A. TECHNICAL SPECIFICATIONS

Printing Technique	Impact, dot-matrix (9-needle print head)
Normal definition printing (DRAFT)	- matrix: 9 vertical dots x (5 + 4) horizontal - print speed: 120 chars/sech at 10 chars/inch
High definition printing (NLQ)	- matrix: 18 vertical dots x 9 horizontal - print speed: 25 chars/sech at 10 chars/inch
Tab speed	200 chars/sec
Print direction	bidirectional, optimized paths
Horizontal spacings	10/12/15/17.1/20/24/30 chars/inch line selectable (can also be selected during printer initial programming phase)
Vertical spacing	- 4.23 mm (1/6"), 3.175 mm (1/8") and 2.47 mm (7/72") - n/216" and n/72"
Character table	ASCII characters and special characters (see Chapters 10 and 16 "Character Tables").
Print line capacity	from 80 to 240 characters, according to the programmed spacing.

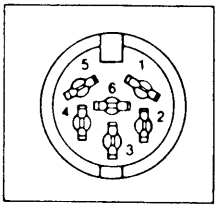
Bit Image Mode Graphics Printing	- 7/8 vertical dots matrix: • vertical definition: 72 dots/inch • horizontal definition: 60 and 240 dots/inch line programmable (see chapter 14 and 15, IBM and Epson Compatible Control Codes)
Graphics Layout	See Appendixes C and D for all the possible graphics layout combinations
Paper feed speed	42.3 mm/s
Line feed speed	100 ms
Paper handling	See Chapter 3, "Printer Installation"
Interfaces	Parallel Centronics standard Serial Commodore
Ribbon	- Black print cartridges (800K characters capacity)
Environment requirements	- Temperature: from 10 °C to 40 °C - Relative Humidity: from 15% to 95% (not condensing)
Electrical features	- (220, 240 V) + 10% -15%; 50-60 Hz - absorption: 25 W
Physical features	- Height: 94 mm - Width: 370 mm - Depth: 253 mm - Weigth: 4.2 kg

B. INTERFACES

a. Serial Interface

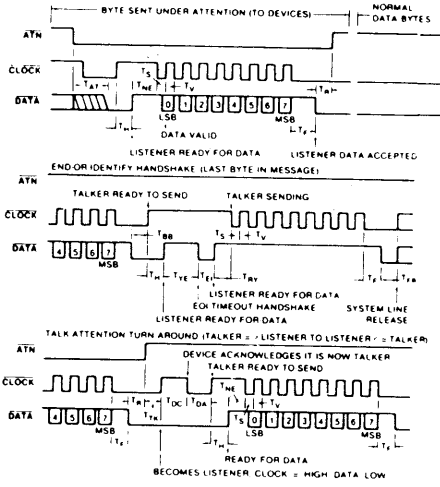
The following figures show the Commodore serial interface connector and the table the summarizes the interface signals.

Connector



Pin No.	Signal
1	SERIAL SRQ (NC)
2	GND
3	SERIAL ATN
4	SERIAL CLK
5	SERIAL DATA
6	$\overline{\text{RES}}$

The Commodore serial interface signal diagram is as follows:



SERIAL BUS TIMING

Description	Symbol	Min	Typ	Max
ATN RESPONSE (REQUIRED)[1]	T_{AT}	—	—	1000µs
LISTENER HOLD OFF	T_H	0	—	∞
NON-EOI RESPONSE TO RFD[2]	T_{NE}	—	40µs	200µs
BIT SET-UP TALKER[4]	T_S	20µs	70µs	—
DATA VALID	T_V	20µs	20µs	—
FRAME HANDSHAKE[3]	T_F	0	20µs	1000µs
FRAME TO RELEASE OF ATN	T_R	20µs	—	—
BETWEEN BYTES TIME	T_{BB}	—	—	—
EOI RESPONSE TIME	T_{YE}	200µs	250µs	—
EOI RESPONSE HOLD TIME	T_{EI}	60µs	—	—
TALKER RESPONSE LIMIT	T_{RY}	0	30µs	60µs
BYTE ACKNOWLEDGE[4]	T_{PR}	20µs	30µs	—

Notes
1. If maximum time exceeded, device not present error
2. If maximum time exceeded, EOI response required
3. If maximum time exceeded, frame error
4. T_V and T_{PR} minimum must be 60µs for external device to be a talker

b. Parallel Interface

The printer interface for connections to IBM PC (or compatible) is a standard parallel Centronics interface.

