER: P-0019
Page 1 of 4

PURPOSE

The purpose of this bulletin is to assist users of the GQ-3500 in printing spreadsheet type documents. The printer codes highlighted in this document will provide added versatility to your application software. This bulletin contains all the information necessary to create the printer set-up string codes; however, the GQ-3500 User's Manual and your application software documentation should be available for reference.

PREREQUISITES

The user of this document should know how to format and input printer set-up strings into the spreadsheet application software. The examples given will be those that can be used in LOTUS 1-2-3. LOTUS 1-2-3 allows the user to input these codes before the document or within a spreadsheet cell. The user should also have a basic understanding of the printer codes used in the GQ-3500; however, this knowledge is not critical in proper usage of these codes.

The GQ-3500 Interface Card must be set to the Page Printer mode for these codes to work correctly. DIP switches 1 and 2 of switch bank 1 must be set to the OFF position. To access these switches, turn off the printer, loosen the two knurled screws on the back of the printer, and pull the board straight out.

SET-UP STRING PROCEDURES

The GQ-3500 offers several features in the page printer mode which are beneficial in providing information-packed print-outs, that are printed clearly enough to be easily read. These features can be accessed with a printer set-up string that can be sent through the application software.

ESC y - The SELECT CHARACTER SET command allows the user to select the font that would permit the greatest legibility with the desired characters per inch.

To select the desired character set first determine which of the character set fonts would be best suited for the document and the pitch selected.

Table 1 shows the set-up string format.

Table 1

ASCII code:	ESC	y	n1	n2
Decimal:	027	121	n1	n2
Hexidecimal:	1B	79	n1	n2

The variables n1 and n2 designate the specific font selection.

The variable n1 specifies the font locations as follows:

0 = Internal fonts 1 = IC Card fonts 2 = Downloaded fonts

The variable n2 represents the particular font in the selected location.

Table 2 shows the internal fonts available in the GQ-3500.

Table 2

No.	Name	Orientation	CPI	Point Size
0	Courier 10	Portrait	10	10
1	Courier 10	Landscape	10	10
2	EDP 13	Portrait	13	7
3	EDP 13	Landscape	13	7
4	Modern 10 PS	Portrait	--	10
5	Ext. Graphics	Portrait	10	12
6	Ext. Graphics	Landscape	10	12

LOTUS 1-2-3 accepts printer set-up codes in decimal form. Using the codes in EXAMPLE 1 below will select EDP 13, the smallest font internal to the GQ-3500.

EXAMPLE 1:

EDP 13: \027\121\000\003

ESC o - The SET PRINT DIRECTION command enables the application software to print sideways on the page, allowing more columns of text to be printed. When in the landscape mode be sure to use the landscape font. When in the portrait mode be sure to use the portrait font. To assure proper printer function this command should only be used in the printer set-up string and not within a cell printer string. Table 5 shows the set-up string format.

Table 5

ASCII Code:	ESC	o	n
Decimal:	27	111	n
Hexidecimal:	1B	6F	n

The variable n selects the orientation. If n = 1, the page will be printed in the landscape mode. If n = 0 the printer will be reset to portrait.

To change the print orientation use the codes in EXAMPLE 4.

EXAMPLE 4:

