Commands Manual

Vacuum Fluorescent Customer Display

General commands instruction:

1. STX B n

Name：select baud rate

ACSII：<STX> <ENQ> B n<ETX>

Decimal：002 005 066 n 003   48<=n<=55

Hex：02H   05H 42H n   03H   30H<=n<=37H

Description：When the power is turned on, the default value of n is 0(set to 9600)

ASCII n	Decimal n	Hex n	Baud rate
0	48	30H	9600
1	49	31H	4800
2	50	32H	2400
3	51	33H	1200
4	52	34H	600
5	53	35H	300
6	54	36H	38400
7	55	37H	19200

2. STX C n

Name：select command set

ACSII：<STX> <ENQ> C n<ETX>

Decimal：002   005 067 n   003   48<=n<=58

Hex：02H 05H   43H n   03H   30H<=n<=3A

Description：When the power is turned on, the default value of n is 0(set to CD5200/20)

ASCII n	Decimal n	Hex n	Command set
0	48	30H	DSP800
1	49	31H	ESC/POS
2	50	32H	ADM787
3	51	33H	ADM788
4	52	34H	AEDEX
5	53	35H	UTC-S
6	54	36H	UTC-E
7	55	37H	CD5220
8	56	38H	NCR
9	57	39H	PD6000
；	58	3AH	ICD2002

3. STX MD5 n

Name：select international fonts set

ACSII ：<STX> <ENQ> S n<ETX>

Decimal：002 005 083 n 003 48<=n<=63

Hex：02H 05H 53H n 03H 30H<=n<=3FH

Description：select international fonts and stored in the internal EEPROM, the next power will continue to use this setting. When the power is turned on, the default value of n is A(set to U.S.A.)

Hex n	International font	Hex n	International font
30H	U.S.A	38H	Japan
31H	France	39H	Norway
32H	Germany	3AH	Denmark -2
33H	U.K	3BH	Spain-2
34H	Denmark-1	3CH	Latin America
35H	Sweden	3DH	Korea
36H	Italy	3EH	Slovenia/Croatia
37H	Spain-1	3FH	China

International Code Set (Font Map)

No.	International	23h	24h	40h	5Bh	5Ch	5Dh	5Eh	60h	7Bh	7Ch	7Dh	7Eh
0	U.S.A												
1	FRANCE												
2	GERMANY												
3	U.K.												
4	DENMARK 1												
5	SWEDEN												
6	ITALY												
7	SPAIN 1												
8	JAPAN												
9	NORWAY												
10	DENMARK 2												
11	SPAIN 2												
12	LARTIN AMERICA												
13	KOREA												
14	SLOVENIA /CROATIA												
15	CHINA												

4. STX   MD6   n

Name：Select the Extended Character Font Table

ACSII ： <STX> <ENQ> F n<ETX>

Decimal：002   005   070   n   003   48<=n<=63

Hex：：02H   05H   46H   n   03H   n=21,n=24,30H<=n<=3FH

Description：Select extended character font table and stored in the internal EEPROM, the next power will continue to use this setting. Use the font stored in 80H ... FFH.

Hex n	Symbol	Description
30H	PC-437	Standard European
31H	JIS	Japanese Katakana
32H	PC-850	Multilingual
33H	PC-860	Portuguese

34H	PC-863	Canadian French
35H	PC-865	Nordic
36H	PC-737	Greek
37H	WPC-1250	Central European Windows Code
38H	WPC-1251	Cyrillic Windows Code
39H	WPC-1252	Western European Windows Code
3AH	PC-866	Cyrillic-2 (Russian)
3BH	PC-852	Latin-2 (Slavonic)
3CH	PC-858	Euro
3DH	PC-775	Baltic
3EH	WPC-1253	Greek Windows Code
3FH	WPC-1254	Turkish Windows Code
21H	PC-864	Arabic
24H	Farsi	Iran

7. Save data to demo display and Run Demo message

STX 05 D ETX   Run demo message

ASCII Format   STX 05 D ETX

Dec. Format   [02][05][68] [03]

Hex. Format   [02h][05h][44h][03h]

Description   Save the being display message to demo display and Run demo message for the display.