The signals from printer to host computer, and in the opposite direction, are transmitted via the interface lines. A voltage level in the range $3 \div 5$ V (5.5 as max peak) is interpreted as a "1", while a voltage level in the range $0 \div 0.7$ V (-0.5 V as min peak) is interpreted as a "0".

The printer line buffer maximum capacity is 5.5K Byte.

Data transmission speed is 5000 characters/sec.

The following computer generated signals are present at the interface output connector:

- DATA STROBE (connector pin 1)

- DATA LINES (from pin 2 to pin 9)

- INPUT PRIME (pin 31)

together with the following printer generated signals:

- ACKNOWLEDGE (pin 10)

- BUSY (pin 11)

- PAPER EMPTY (pin 12)

- SELECT (pin 13)

- FAULT (pin 32).

Signal Description

The **DATA STROBE** signal is a negative pulse that transfers data into the printer electronic circuits. The pulse duration must be longer than 800 ns. The circuit is terminated by a resistor to the +5 V.

The eight **DATA LINES** circuits transmit bytes (characters or control codes) from the host computer to the printer, and are terminated by a resistor to the +5 V.

The **INPUT PRIME** signal (negative pulse) restarts the printer. The pulse duration must be longer than 10 ms.

The **ACKNOWLEDGE** signal (negative pulse) indicates to the computer the end of transfer for one character. The printer is ready to receive the subsequent character.

The **BUSY** signal (high level) indicates to the computer that the printer cannot receive data.

The **PAPER EMPTY** signal (high level) indicates to the computer that the paper is almost finished.

The **SELECT** signal (high level) indicates to the computer that the printer is able to receive data.

The **FAULT** signal (low level) indicates to the computer that the printer is faulty.

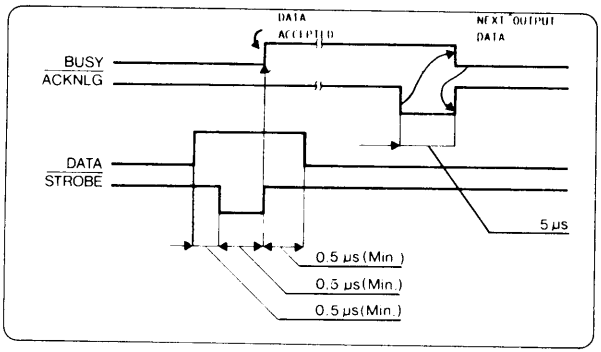


Fig. 1 Sequence and Timing for Data Exchange

C. GRAPHICS LAYOUT COMBINATIONS

The printer provides the following **print mode features:**

1. normal definition (DRAFT)

2. high definition (NEAR LETTER QUALITY)

These print modes can be used in the following **horizontal spacings:**

1. Pica	10	Chars/Inch
2. Elite	12	Chars/Inch
3. Micro	15	Chars/Inch
4. Condensed	17.1	Chars/Inch
5. Pica compressed	20	Chars/Inch
6. Elite compressed	24	Chars/Inch
7. Micro compressed	30	Chars/Inch

and in the following **versions:**

- emphasized
- double width
- superscript
- subscript
- double strike
- underline.

The following table shows the possible graphics layout combinations. The same character can be printed in 41 different modes, with the same spacing. The identical combination table can be repeated for other five programmable spacings, thus obtaining 5 × 41 different graphic layouts.