LANDSCAPE:	\027\111\001
PORTRAIT:	\027\111\000

DATE: 11 November, 1987

SUBJECT: GQ-3500 PREVENTATIVE MAINTENANCE AND TROUBLESHOOTING
NUMBER: P-0014

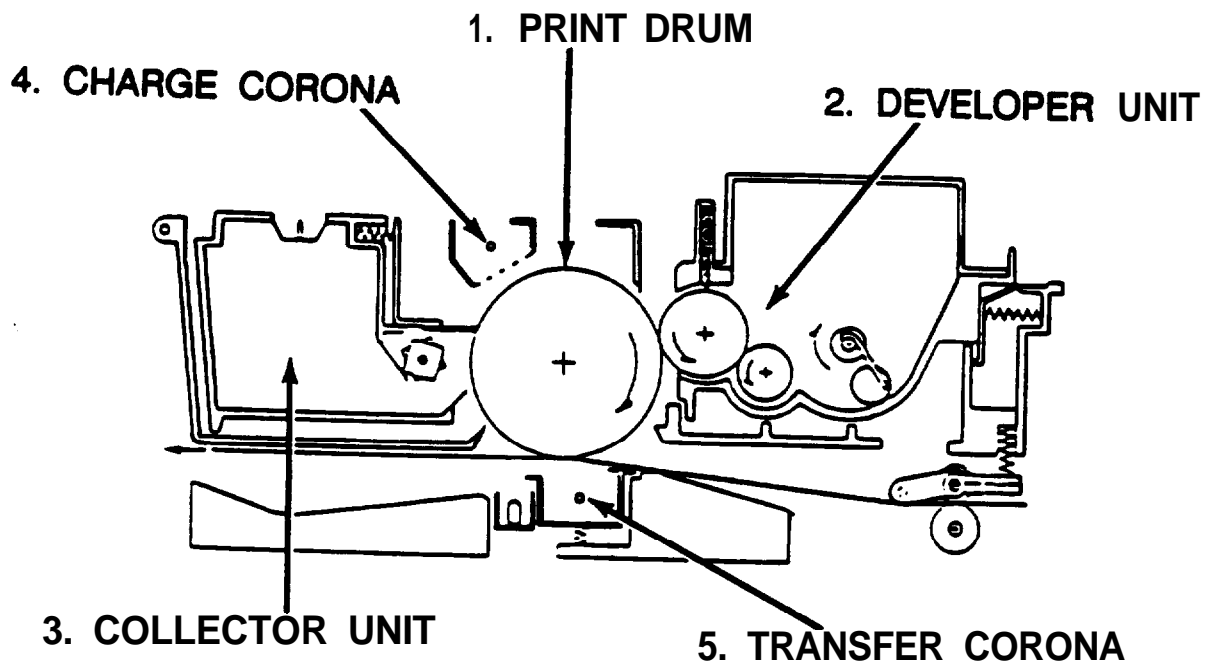
This bulletin is intended to supplement the GQ-3500 Users Guide to maintain high quality copy.

Symptoms of degraded print quality can be manifested in many ways, however, only problems which can be resolved with simple cleaning or replacement of consumables will be addressed in this bulletin.

OPERATIONAL CHARACTERISTICS

The GQ-3500 processing unit functions virtually the same as an ordinary copier and contains many of the same components. The components discussed will include:

1. Print Drum (converts the laser scan into a latent image and applies the image to the paper)
2. Developer Unit (applies the toner onto the drum latent image)
3. Collector Unit (cleans and prepares the drum for the next image scan)
4. Charge Corona (prepares the drum for the next image, located in the collector unit)
5. Transfer Corona (assists in applying the image to the paper, located directly under the drum)



RECOMMENDED PREVENTATIVE MAINTENANCE

COMPONENT	CLEANING METHOD	TOOLS USED
PRINT DRUM	BRUSH OFF EXCESS TONER	SOFT CLOTH OR TISSUE
COLLECTOR UNIT	DUST, WIPE OR VACUUM OFF EXCESS TONER	SOFT BRUSH, TOWEL OR VACUUM
DEVELOPER UNIT	INSPECT TONER ROLLER FOR UNEVEN TONER DISTRIBUTION	NONE
INNER SURFACES	WIPE UP ACCUMULATED TONER	SOFT TOWEL OR VACUUM
CHARGE/TRANSFER CORONAS	INSPECT FOR BROKEN OR MISSING CORONA WIRES	NONE

The proper cleaning and/or timely replacement of the above items will insure a long and productive printer life.

CLEANING PROCEDURE

Turn off the power switch and open the printer clamshell case. Remove the Drum/Collector. Grasp the two green tabs and lift. Place the Drum/Collector on sheets of paper. AVOID STRONG LIGHT.

Transfer Charger Wire Cleaning - Use the small cleaning tool stored inside the printer. It is located at the front of the printer to the right of the toner cartridge. Refer to page 5-16 of the GQ-3500 Users Manual for complete transfer charger wire cleaning instructions.

Reinstall the Drum/Collector unit into the printer after cleaning the transfer charger wire.