8. Reset EEPROM and Close Demo

STX 05 07 ETX   Reset EEPROM

ASCII Format   STX 05 07 ETX

Dec. Format   [02][05][07][03]

Hex. Format   [02h][05h][07h][03h]

Description   This command will reset the content of EEPROM (eg. demo scroll data, user-define character.)

EPSON   ESC/POS

commands instruction set list

1. **US   MD1**

   Name：Select overwrite mode

   ACSII：US   MD1

   Decimal：31   1

   Hex：1F   01

   Description：In overwriting mode, entering a character code moves to the left end of the lower line when the cursor is at the right end of the upper line, and to the left end of the upper line when the cursor is at the right end of the lower line. When the power is turned on, this mode is selected defaultly.

2. **US   MD2**

   Name：Select vertical scroll mode

   ACSII：US   MD2

   Decimal：31   2

   Hex：1F   02

   Description：In vertical scroll mode, entering a character code moves the cursor to the left end of the lower line when the cursor ia at the right end of the upper line, scrolls the characters displayed on the lower line, and clears the lower line when the cursor is at the right end of the lower line. At this time the cursor is moved to the left end of the lower line.

3. **US   MD3**

   Name：Select horizontal scroll mode

   ACSII：US   MD3

   Decimal：31   3

   Hex：1F   03

   Description：In horizontal scroll mode, entering a character code scrolls all displayed characters one character to the left, then displays the new character at the right end.

4. **BS**

   Name：move the cursor one character position to the left

   ACSII：BS

   Decimal：8

   Hex：08

   Description：When the cursor is at the left end of a line, the operation of this command depends on the display mode.

   1) Overwrite mode : When the cursor is at the end of the lower line, it is moved to the right end of the upper line. When it is at the end of the upper line, it is moved to the right end of the lower line.

   2) Vertical scroll mode : When the cursor is at the end of the lower line, it is moved to the

right end of the upper line. When it is at the end of the upper line, the display on the upper line is scrolled to the lower line and the upper line is cleared. At this time the cursor is moved to the right end of the upper line.

3) Horizontal scroll mode : All characters on the current line are scrolled on character to the right. The cursor is not moved, but the character area at the left end is cleared.

5. **HT**

Name：move the cursor one character position to the right

ACSII：HT

Decimal：9

Hex：09

Description：When the cursor is at the right end of a line, the operation of this command depends on the display mode.

1) Overwrite mode : When the cursor is at the right end of the upper line, it is moved to the left end of the lower line. When it is at the right end of the lower line, it is moved to the left end of the upper line.

2) Vertical scroll mode : When the cursor is at the right end of the upper line, it is moved to the left end of the lower line. When it is at the right end of the lower line, the display on the lower line is scrolled to the upper line and the lower line is cleared.At this time, the cursor is moved to the left end of the lower line.

3)Horizontal scroll line : All characters on the current line are scrolled one character to the left.The cursor is not moved, but the character area at the right end is cleared.

6. **US   LF**

Name：move the cursor up one line

ACSII：US   LF

Decimal：31   10

Hex：1F   0A

Description：When the cursor is on the upper line, the operation of this command depends on the display mode,as follows:

1)Overwrite mode :The cursor is moved to the same column on the lower line.

2)Vertical scroll mode :The characters displayed on the upper line are scrolled to the lower line and the upper line iscleared. The cursor remains at the same position.

3)Horizontal scroll mode :The cursor is not moved.

7. **LF**

Name：move the cursor down one line

ACSII：LF

Decimal：10

Hex：0A

Description：When the cursor is on the lower line, the operation of this command depends on the display mode,as follows:

1)Overwrite mode :The cursor is moved to the same column on the upper line.

2)Vertical scroll mode :The characters displayed in the lower line are scrolled to the upper line and the lower line is cleared. The cursor remains at the same position.

3)Horizontal scroll mode :The cursor is not moved.