Possible Combinations

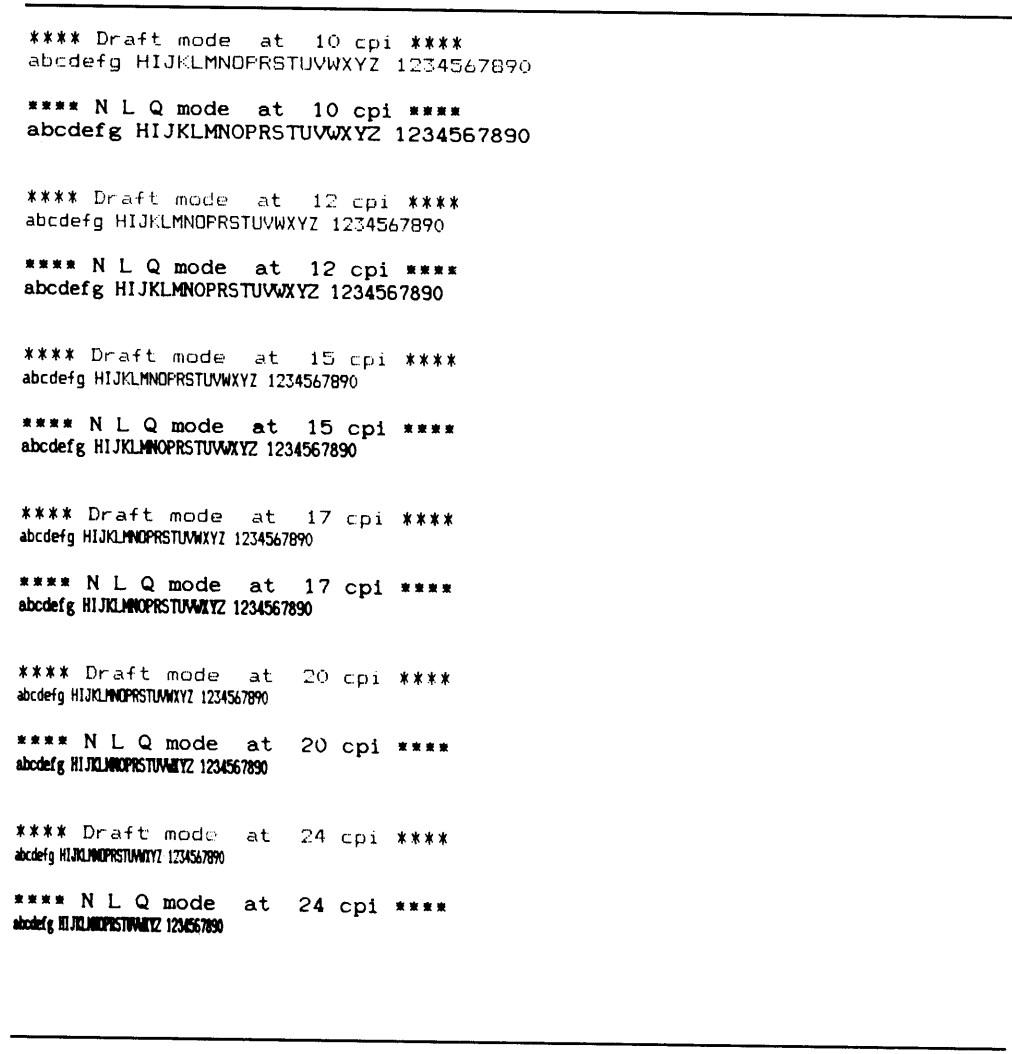
n	N	Q	Em	DW	Sp	Sb	DS	Un
1	•							
2	•							•
3	•						•	
4	•						•	•
5	•					•		
6	•					•		•
7	•				•			
8	•				•			•
9	•			•				
10	•			•				•
11	•			•			•	
12	•			•			•	•
13	•			•		•		
14	•			•		•		•
15	•			•	•			
16	•			•	•			•
17	•		•					
18	•		•					•
19	•		•				•	
20	•		•				•	•
21	•		•			•		
22	•		•			•		•
23	•		•		•			
24	•		•		•			•
25	•		•	•				
26	•		•	•				•
27	•		•	•			•	
28	•		•	•			•	•
29	•		•	•		•		
30	•		•	•		•		•
31	•		•	•	•			
32	•		•	•	•			•
33		•						
34		•						•
35		•		•				
36		•		•				•
37		•	•					
38		•	•					•
39		•	•	•				
40		•	•	•				•

N = Normal
Q = Near Letter Quality
EM = Emphasized
DW = Double width
Sp = Superscript
Sb = Subscript
DS = Double Strike
Un = Underline