Collector Unit Cleaning - Separate the Print Drum from the Collector unit. This is accomplished by compressing both of the green spring loaded clamps on the Collector and lifting, leaving the Print Drum in the Processing Tray. Cover the Drum with sheets of paper to avoid excess exposure to light. Inspect the Collector cleaning blades for excess toner which may clog the opening (the blades contact the Print Drum when the Drum is attached). Carefully shake or brush off excess toner into a waste basket. The cleaning blades are fragile and will render the Collector useless if damaged. Inspect the charge corona wire located above the metal grid. Make sure it is not broken.

Print Drum Cleaning - Inspect the Drum for excess toner which can be wiped off with a clean soft cloth. The Collector will remove residual toner, so do not attempt to clean all toner from the Drum. Over-enthusiastic cleaning subjects the Print Drum to the risk of scratches.

Reattach the-Print Drum to the Collector in the Processing Tray carefully realigning the units to each other.

Developer Unit - Can be removed by releasing the small blue lever and lifting the developer. Inspect toner roller (this contacts the drum when the developer is installed) for an even silver/black surface. An uneven toner distribution should be reported to your service technician for further inspection.

OTHER COPY QUALITY CONCERNS

Ghost Images On Page - Are usually the result of a clogged or malfunctioning collector unit. Perform the cleaning procedure outlined above.

Light Copy Image - Is generally the result of a dirty or broken transfer corona wire. Also, paper thickness in excess of the recommended will prevent proper toner transfer.

Toner Smears On Page - Are the indication of either a dirty or clogged collector or a defective developer. This can also be manifested in toner splotches on the page. Perform the cleaning and inspection procedure outlined above.

Bond Paper - Will possibly cause several types of poor print quality symptoms. It is recommended to utilize paper intended for use in laser printers. Generally smooth surfaced envelopes and paper will provide better print.

Also, paper that has horizontal rather than vertical grain will likely cause excessive paper curl upon exiting the printer. Specify vertical grain when ordering paper for your printer.

EPSON

EPSON AMERICA,

SERVICE INC. PRODUCT SUPPORT BULLETIN

DATE: 9/22/87
SUBJECT: * GQ-3500 and DisplayWrite 4
NUMBER: P-0011

This APPLICATION NOTE is intended to assist DisplayWrite 4 users utilizing the GQ-3500. The PRINTER FUNCTION TABLE contained herein will assist the user in creating a custom printer driver for the GQ-3500. Not all functions and capabilities will be supported, however, most functions available through DW4 will work.

The GQ-3500 should be equipped with a firmware revision of m0231 or later (verify this by running a text self-test shown on page 1-15 of the GQ-3500 users manual). The version number is located at the lower right hand corner of the test printout.

These are some of the features supported by the created PFT.

- Pica (10 pitch)
- Elite (12 pitch)
- Compressed (17 pitch)
- Double Width (5 pitch)
- 8.5 pitch
- 15 pitch
- 17.1 pitch
- Super/Subscript
- Boldface
- Underlining
- Variable Line Spacing
- Automatic Option Tray selection
- Multiple Copies Variable Control
- Landscape Paper Handling
- IBM Graphic Character Set
(not avail. in all fonts)

The PFT installation is divided into 4 sections:

- I . Install DW4 operating system (Refer to DW4 users manual).
- II. Revise GQ-3500 PFT (Follow instructions contained within).
- III. Designate the GQ-3500 PFT within the SYSTEM or USER DEFINED profile (Refer to DW4 users manual).
- IV. Set GQ-3500 dip switches for page printer mode.

The installation procedure must be completed in it's entirety to support the functions listed and work properly. The procedure should take approximately 30-40 minuets to complete. The printer (GQ-3500) must be connected and ready to print to complete the creation and installation of the PFT.

SECTION I.

To begin the creation of the GQ-3500 File Table the installation of DisplayWrite 4 must be completed. In the PRINTER SELECTION menu, select item "10. OTHER PRINTER" and enter GQ3500. Refer to the DW4 users 'manual for specifics. If the program installation has already been completed proceed to SECTION II.

SECTION II.