8. CR
Name：move the cursor to left-most position on the current line
ACSII：CR
Decimal：13
Hex：0D

9. US CR
Name：move the cursor to the right-end position on the current line
ACSII：US CR
Decimal：31 13
Hex：1F 0D

10. HOM
Name：move the cursor to the left-end position on the upper line (home position)
ACSII：HOM
Decimal：11
Hex：0B

11. US B
Name：move the cursor to the 20th column of the lower line
ACSII：US B
Decimal：31 66
Hex：1F 42

12. US $ x y
Name：move cursor to specified position
ACSII：US $ x y
Decimal：31 36 x y
Hex：1F 24 x y
Description：moves the cursor to the xth column on the yth line.1<=x<=20,y=1,2

13. ESC @
Name：initialize display
ACSII：ESC @
Decimal：27 64
Hex：1B 40
Description：The software settings are reset to their power-on values. After initializing the display, the display screen is cleared and the cursor moves to the home position.

14. CLR

Name：clear display screen

ACSII：CLR

Decimal：12

Hex：0C

Description：Clear all the displayed characters.After this command is executed, the cursor moves to the home position.

15. CAN

Name：clear cursor line, and clear string mode

ACSII：CAN

Decimal：24

Hex：18

Description：Clears the line containing the cursor.After this command is executed, the cursor moves to the left-end position on the current line.

16. US   C   n

Name：set cursor ON/OFF

ACSII：US   C   n

Decimal：31   67   n

Hex：1F   43   n

Description：Turns the cursor on or off.

When n =0, the cursor is turned off.

When n =1, the cursor is turned on.

17. US   .   n

Name：display char 'n' and   '.'

ACSII：US   .   n

Decimal：31   46   n

Hex：1F   2E   n

Description：20H<=n<=FFH

18. US   ,   n

Name：display char 'n' and   ','

ACSII：US   ,   n

Decimal：[031][044]n

Hex：[1FH][2CH]n

Description：20H<=n<=FFH

19. US   ;   n

Name：display char 'n' and   ';'

ACSII：US   ;   n

Decimal：31   59   n

Hex：1F   3B   n

Description：20H<=n<=FFH

20. US X n

Name：brightness adjustment

ACSII：US X n

Decimal：31 42 n

Hex：1F 2A n　　　31H<=n<=34H

Description：Sets the brightness of the vacuum fluorescent character display tube.n selects the percentage of brightness as follows:

n = 1, Brightness Level = 40 %

n = 2, Brightness Level = 60 %

n = 3, Brightness Level = 80 %

n = 4, Brightness Level =100 %

When the power is turned on, *n* =4 is selected defaultly.

21. US E n

Name：Sets or cancels the blink interval of the display screen

ACSII：US E n

Decimal：31 69 n

Hex：1F 45 n　　　00H<=n<=FFH

Description： n specifies the blink interval. When n = 0, the display is kept on(cancels blinking).

When n = FF Hex (255 decimal), the display is turned off but the contents of the display are maintained.

When the power is turned on, n = 0 is selected defaultly.

22. ESC R n

Name：select international fonts set

ACSII：ESC R n

Decimal：[027][082]n　　　32<=n<=44

Hex：[1BH][52H]n　　　00H<=n<=0CH

Description：When the power is turned on, the default value of n is SPACE(set to U.S.A.)

Decimal n	Hex n	Country
0	00H	U.S.A
1	01H	FRANCE
2	02H	GERMANY
3	03H	U.K.
4	04H	DENMARKI
5	05H	SWEDEN
6	06H	ITALY
7	07H	SPAIN
8	08H	JAPAN.
9	09H	NORMAY
10	0AH	DENMARKII
11	0BH	SLAVONIC
12	0CH	RUSSIA

23. ESC t n

Name：select fonts ,ASCII code or JIS code

ACSII：ESC t n

Decimal：[027][116] n

Hex：[1BH][74H] n　　00H<=n<=09H

Description：When the power is turned on, the default value of n is 0(set to U.S.A. and Standard Europe)

Hex n	Symbol	Description
00H	PC-437	Standard European
01H	JIS	Japanese Katakana
02H	PC-850	Multilingual
03H	PC-860	Portuguese
04H	PC-863	Canadian French
05H	PC-865	Nordic
06H	PC-852	Latin-2 (Slavonic)
07H	PC-866	Cyrillic-2 (Russian)
08H	PC-858	Euro
09H	WPC-1252	Western European Windows Code

24. US T h m / Display time

ACSII Format:　　US T h m

Dec. Format:　　[031][084]h m 0<=h<=24；0<=m<=60

Hex. Format:　　[1FH][54H]h m 00H<=h<=18H；00H<=m<=3CH

Description：　Display preset time on lower line , and time automatically from a preset time . When ancommand use lower line , timing paused , perform command "US U" could continue totime.