D. PRINT SAMPLES

ALPHANUMERIC PRINT SAMPLES

Fig. 2 - Example 1



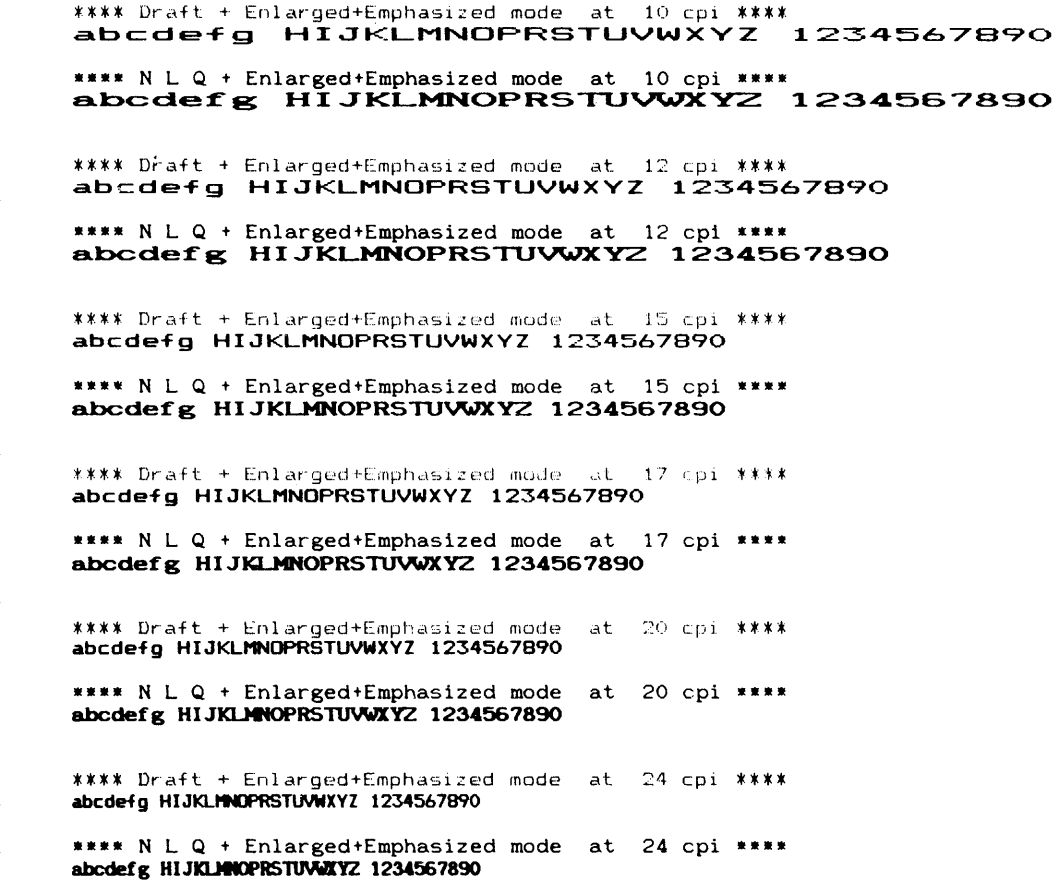

**** Draft + Enlarged+Emphasized mode at 10 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** N L Q + Enlarged+Emphasized mode at 10 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** Draft + Enlarged+Emphasized mode at 12 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** N L Q + Enlarged+Emphasized mode at 12 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** Draft + Enlarged+Emphasized mode at 15 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** N L Q + Enlarged+Emphasized mode at 15 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** Draft + Enlarged+Emphasized mode at 17 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** N L Q + Enlarged+Emphasized mode at 17 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** Draft + Enlarged+Emphasized mode at 20 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** N L Q + Enlarged+Emphasized mode at 20 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** Draft + Enlarged+Emphasized mode at 24 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** N L Q + Enlarged+Emphasized mode at 24 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890