Upon completing the installation and accessing a working copy of DisplayWrite 4 please follow these steps to access the create file table:

NOTE

SOME FUNCTIONS REQUIRE A TEST TO BE RUN AFTER ENTERING VALUES, THE RESPONSE TO EACH OF THESE SHOULD BE "Y" REGARDLESS OF THE TEST RESULTS.

- 1) From the Main Menu, Select "9. Profiles."
- 2) From the Profiles Menu, Select "6 Create Table."
- 3) From the Printer Function Table TasksDepressR."
- 4) From the Revise Printer Function Table Selection, Enter Table Name -- "GQ3500."
- 5) From the Revise Printer Function Table (see figure below for an example) we are ready to CREATE the control codes.

Create Printer Function Table
<ul style="list-style-type: none">■ 1. Initialization and Reset■ 2. Vertical/Horizontal Spacing■ 3. Highlighting■ 4. Paper/Page Options■ 5. Typestyles/Character Sets■ 6. User-defined Controls■ 7. Function Selection Tests

We will start with ■1. and proceed down the menu. If a section has been omitted it is to be left in the default setting.

M1 Initialization and Reset
Start of Document Initialization
Control Sequence: [(blank)

End of Document Reset:
Control Sequence: [(blank)

12 Vertical/Horizontal Spacing
 See Vertical/Horizontal Spacing menu below

Vertical/Horizontal Spacing
Vertical Line Spacing: ■ 1. Lines per Inch ■ 2. Variable Line Spacing ■ 3. Indexing Functions Horizontal Character Spacing: ■ 4. Pitches ■ 5. Horizontal Motion Index Horizontal Relative Movement: ■ 6. Forward ■ 7. Backward

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■2 ■1          Lines per Inch
Set 6 Lines per inch [ 1B 32 ]
Set 8 Lines per inch [ 1B 30 ]

12 12 Variable Line Spacing
Control Sequence [ 1B 41 n ]
Maximum Value of n [ 128 ]
Vertical Spacing increments
in (X / Y) Inches [ 1 ] / [ 6 0 ]

12 13 Indexing Functions
Begin Superscript [ 1B 53 00 ]
End Superscript [ 1B 54 ]
End Subscript [ 1B 53 01 ]
Begin Subscript [ 1B 54 ]

■2 ■4 Pitches
Set 5 Pitch [ 1B 2C 01 28 00 ]
Set 8.55 Pitch [ 1B 2C 01 24 00 ]
Set 10 Pitch [ 1B 2C 01 1E 00 ]
Set 12 Pitch [ 1B 2C 01 19 00 ]
Set 15 Pitch [ 1B 2C 01 14 00 ]
Set 17.1 Pitch [ 1B 2C 01 11 00 ]