25.US U / Continue to display time

ACSII Format:　　US U

Dec. Format:　　[031][085]

Hex. Format:　　[1FH][55H]

CD 5200/20

commands instruction set list

1. **ESC   DC1**

   Name：Select overwrite mode

   ACSII：ESC   DC1

   Decimal：27   17

   Hex：1B   11

   Description：In overwriting mode, entering a character code moves to the left end of the lower line when the cursor is at the right end of the upper line, and to the left end of the upper line when the cursor is at the right end of the lower line. When the power is turned on, this mode is selected defaultly.

2. **ESC   DC2**

   Name：Select vertical scroll mode

   ACSII：ESC   DC2

   Decimal：27   18

   Hex：1B   12

   Description：In vertical scroll mode, entering a character code moves the cursor to the left end of the lower line when the cursor ia at the right end of the upper line, scrolls the characters displayed on the lower line, and clears the lower line when the cursor is at the right end of the lower line. At this time the cursor is moved to the left end of the lower line.

3. **ESC   DC3**

   Name：Select horizontal scroll mode

   ACSII：ESC   DC3

   Decimal：27   19

   Hex：1B   13

   Description：In horizontal scroll mode, entering a character code scrolls all displayed characters one character to the left, then displays the new character at the right end.

4. **ESC   Q   A   d1   d2   d3   ……   dn   CR**

   Name：set the string display mode, write string to upper line

   ACSII：ESC   Q   A   d1   d2   d3   ……   dn   CR

   Decimal：27   81   65   d1   d2   d3   ……   dn   13

   Hex：1B   51   41   d1   d2   d3   ……   dn   0D

   Description：write string (d1   d2   d3   ……   dn) to upper line. 20H<=dn<=FFH, 1<=n<=20.

5. **ESC   Q   B   d1   d2   d3   ……   dn   CR**

   Name：set the string display mode, write string to lower line

   ACSII：ESC   Q   B   d1   d2   d3   ……   dn   CR

Decimal：27　81　66　d1　d2　d3　……　dn　13

Hex：1B　51　42　d1　d2　d3　……　dn　0D

Description：write string (d1　d2　d3　……　dn) to lower line. 20H<=dn<=FFH, 1<= n<=20.

6. **ESC　Q　D　d1　d2　d3　……　dn　CR**

Name：upper line message scroll continuously

ACSII：ESC　Q　D　d1　d2　d3　……　dn　CR

Decimal：27　81　68　d1　d2　d3　……　dn　13

Hex：1B　51　44　d1　d2　d3　……　dn　0D

Description：upper line message (d1　d2　d3　……　dn) scroll continuously. 20H<=dn<=FFH, 1<= n<=20.

7. **ESC　Q　O　d1　d2　d3　……　dn　CR**

Name：lower line message scroll continuously

ACSII：ESC　Q　D　d1　d2　d3　……　dn　CR

Decimal：27　81　79　d1　d2　d3　……　dn　13

Hex：1B　51　4F　d1　d2　d3　……　dn　0D

Description：upper line message (d1　d2　d3　……　dn) scroll continuously. 20H<=dn<=FFH, 1<= n<=20.

8. **ESC　[　D**

Name：move the cursor one character position to the left

ACSII：ESC　[　D

Decimal：27　91　68

Hex：1B　5B　44

Description：When the cursor is at the left end of a line, the operation of this command depends on the display mode.

1) Overwrite mode : When the cursor is at the end of the lower line, it is moved to the right end of the upper line. When it is at the end of the upper line, it is moved to the right end of the lower line.