Fig. 4 - Example 3

**** Combinations of printing styles in draft mode ****
Possibility TO OBTAIN UP TO 240 Combinations OF PRINT Styles

**** Combinations of printing styles in N L Q mode ****
Possibility TO OBTAIN UP TO 240 Combinations OF PRINT Styles

**** Combinations of printing styles in draft mode ****
Possibility TO OBTAIN UP TO 240 Combinations OF PRINT Styles

**** Combinations of printing styles in N L Q mode ****
Possibility TO OBTAIN UP TO 240 Combinations OF PRINT Styles

**** Combinations of printing styles in draft mode ****
Possibility TO OBTAIN UP TO 240 Combinations OF PRINT Styles

**** Combinations of printing styles in N L Q mode ****
Possibility TO OBTAIN UP TO 240 Combinations OF PRINT Styles

**** Combinations of printing styles in draft mode ****
Possibility TO OBTAIN UP TO 240 Combinations OF PRINT Styles

**** Combinations of printing styles in N L Q mode ****
Possibility TO OBTAIN UP TO 240 Combinations OF PRINT Styles

**** Combinations of printing styles in draft mode ****
Possibility TO OBTAIN UP TO 240 Combinations OF PRINT Styles

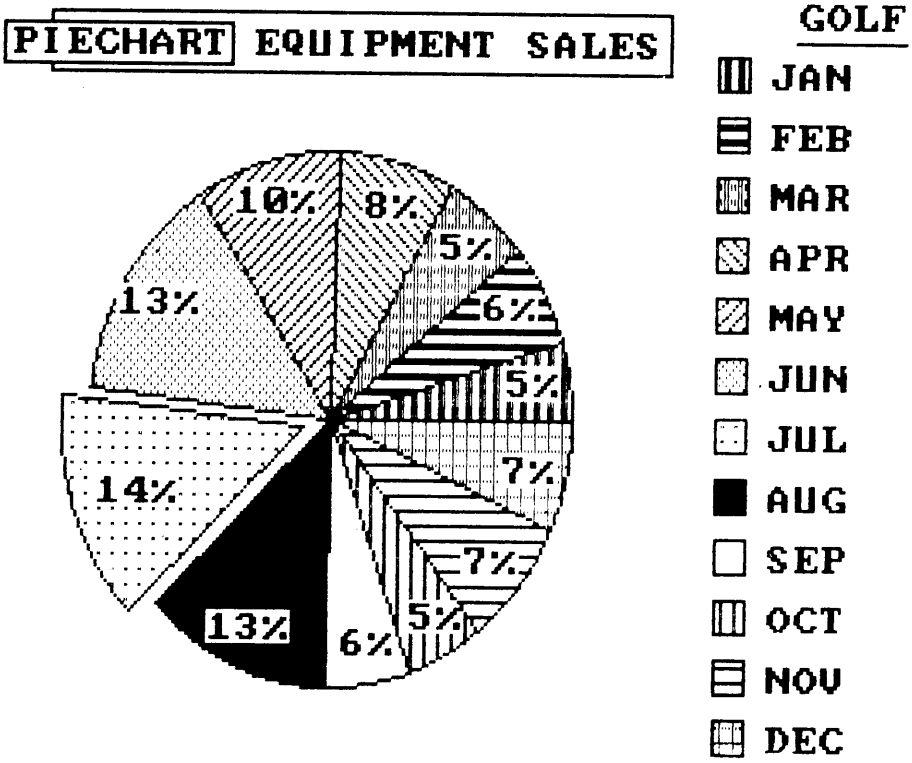
**** Combinations of printing styles in N L Q mode ****
Possibility TO OBTAIN UP TO 240 Combinations OF PRINT Styles

**** Combinations of printing styles in draft mode ****
Possibility TO OBTAIN UP TO 240 Combinations OF PRINT Styles

**** Combinations of printing styles in N L Q mode ****
Possibility TO OBTAIN UP TO 240 Combinations OF PRINT Styles

**** Draft mode + Superscript at 10 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** Draft mode + Superscript at 12 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** Draft mode + Superscript at 15 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** Draft mode + Superscript at 17 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** Draft mode + Superscript at 20 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890
**** Draft mode + Superscript at 24 cpi ****
abcdefg HIJKLMNOPRSTUVWXYZ 1234567890