■3 Highlighting
Begin Emphasis (Bold) [ 1B 45 ]
End Emphasis (Bold) [ 1B 46 ]
Begin Underline [ 1B 2D 01 ]
End Underline [ 1B 2D 00 ]
  
```

14 Paper/Page Options
See Paper/Page Options menu below

Paper/Page Options
<ul style="list-style-type: none"> ■ 1. Paper Handling ■ 2. Paper Positioning ■ 3. Set Page Length (Inches) ■ 4. Set Page Length (Lines) ■ 5. Set Left Margin (Inches) ■ 6. Set Left Margin (Columns) ■ 7. Carrier Return/Line Feed For Page Printers Only: ■ 8. Multiple Copies ■ 9. Landscape Paper Handling

■4 ■ 1 Paper Handling
Bottom Tray Select and Feed [1B 19 02]
Top Tray Select and Feed [1B 19 01]

■ 4 ■2 Paper Positioning

For Continuous Forms:
Distance from Top Paper Edge (X/Y) [2] / [16]
Distance from Left Paper Edge (X/Y) [2] / [16]
For Manual Feed:
Distance from Top Paper Edge (X/Y) [2] / [16]
Distance from Left Paper Edge (X/Y) [2] / [16]
For Automatic Feed:
Distance from Top Paper Edge (X/Y) [2] / [16]
Distance from Left Paper Edge (X/Y) [2] / [16]

■4 ■3 Set Page Length (Inches)
Control Sequence [1B 43 00 n]

■ 4 ■4 Set page Length (Lines)
Control Sequence [1B 43 n]

■ 4 ■6 Set Left Margins Columns
Control Sequence [1B 6C n]
Maximum Value of Variable n [255]

■ 4 ■8 Multiple Copies Control
Control Sequence [1B 6D n]
Maximum Value of Variable n [90]

■5 Typestyles/Character Sets
See Typestyles/Character Sets Menu below

Typestyles/Character Sets
Typestyle Definitions:
■ 1. Default
■ 2. Individual
■ 3. Group
■ 4. Character Set Redefinition
■ 5. Slot Selection Definition

■ 5 ■ 3 Group
Each Group Identifier is selected by a letter A-Z.

■A

Group Identifier Comment	[COURIER 10 (INTERNAL FONT)]
Type Styles	[1 66 154 211 240 250 260]
PC Character Set	[1]
Initial Control Sequence	[1B 79 00 00]

■B

Group Identifier Comment	[EDP 13N (INTERNAL FONTS)]
Type Styles	[3 68 156 213 242 252 262]
Initial Control Sequence	[3]
PC Character Set	[1B 79 00 02]
Ending Control Sequence	[1B 79 00 00]

DC	
Group Identifier Comment	[MODERN PSN10]
Type Styles	[5 70 158 215 244 254 264]
PC Character Set	[5]
Ending Control Sequence	[1B 79 00 04]
Initial Control Sequence	[1B 79 00 00]

■6

User-Defined Controls	
Control Number 1 (Selects Portrait)	
Control Sequence	[1B 6F 00]
Control Sequence Filename	[PORTRAIT.ORI]
Control Number 2 (Selects Landscape)	
Control Sequence	[1B 6F 01]
Control Sequence Filename	[LNDSCP.ORI]

After inserting function codes, save the created PFT as "GQ3500". Then, exit DisplayWrite 4 Printer Function Table and proceed to SECTION III.

SECTION III.

After creating the PFT and saving, return to the DW4 main menu and enter the PROFILES menu. Select the newly created GQ3500 PFT for the Printer Function Table (Refer to DW4 users manual). Complete and exit the PROFILES section saving changes made. Proceed to SECTION IV.

SECTION IV.

This section deals with selection of the PAGE PRINTER MODE. The dip switches are located on the GQ3500 interface board.

To access these switches, loosen the two thumbscrews and pull the I/F board out firmly.

The switch settings are as follows:

DIP SWITCH 1-1 OFF
1-2 OFF

The other DIP switches can be left in the factory settings for most applications. Refer to the GQ-3500 USERS MANUAL for more information.

IMPORTANT NOTES

FORMAT ERRORS

While this function table will work with most commands some attempts to format a page will result in an error display from DW4. These should not cause concern unless the printing is incorrect. In that case, verify the commands in the document to be printed before modifying the PFT.

FONT CARDS

If you have font cards these can be selected using the Typestyles/ Character Set Group Definitions. The "ESC y" command must first select the appropriate slot, then the desired font residing in that card (e. g. 1B 79 01 00 will select slot no. 1 font no. 1). The hex commands needed are outlined in the GQ-3500 USER'S MANUAL.

DOWNLOADED FONTS

Once the fonts are downloaded to the GQ-3500 they are selectable using the "ESC %" command from the Typestyles/ Character Set Group Definitions. Refer to the GQ-3500 USER'S MANUAL for more information.

EPSON

EPSON AMERICA INC.
SERVICE DEPARTMENT

PRODUCT SUPPORT BULLETIN

DATE: 7/21/87
SUBJECT: GQ-3500 VERSION M0231 FIRMWARE GRAPHICS

P-0009

When printing graphics on the GQ-3500 with the new firmware upgrade, (M0231), in the LQ-1500 emulation, it is necessary to disable dip switch 1-6 on the interface board. This will discard characters when the print position moves beyond the right margin. The Interface comes from the factory with this switch enabled.

Shown below is a print out from P.C. Paint ver. 2.0 with dip switch 1-6 enabled and disabled using the LQ-1500 emulation. Figure 3 is a table of dip switch 1 settings.

Figure (1)
(1-6 enabled)



Figure (2)
(1-6 disabled)



Figure (3)

Table 1-8. DIP Switch 1 Setting

DIP SW	Function	ON	OFF	Factory Setting
1-1	Printing mode setting	Refer to Table 1-9.		OFF
1-2				OFF