2) Vertical scroll mode : When the cursor is at the end of the lower line, it is moved to the right end of the upper line. When it is at the end of the upper line, the display on the upper line is scrolled to the lower line and the upper line is cleared. At this time the cursor is moved to the right end of the upper line.

3) Horizontal scroll mode : All characters on the current line are scrolled on character to the right. The cursor is not moved, but the character area at the left end is cleared.

9. **BS**

Name：move the cursor one character position to the left

ACSII：BS

Decimal：8

Hex：08

Description：When the cursor is at the left end of a line, the operation of this command

depends on the display mode.

1) Overwrite mode : When the cursor is at the end of the lower line, it is moved to the right end of the upper line. When it is at the end of the upper line, it is moved to the right end of the lower line.

2) Vertical scroll mode : When the cursor is at the end of the lower line, it is moved to the right end of the upper line. When it is at the end of the upper line, the display on the upper line is scrolled to the lower line and the upper line is cleared. At this time the cursor is moved to the right end of the upper line.

3) Horizontal scroll mode : All characters on the current line are scrolled on character to the right. The cursor is not moved, but the character area at the left end is cleared.

10. ESC [C

Name：move the cursor one character position to the right

ACSII：ESC [C

Decimal：27 91 67

Hex：1B 5B 43

Description：When the cursor is at the right end of a line, the operation of this command depends on the display mode.

1) Overwrite mode : When the cursor is at the right end of the upper line, it is moved to the left end of the lower line. When it is at the right end of the lower line, it is moved to the left end of the upper line.

2) Vertical scroll mode : When the cursor is at the right end of the upper line, it is moved to the left end of the lower line. When it is at the right end of the lower line, the display on the lower line is scrolled to the upper line and the lower line is cleared.At this time, the cursor is moved to the left end of the lower line.

3)Horizontal scroll line : All characters on the current line are scrolled one character to the left.The cursor is not moved, but the character area at the right end is cleared.

11. HT

Name：move the cursor one character position to the right

ACSII：HT

Decimal：9

Hex：09

Description：When the cursor is at the right end of a line, the operation of this command depends on the display mode.

1) Overwrite mode : When the cursor is at the right end of the upper line, it is moved to the left end of the lower line. When it is at the right end of the lower line, it is moved to the left end of the upper line.

2) Vertical scroll mode : When the cursor is at the right end of the upper line, it is moved to the left end of the lower line. When it is at the right end of the lower line, the display on the lower line is scrolled to the upper line and the lower line is cleared.At this time, the cursor is moved to the left end of the lower line.

3)Horizontal scroll line : All characters on the current line are scrolled one character to the left.The cursor is not moved, but the character area at the right end is cleared.

12. ESC [A

Name：move the cursor up one line

ACSII：ESC [A

Decimal：27 91 65

Hex：1B 5B 41

Description：When the cursor is on the upper line, the operation of this command depends on the display mode,as follows:

1)Overwrite mode :The cursor is moved to the same column on the lower line.

2)Vertical scroll mode :The characters displayed on the upper line are scrolled to the lower line and the upper line iscleared. The cursor remains at the same position.

3)Horizontal scroll mode :The cursor is not moved.

13. ESC [B

Name：move the cursor down one line

ACSII：ESC [B

Decimal：27 91 66

Hex：1B 5B 42

Description：When the cursor is on the lower line, the operation of this command depends on the display mode,as follows:

1)Overwrite mode :The cursor is moved to the same column on the upper line.

2)Vertical scroll mode :The characters displayed in the lower line are scrolled to the upper line and the lower line is cleared. The cursor remains at the same position.

3)Horizontal scroll mode :The cursor is not moved.

`

14. LF

Name：move the cursor down one line

ACSII：LF

Decimal：10

Hex：0A

Description：When the cursor is on the lower line, the operation of this command depends on the display mode,as follows:

1)Overwrite mode :The cursor is moved to the same column on the upper line.

2)Vertical scroll mode :The characters displayed in the lower line are scrolled to the upper line and the lower line is cleared. The cursor remains at the same position.

3)Horizontal scroll mode :The cursor is not moved.

15. ESC [H

Name：move cursor to home position

ACSII：ESC [H

Decimal：27 91 72

Hex：1B 5B 48

Description：Moves the cursor to the left-end position on the upper line (home position).Home position indicates the first column of the upper line.