Fig. 6 - Graphics Printing Example



E. COMMAND SUMMARY TABLES

COMMODORE COMMANDS

Code			Description (Secondary Address = 7)	Page
ASCII	Dec.	Hex.		
BIT IMG	8	08	Sets the BIM graphics printing	9.18
BIT IMG	8 26	08 1A	Sets the repeated printing of BIM data	9.19
SUB				
LF	10	0A	Line feed	9.13
FF	12	0C	Starts printing and advances the paper to top of form	9.13
CR	13	0D	Starts printing and line feed	9.13
EN ON	14	0E	Double width printing: ON and graphics print output	9.20
EN OFF	15	0F	Double width printing: OFF	9.9
POS	16	10	Sets the horizontal tab in number of characters	9.15
CRSR DWN	17	11	Upper/lower case printing	9.12
RVS ON	18	12	Reverse printing: ON	9.9
ESC	27	1B	ASCII code for Escape	9.7
NLQ ON	31	1F	NLQ printing: ON	9.12
ESC POS	16	10	Sets the horizontal tab in number of dots	9.15
ESC -	45	2D	Underline: ON/OFF	9.10
ESC 8	56	38	Out-of-paper microswitch: disabled	9.14
ESC 9	58	39	Out-of-paper microswitch: enabled	9.14
ESC =	61	3D	Down Line Loading of user characters	9.20
ESC c	67	43	Sets form length in number of lines	9.13
ESC c NUL	67 0	43 0	Sets form length in number of inches	9.13
ESC e	69	45	Emphasized printing: ON	9.10
ESC f	70	46	Emphasized printing: OFF	9.11
ESC g	71	47	Double strike printing: ON	9.9
ESC h	72	48	Double strike printing: OFF	9.9
ESC i	73	49	Selects print definition	9.11
ESC n	78	4E	Defines bottom of form (BOF)	9.14
ESC o	79	4F	Clear bottom of form (BOF)	9.14
ESC s	83	53	Superscript/subscript printing	9.11
ESC t	84	54	Clear superscript/subscript printing	9.11
ESC [	91	5B	Print style selection	9.10
ESC X	120	78	DRAFT/NLQ print mode selection	9.12
CS	141	8D	Print and perform a carriage return	9.14
CRSR UP	145	91	Upper case printing	9.12
RVS OFF	146	92	Reverse printing: OFF	9.9
NLQ OFF	159	9F	NLQ printing: OFF	9.12

IBM PC OR COMPATIBLE COMMANDS

IBM Proprinter

Code			Description	Page
ASCII	Dec.	Hex.		
NUL	0	00	Not operative when used alone	14.10
BEL	7	07	Not operative	14.10
BS	8	08	Print and backspace 1 character	14.7
HT	9	09	Horizontal tab stops	14.7
LF	10	0A	Line feed	14.7
VT	11	0B	Line feed or next programmed tab stop	14.8
FF	12	0C	Form feed	14.7
CR	13	0D	Print buffer	14.10
SO	14	0E	Double width characters: ON	14.2
SI	15	0F	17.1 chars/inch (condensed): ON	14.3
DC1	17	11	Printer selection	14.10
DC2	18	12	17.1 chars/inch (condensed): OFF	14.3
DC3	19	13	No operation	14.11
DC4	20	14	Double width characters: OFF	14.2
CAN	24	18	Clears print buffer	14.11
ESC	27	1B	ASCII code for Escape	9.7
SP	32	20	Moves the print head one character pitch	14.11
ESC -	45	2D	Underline: ON/OFF	14.3
ESC 0	48	30	Spacing = 1/8" (3.175 mm)	14.5
ESC 1	49	31	Spacing = 7/72" (2.47 mm)	14.6
ESC 2	50	32	Spacing = 1/6" (4.23 mm)	14.6
ESC 2	50	32	ESC A execution command	14.6
ESC 3	51	33	Spacing = n/216" (n x 0.1176 mm)	14.6
ESC 4	52	34	Set Top of Form (TOF)	14.9
ESC 5	53	35	Automatic LF: ON/OFF	14.11
ESC 6	54	36	IBM Table 2 selection	14.11
ESC 7	55	37	IBM Table 1 selection	14.11
ESC :	58	3A	Print pitch = 1/12"	14.5

Code			Description	Page
ASCII	Dec.	Hex.		
ESC =	61	3D	Down Line Loading of user characters (DLL)	14.15
ESC A	65	41	Spacing = n/72" (n x 0.3528 mm)	14.6
ESC B	66	42	Vertical tab stops program	14.8
ESC C	67	43	Set form length in number of lines	14.9
ESC C NUL	67 0	43 00	Set form length in number of inches	14.9
ESC D	68	44	Horizontal tab stops program	14.8
ESC E	69	45	Emphasized printing: ON	14.4
ESC F	70	46	Emphasized printing: OFF	14.4
ESC G	71	47	Double strike printing: ON	14.2
ESC H	72	48	Double strike printing: OFF	14.2
ESC I	73	49	Select print definition	14.2
ESC J	74	4A	Paper skip = n/216"	14.11
ESC K	75	4B	60 dots/inch BIM selection	14.13
ESC L	76	4C	120 dots/inch BIM selection	14.14
ESC N	78	4E	Define bottom of form (BOF)	14.9
ESC O	79	4F	Clear bottom of form	14.10
ESC Q	81	51	De-select printer	14.10
ESC R	82	52	Clear tab stops	14.9
ESC S	83	53	Superscript/subscript printing	14.5
ESC T	84	54	Clear superscript/subscript printing	14.5
ESC U	85	55	Mono/bidirectional printing	14.12
ESC W	87	57	Double width characters: ON/OFF	14.3
ESC Y	89	59	120 dots/inch BIM selection, double speed	14.14
ESC Z	90	5A	240 dots/inch BIM selection	14.14
ESC \	92	5C	Print n characters from extended table	14.20
ESC ^	94	5E	Print one character from extended table	14.20
ESC _	95	5F	Overline: ON/OFF	14.4