1-3	Automatic reprint selection when paper jams	Jammed page reprint	Jammed page does not reprint.	OFF
1-4	Processing of unprintable codes	Spaces substituted for unprintable codes	Unprintable codes ignored.	OFF
1-5	Automatic line feed (AUTO LF)	CR code handles as CR and LF	CR code handled only as carriage return.	OFF
1-6	Automatic carriage return (AUTO CR)	Printer makes automatic CR and LF when print position moves beyond right margin.	Character discarded when print position moves beyond right margin.	ON
1-7	Automatic form feed processing (AUTO FF)	Printer automatically advances page when print position moves below bottom margin.	Printer does not advance page until FF code received, even if print position moves below bottom margin.	ON
1-8	Buzzer ON/OFF selection	Enable	Disable	ON

For many spreadsheets and bit-image graphics programs the escape codes must be part of the original program.

The optional Font cards can be selected by SelectType **or** embedded codes.

If you use one of the IC printer emulation cards you can select the appropriate printer driver in your software and avoid the use of embedded escape codes.

NOTE: If you use an emulation card you will be limited to the features of the emulated printer. You may lose some of the GQs built-in features.

5. I am having problems with the LQ-1500 emulation.

The LQ-1500 emulation will support standard text but not the graphics mode. Some features of the LQ will not work on the GQ. Compressed print is only available if you have the IC font card. The Emphasized and Double strike modes are hard to see as different from standard characters due to the high quality of the normal type. Bold type style can be selected from the SelectType panel, but this effects the entire document. Bold fonts will be available on the IC font cards.

6. The top of page margin is too large.

The top 1/4 inch of the paper is not a printable area. If you set the top margin to 6 lines you will get about 9 lines. You will have to change the top margin to correct for the 1/4 inch.

7. Display shows CH code when IC cards are used.

The Font IC cards can be used in either card slot but you must always fill the "A" slot first. You can't use just one card and put it in the "B" slot.

The Emulation IC cards can only be used in the "A" slot. They can be used either with or without the Font cards.

If you put them in the wrong location you will get the CH code.

8. The toner Out lamp is lit when there is still toner in the developer unit.

The first time that toner is placed in the developer unit the number of copies you can print out will be less than with later refills. This is due to the fact that not all of the toner is usable (some just stays in the unit).

If you are moving the GQ from site to site you may cause the toner to move to one end of its tray. If this happens you will get a toner out light. To correct the problem just remove the developer unit and shake it side to side (along the long axis) to distribute the toner again.

PRODUCT SUPPORT BULLETIN

DATE: 2/10/87 P-0002
SUBJECT: GQ-3500 LASER PRINTER DISPLAY CODE DEFINITIONS

The GQ-3500 provides trouble shooting codes via the display.
The following is an explanation of those codes:

STATUS display	Cause	Error recovery
EO 00	Engine driver CPU error	After writing down the status, turn off the power and call for service.
EO 01	Option tray CPU error	Same as above.
EO 02	Option tray motor or circuit error.	Same as above.
EO 03	Optical unit error - Laser diode defective - Laser diode drive circuit malfunction - Mirror motor malfunction - Index sensor defective	Same as above.
EO 05	Main motor error - Motor malfunction - Motor drive circuit malfunction - Failure of motor to rotate for any reason	Same as above.
EO 06	Fixing unit error - Heater wire broken - Heater contact defective - SSR defective - Thermal fuse blown - Thermistor wire broken - Thermistor contact defective	Same as above.

STATUS display	Cause	
E1 80	Printer controller CPU exception error	Write down the status, then turn off the power. If the same error recurs when the power is turned back on, call for service.
E1 81	Printer controller CPU trap error	
E1 82	Printer controller CPU bus error	
E1 83	Printer controller CPU address error	
E1 84	Printer controller CPU illegal instruction	
E1 89	Printer controller CPU NMI interrupt error	
E1 91	Printer controller CPU reserved vector interrupt error	
E1 92	Printer controller CPU user vector interrupt error	
E1 A1	System RAM error	Turn off the power and properly install the IC card. If the error recurs, call for service.
E1 Cd	IC card installation error	

STATUS display	Cause	Error recovery
J0 (Flashing)	Paper feed jam (option tray jam if OPTION TRAY is lit)	Release the paper tray lock lever and remove jammed paper, then raise the lock lever and press ERROR CLEAR switch.
J1 (Flashing)	Transport jam	Open the cover and remove jammed paper, then close the cover and verify that the printer is in the 'warning up' state.
J2 (Flashing)	Paper exit jam	Same as above.