16. **HOM**

Name：move the cursor to the left-end position on the upper line (home position)

ACSII：HOM

Decimal：11

Hex：0B

17. **ESC　[　K**

Name：move the cursor to the 20th column of the lower line

ACSII：ESC　[　K

Decimal：27　91　75

Hex：1B　5B　4B

18. **ESC　[　L**

Name：move the cursor to left-most position on the current line

ACSII：ESC　[　L

Decimal：27　91　76

Hex：1B　5B　4C

19. **CR**

Name：move the cursor to left-most position on the current line

ACSII：CR

Decimal：13

Hex：0D

20. **ESC　[　R**

Name：move the cursor to the right-end position on the current line

ACSII：ESC　[　R

Decimal：27　91　82

Hex：1B　5B　52

21. **ESC　l　x　y**

Name：move cursor to specified position

ACSII：ESC　l　x　y

Decimal：27　108　x　y

Hex：1B　6C　x　y

Description：moves the cursor to the xth column on the yth line.$1<=x<=20,y=1,2$

22. **ESC　@**

Name：initialize display

ACSII：ESC　@

Decimal：27　64

Hex：1B　40

Description：The software settings are reset to their power-on values. After initializing the display, the display screen is cleared and the cursor moves to the home position.

23. CLR

Name：clear display screen

ACSII：CLR

Decimal：12

Hex：0C

Description：Clear all the displayed characters.After this command is executed, the cursor moves to the home position.

24. CAN

Name：clear cursor line, and clear string mode

ACSII：CAN

Decimal：24

Hex：18

Description：Clears the line containing the cursor.After this command is executed, the cursor moves to the left-end position on the current line.

25. ESC ＊ n

Name：brightness adjustment

ACSII：ESC ＊ n

Decimal：27　42　n

Hex：1B　2A　n

Description：Sets the brightness of the vacuum fluorescent character display tube.n selects the percentage of brightness as follows:

n = 1, Brightness Level = 40 %

n = 2, Brightness Level = 60 %

n = 3, Brightness Level = 80 %

n = 4, Brightness Level =100 %

When the power is turned on, n =4 is selected defaultly.

26. ESC ＿ n

Name：set cursor ON/OFF

ACSII：ESC ＿ n

Decimal：27　95　n

Hex：1B　5F　n

Description：Turns the cursor on or off.

When n =0, the cursor is turned off.

When n =1, the cursor is turned on.

27. ESC f n

Name：select international fonts set

ACSII：ESC f n

Decimal：27　102　n

Hex：1B　66　n

Description：When the power is turned on, the default value of n is A(set to U.S.A.)

ASCII n	Decimal n	Hex n	Country
A	65	41H	U.S.A
D	68	44H	DENMARKI
E	69	45H	DENMARKII
F	70	46H	FRANCE
G	71	47H	GERMANY
I	73	49H	ITALY
J	74	4AH	JAPAN.
L	76	4CH	SLAVONIC
N	78	4EH	NORMAY
R	82	52H	RUSSIA
S	83	53H	SPAIN
U	85	55H	U.K.
W	87	57H	SWEDEN

28. ESC c n

Name：select fonts ,ASCII code or JIS code

ACSII：ESC c n

Decimal：27 99 n

Hex：1B 63 n

Description：When the power is turned on, the default value of n is A(set to U.S.A. and Standard Europe)

ASCII n	Hex n	Symbol	Description
A	41H	PC-437	Standard European
J	4AH	JIS	Japanese Katakana
R	52H	PC-866	Cyrillic-2 (Russian)
L	4CH	PC-852	Latin-2 (Slavonic)
P	50H	PC-858	Euro
W	57H	WPC-1252	West. Euro Windows Code

29. US T h m / Display time

ACSII Format: US T h m

Dec. Format: [027][084]h m 0<=h<=24；0<=m<=60

Hex. Format: [1BH][54H]h m 00H<=h<=18H；00H<=m<=3CH

Description： Display preset time on lower line , and time automatically from a preset time . When a command use lower line , timing paused , perform command "US U" could continue to time.