IBM Graphics Printer

Code			Description	Page
ASCII	Dec.	Hex.		
NUL	0	00	Not operative when used alone	15.5
BS	8	08	Print and backspace 1 character	15.4
HT	9	09	Horizontal tab stops	15.4
LF	10	0A	Line feed	15.4
VT	11	0B	Line feed	15.4
FF	12	0C	Paper skip at module beginning	15.4
CR	13	0D	Print buffer	15.5
SO	14	0E	Double width characters: ON	15.2
SI	15	0F	17.1 chars/inch (condensed): ON	15.3
DC2	18	12	17.1 chars/inch (condensed): OFF	15.3
DC4	20	14	Double width characters: OFF	15.2
CAN	24	18	Clears print buffer	15.5
ESC	27	1B	ASCII code for Escape	9.7
ESC SO	14	0E	Double width characters: ON	15.2
ESC -	45	2D	Underline: ON/OFF	15.3
ESC 0	48	30	Spacing = 1/8" (3.175 mm)	15.4
ESC 1	49	31	Spacing = 7/72" (2.47 mm)	15.4
ESC 2	50	32	Spacing = 1/6" (4.23 mm)	15.4
ESC 3	51	33	Spacing = n/216" (n x 0.1176 mm)	15.4
ESC 6	54	36	IBM Table 2 selection	15.5
ESC 7	55	37	IBM Table 1 selection	15.5
ESC 8	56	38	Out of paper microswitch: disabled	15.5
ESC 9	57	39	Out of paper microswitch: enabled	15.5
ESC =	61	3D	Down line loading of user characters (DLL)	15.5
ESC A	65	41	Spacing = n/72" (n x 0.3528 mm)	15.4
ESC C	67	43	Set form length in number of lines	15.4
ESC C NUL	67 0	43 00	Set form length in number of inches	15.4
ESC D	68	44	Horizontal tab stops program	15.4
ESC E	69	45	Emphasized printing: ON	15.3

Code			Description	Page
ASCII	Dec.	Hex.		
ESC F	70	46	Emphasized printing: OFF	15.3
ESC G	71	47	Double strike printing: ON	15.2
ESC H	72	48	Double strike printing: OFF	15.2
ESC I	73	49	Select print definition	15.2
ESC J	74	4A	Paper skip = n/216"	15.5
ESC K	75	4B	60 dots/inch BIM selection	15.6
ESC L	76	4C	120 dots/inch BIM selection	15.6
ESC M	77	4D	Print pitch = 1/12": ON	15.3
ESC N	78	4E	Define bottom of form (BOF)	15.4
ESC O	79	4F	Clear bottom of form	15.4
ESC S	83	53	Superscript/subscript printing	15.3
ESC T	84	54	Clear superscript/subscript printing	15.3
ESC U	85	55	Recognized, not operative	15.5
ESC W	87	57	Double width characters: ON/OFF	15.2
ESC Y	89	59	120 dots/inch BIM selection, double speed	15.6
ESC Z	90	5A	240 dots/inch BIM selection	15.6
ESC [	91	5B	Select horizontal spacing	15.3
ESC x	120	78	Print mode DRAFT/NLQ definition	15.3