FU (Flashing)	Actual paper size does not match that set from the control panel.	Switch the printer offline, then press the ERROR CLEAR switch and set the correct paper size in the function set-up mode.
d0 (Flashing)	The printer or option tray cover is open.	Close the cover.
U1 (Flashing)	Collector unit requires replacement.	Open the cover , replace the collector unit and lens shield then press the reset lever and close the cover.

- note; . When the jam is occurred ("J0" ,"J1" ,"J2" are displayed) in the PAGE PRINTER Mode, the jammed page will be printed automatically after removing jammed paper. But this error recovery is not performed in the LINE PRINTER Mode and LQ1500 Mode.
- . "FU" of the STATUS indicator will be also cleared by opening the cover.

STATUS display	Cause	Error recovery
CO (Flashing)	Total IC card capacity exceeds 2M bytes, or total number of font card fonts is greater than 16.	Change the combination of IC cards installed, then press the ERROR CLEAR switch.
CH (Flashing)	(a) IC card removed while DATA LED flashing. Or when the printer goes to online, program card has been removed. (b) IC card installed only in slot B. Or Program card installed in slot B (c) IC card not readable.	Correct as follows, then press the ERROR CLEAR switch. (a) Reinstall the IC card. (b) Set the IC card in slot A. (c) Clean the IC card socket, or use a different IC card.
— (flashing)	Indicates that the printer is warming up.	None required.
01 to 99 (flashing)	When printing multiple copies, indicates the number of copies remaining to be printed. The indicator stops flashing if a jam occurs.	To cancel printout of remaining copies, switch the printer offline and press the ERROR CLEAR switch. (After doing this, one copy is printed and the number of copies is set to '0'.)
PO (Flashing)	No paper is in the paper input tray. When OPTION LED lights, option tray has no paper.	Add paper
TO (Flashing)	The toner drops below a certain level.	Change toner cartridge
PF (Flashing)	When DATA LED flashes in the offline state, the printer is printing by pressing the PAPER FEED switch.	None required
. (Flashing)	It is now function set-up mode.	None required

STATUS display	Cause	Error recovery
U2 (Flashing)	Drum cartridge requires replacement.	Open the cover ,replace the drum cartridge and lens sheild. Cleaning transfer charger by the cleaning jig. Then press the reset lever and close the cover.
bC (Flashing)	Indicates that the base engine is making a test print.	None required.
OC 1C (Flashes only during printing)	Turning on the power while pressing the ERROR CLEAR switch places the printer in the test print mode. Subsequently, pressing the ERROR CLEAR switch changes the value displayed by the left digit from '0' to '1'. When '0' is displayed, the printer prints a vertical line test pattern. When '1' is displayed, it prints a character test pattern.	To end the test mode and enter the normal printer mode, press the ONLINE switch.
L0 (Flashing)	Buffer overflow; overflow characters are not printed.	Press the ERROR CLEAR switch.
L1 (Flashing)	Page composition error; some characters may not be printed.	Same as above.

PRODUCT SUPPORT BULLETIN

DATE: 1/13/87
SUBJECT: Using the GQ-3500 with WordStar

NUMBER: P-0001

The GQ-3500 laser printer provides superior print quality, speed, and quiet operation beyond current impact dot matrix and full font printers. In page printer mode such features as double and triple width/height characters are available along with a selection of background patterns. To use these features with WordStar only a few changes are needed using the WINSTALL.COM program supplied with the word processor.

As an example the codes to use the following GQ-3500 features can be installed:

- * Patterned backgrounds.
- * Alternate type styles.
- * Emphasized print.
- * Double sized characters.

In order to call these functions the key sequences for the following WordStar features will be re-assigned:

- * User patches.
- * Alternate and normal print sizes.
- * Superscript and subscript.
- * Ribbon color select.

Using the section D, Custom Installation of Printers, of the WINSTALL.COM program install:

0 - User-defined functions

^PQ	=	1Bh	7Eh	1h	1h
^PW	=	1Bh	7Eh	2h	1h
^PE	=	1Bh	7Eh	3h	1h
^PR	=	1Bh	7Eh	0h	1h

Q - Character pitch

-PA	=	1Bh	79h	0h	2h
^PN	=	1Bh	79h	0h	0h

P - Carriage roll

^PT	=	1Bh	45h
^PV	=	1Bh	46h

I - Ribbon selection

^PY	=	1Bh	7Ah	2h	2h
^PY	=	1Bh	7Ah	1h	1h

Assigning some of the key sequences to function keys in Wordstar will facilitate their use.

After the new installation has been saved, produce a test document in WordStar. Examples appear on pages 3 and 4. Page 3 shows what will appear on-screen, and page 4 shows the resulting printout.

The same technique described above can be used to install commands in LQ-1500 emulation mode (or with any other printer) if desired. Refer to the User's Manual for the appropriate commands, parameters, and their use.