30.US U / Continue to display time

ACSII Format: US U

Dec. Format: [027][085]

Hex. Format: [1BH][55H]

General commands instruction set list:

Command	Code description (hex)	Function description
STX ENQ B n ETX	02 05 42h n 03 ,30h<=n<=37h	select baud rate
STX ENQ C n ETX	02 05 43h n 03 ,30H<=n<=37h	select command set
STX ENQ S n ETX	02 05 53h n 03 ,30H<=n<=3fh	select international fonts set
STX ENQ F n ETX	02 05 46h n 03 ,30H<=n<=3fh,	Select the Extended Character Font Table
STX ENQ D ETX	02 05 44h 03	Save data to demo display and Run Demo message
STX ENQ 07 ETX	02 05 07h 03	Reset EEPROM and Close Demo

EPSON ESC/POS command list

Command	Code description(hex)	Function description
HT	09	move cursor right
BS	08	move cursor left
US LF	1F 0A	move cursor up
LF	0A	move cursor down
US CR	1F 0D	move cursor to right-end position
CR	0D	move cursor to left-end position
HOM	0B	move cursor to home position
US B	1F 42	move cursor to bottom position
US $ x y	1F 24 x y , 01H<x<14H,y=1,2	move cursor to specified position
CLR	0C	clear display screen
CAN	18	clear cursor line
US X n	1F 58 n 01H<n<04H	brightness adjustment
US E n	1F 45 n 0<n<FFH	blink display screen
ESC @	1B 40	initialize display
ESC t n	1B 74 n 00H<n<09H	select character code table
ESC R n	1B 52 n 00H<=n<0CH	select international character set
US r n	1F 72 n n=00H,01H	select/cancel reverse character
US MD1	1F 01	specify overwrite mode
US MD2	1F 02	specify vertical scroll mode
US MD3	1F 03	specify horizontal scroll mode
US @	1F 40	execute self-test
US . n	1F 2E n , n = a displayable character code	specify period
US , n	1F 2C n , n = a displayable character code	specify comma
US ; n	1F 3B n , n = a displayable character code	specify semicolon (period + comma)
US # n m	1F23 n m , n= 1 or 0 , 0<m<14H	turn annunciator ON/OFF
ESC T h m	1F 54 h m ,0<=h<=17H 0<=m<=3CH	display time
US U	1F 55	Continue to display time

CD 5220-II STANDARD MODE

Command	Code description (hex)	Function description
ESC DC1	1B 11	overwrite mode
ESC DC2	1B 12	vertical scroll mode
ESC DC3	1B 13	horizontal scroll mode
ESC Q A ......CR	1B 51 41 d1…dn 0D , n<=20	set the string display mode, write string to upper line
ESC Q B ......CR	1B 51 42 d1…dn 0D, n<=20	set the string display mode, write string to lower line
ESC Q D ......CR	1B 51 44 d1…dn 0D ,n<70	upper line message scroll continuously
ESC Q O ......CR	1B 51 4f d1…dn 0D	lower line message scroll continuously
ESC [D	1B 5B 44	move cursor left
BS	08	move cursor left
ESC [C	1B 5B 43	move cursor right
HT	09	move cursor right
ESC [A	1B 5B 41	move cursor up
ESC [B	1B 5B 42	move cursor down
LF	0A	move cursor down
ESC [H	1B 5B 48	move cursor to home position
HOM	0B	move cursor to home position
ESC [L	1B 5B 4C	move cursor to left-most position
CR	0D	move cursor to left-most position
ESC [R	1B 5B 52	move cursor to right-most position
ESC [K	1B 5B 4B	move cursor to bottom position
ESC l x y	1B 6C x y , 01H<x<14H,y=1,2	move cursor to specified position
ESC @	1B 40	initialize display
CLR	0C	clear display screen, and clear string mode
CAN	18	clear cursor line, and clear string mode
ESC * n	1B 2A n 1<=n<=04h	brightness adjustment
ESC _ n	1B 5F n, n=31h or 30h	set cursor ON/OFF
ESC f n	1B 66 n	select international fonts
ESC c n	1B 63 n	select fonts, ASCII code or JIS code
ESC T h m	1B 54 h m ,0<=h<=17H 0<=m<=3CH	display time
ESC U	1B 55	continue to display time