Code			Description	Page
ASCII	Dec.	Hex.		
NUL	0	00	Not operative when used alone	15.18
BS	8	08	Print and backspace 1 character	15.18
HT	9	09	Horizontal tab stops	15.13
LF	10	0A	Line feed	15.12
VT	11	0B	Vertical tab stops program	15.14
FF	12	0C	Paper skip to top of form	15.13
CR	13	0D	Carriage return and print	15.18
SO	14	0E	Double width characters: ON	15.8
SI	15	0F	17.1 chars/inch (condensed): ON	15.8
DC1	17	11	Printer selection	15.18
DC2	18	12	17.1 chars/inch (condensed): OFF	15.9
DC3	19	13	Printer de-selection	15.18
DC4	20	14	Double width characters: OFF	15.8
CAN	24	18	Clears print buffer	15.18
ESC SO	14	0E	Same as SO	15.8
ESC SI	15	0F	Same as SI	15.9
ESC !	33	21	Select graphics layout types	15.10
ESC #	35	23	Clear bit 2^7 forcing (MSB)	15.18
ESC %	37	25	Select RAM (special characters) and ROM (standard characters)	15.29
ESC &	38	26	Define special characters by charging in RAM	15.26
ESC *	42	2A	Set graphics layout in different density	15.24
ESC -	45	2D	Underline: ON/OFF	15.9
ESC /	47	2F	Vertical tab stops program	15.16
ESC 0	48	30	Spacing = 1/8" (3.175 mm)	15.12
ESC 1	49	31	Spacing = 7/72" (2.47 mm)	15.12
ESC 2	50	32	Spacing = 1/6" (4.23 mm)	15.12
ESC 3	51	33	Spacing = n/216" (n x 0.1176 mm)	15.12

Code			Description	Page
ASCII	Dec.	Hex.		
ESC 4	52	34	Italic characters: ON	15.8
ESC 5	53	35	Italic characters: OFF	15.8
ESC 6	54	36	Extend printable characters set	15.17
ESC 7	55	37	Select basic national characters table	15.16
ESC 8	56	38	Out of paper microswitch: disabled	15.19
ESC 9	57	39	Out of paper microswitch: enabled	15.19
ESC :	58	3A	Copy standard character generator (ROM) into RAM	15.29
ESC <	60	3C	Set left to right printing for one line	15.19
ESC =	61	3D	Force 2^7 bit (MSB) to "0"	15.18
ESC >	62	3E	Force 2^7 bit (MSB) to "1"	15.18
ESC ?	63	3F	Change BIM density selected by graphics commands	15.24
ESC @	64	40	Initialize printer (main reset)	15.19
ESC A	65	41	Spacing = n/72" (n x 0.3528 mm)	15.12
ESC B	66	42	Vertical tab stops program	15.14
ESC C	67	43	Set form length in number of lines	15.15
ESC C NUL	67 00	43 00	Set form length in number of inches	15.15
ESC D	68	44	Horizontal tab stops program	15.13
ESC E	69	45	Emphasized printing: ON	15.9
ESC F	70	46	Emphasized printing: OFF	15.9
ESC G	71	47	Double strike and NLQ printing: ON	15.8
ESC H	72	48	Double strike printing: OFF, normal printing (DRAFT): ON	15.8
ESC I	73	49	Extend printable characters set	15.16
ESC J	74	4A	Print buffer and skip n/216" of paper	15.13
ESC K	75	4B	Set normal density graphics	15.21
ESC L	76	4C	Set double density graphics, half speed	15.22

Code			Description	Page
ASCII	Dec.	Hex.		
ESC M	77	4D	Print pitch = 1/12" (Elite): ON	15.9
ESC N	78	4E	Define bottom of form (BOF) in lines	15.15
ESC O	79	4F	Clear bottom of form	15.15
ESC P	80	50	Print pitch = 1/12" (Elite): OFF	15.9
ESC Q	81	51	Define right margin	15.14
ESC R	82	52	Select national character set	15.16
ESC S	83	53	Superscript/subscript printing	15.10
ESC T	84	54	Clear superscript/subscript printing	15.10
ESC U	85	30	Mono/Bidirectional printing	15.19
ESC W	87	57	Double width characters: ON/OFF	15.8
ESC Y	89	59	Double density BIM selection, normal speed	15.23
ESC Z	90	5A	Four times density BIM selection	15.23
ESC ^	94	5E	9-dot high strips BIM printing	15.24
ESC b	98	62	Select up to 8 vertical tab stops programs	15.14
ESC i	105	69	Immediate character printing: ON/OFF	15.29
ESC j	106	6A	Reverse paper feed: n/216"	15.12
ESC l	108	6C	Define left margin	15.14
ESC p	112	70	Proportional spacing: ON/OFF	15.10
ESC s	115	73	Half speed printing: ON/OFF	15.20
ESC x	120	78	Print mode DRAFT/NLQ definition	15.9
DEL	127	7F	Clear last printable character in print buffer	15.20