```
L-----C:WSGQTST.TXT      PAGE 3 LINE 1 COL 43      INSERT ON-----R
^W
```

^YWordStar for the GQ-3500^Y

^YTest file^Y

December 5, 1986

 $\wedge R$

* This is a test of text with different backgrounds
using:

```

^PQ - Background 1
      ^QABCDEFGHIJKLMNOPQRSTUVWXYZ
      abcdefghijklmnopqrstuvwxyz^R
^PW - Background 2
      ^WABCDEFGHIJKLMNOPQRSTUVWXYZ
      abcdefghijklmnopqrstuvwxyz^R
^PE - Background 3
      ^EABCDEFGHIJKLMNOPQRSTUVWXYZ
      abcdefghijklmnopqrstuvwxyz^R
^PR - Background 0
      ^RABCDEFGHIJKLMNOPQRSTUVWXYZ
      abcdefghijklmnopqrstuvwxyz^R

```

Background 0 is available on PF9.

* This is a test of the different typefaces:

```

^PA - Sans Serif 13
      ^AABCDEFGHGIJKLMNOPQRSTWWXYZ^N
      ^Aabcdefghijklmnopqrstuvwxyz^N
^PN - Courier 10
      ABCDEFGHIJKLMNOPQRSTUVWXYZ
      abcdefghijklmnopqrstuvwxyz

```

These commands are available on PF7 and PF8 respectively.

* This is a test using ^PT ^Tfor emphasized print and ^V ^PV
for normal weight print. These are available on PF3
and PF4 respectively.

Note: ^E The heading was done in double high
double wide lettering using ^PY at each
end of the text.

 \hat{R}

WordStar for the GQ-3500

Test file

December 5, 1986

* This is a test of text with different backgrounds using:

^PQ - Background 1
~~ABCDEFGHIJKLMNPOQRSTUVWXYZ~~
~~abcdefghijklmnopqrstuvwxyz~~

^PW - Background 2
ABCDEFGHIJKLMNPOQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

^PE - Background 3
ABCDEFGHIJKLMNPOQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

^PR - Background 0
ABCDEFGHIJKLMNPOQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Background 0 is available on PF9.

* This is a test of the different typefaces:

^PA - Sans Serif 13
ABCDEFGHIJKLMNPOQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

^PN - Courier 10
ABCDEFGHIJKLMNPOQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

These commands are available on PF7 and PF8 respectively.

* This is a test using ^PT for emphasized print and ^PV for normal weight print. These are available on PF3 and PF4 respectively.

Note: The heading was done in double high double wide lettering using ^PY at each end of the text.