DSP-800 commands instruction set list

ASCII Command	Hex. Code	Function Description
<EOT><SOH> P n <ETB>	04h 01h 50h n 17h	Move cursor to specified position (31h<n<58h, n=31h:home position, n=58h:right-end of lower line)
<EOT><SOH> C n m <ETB>	04h 01h 43h n m 17h	Clear display range from n position to m position and move cursor to n position (31h<n<m<58h)
<EOT><SOH> S n <ETB>	04h 01h 53h n 17h	Save current display data to n'th layer for demo view data (31h<n<33h)
<EOT><SOH> D n <ETB>	04h 01h 44h n 17h	Display the saved demo message (31h<n<33h)
<EOT><SOH> A n <ETB>	04h 01h 41h n 17h	Brightness adjustment (31h<n<34h, 31h: lowest, 34h:100%)
<EOT><SOH> F n <ETB>	04h 01h 46h n 17h	Blink display screen (00h<n<FFh)
<EOT><SOH> % <ETB>	04h 01h 25h 17h	Initialize display
<EOT><SOH> @ <ETB>	04h 01h 40h 17h	Execute self-test

ADM787/788 commands instruction set list

ASCII Command	Hex. Code	Function Description
<CLR>	0Ch	Clear display
<CR>	0Dh	Carriage return
<SLE1>	0Eh	Clear upper line and move cursor to upper left-end position
<SLE2>	0Fh	Clear bottom line and move cursor to bottom left-end position
<DC0> n	10h n	Set period to upper line, last n position (31h<n<44h)
<DC1> n	11h n	Set line blinking (n=1: upper line, n=2: bottom line)
<DC2> n	12h n	Clear Line Blinking (n=1: upper line, n=2: bottom line)
<SF1>	1Eh	Clear field 1 and move cursor to field 1, first position
<SF2>	1Fh	Clear field 2 and move cursor to field 2, first position

AEDEX commands instruction set list

ASCII Command	Hex. Code	Function Description
! # 1 d 1 d 2 ....d n <CR>	21h 23h 31h d 1 d 2 ....d n 0Dh	Upper line display (1<n<20, 20h<dn<FFh) -. Clear upper line: ! # 1 <CR>
! # 2 d 1 d 2 ....d n <CR>	21h 23h 32h d 1 d 2 ....d n 0Dh	Bottom line display (1<n<20, 20h<dn<FFh) -. Clear bottom line: ! # 2 <CR>
! # 4 d 1 d 2 ....d n <CR>	21h 23h 34h d 1 d 2 ....d n 0Dh	Upper line message scroll continuously (1<n<40)
! # 5 h m<CR>	21h 23h 35h h m 0Dh	Display time (00h<=h<=17h,,00<=m<=3ch) -. Display previously set time: ! # 5 <CR>
! # 6 d 1 d 2 ....d n <CR>	21h 23h 36h d 1 d 2 ....d n 0Dh	Upper line message scroll one time (1<n<40)
! # 9 d 1 d 2 ....d n <CR>	21h 23h 39h d 1 d 2 ....d n 0Dh	Two line display (1<n<40)

UTC-S commands instruction set list

Command	Hex. Code	Function Description
<EOT> n	04h n	Display dimming (n=20h:20%, 40h:40%, 60h:60%, FFh:100%)
<BS>	08h	Back space
<HT>	09h	Horizontal tab
<LF>	0Ah	Line feed
<CR>	0Dh	Carriage return
<DLE> n	10h n	Display position (00h<n<27h, n=00h:home position, 27h:right end of lower line)
<DC1>	11h	Overwrite display mode
<DC2>	12h	Vertical scroll mode
<DC3>	13h	Cursor on
<DC4>	14h	Cursor off
<CAN>	18h	Clear to end of line
<EM>	19h	Clear to end of display
<ESC> d	1Bh 64h	Change to UTC enhanced mode
<FS>	1Ch	Flashing text start
<GS>	1Dh	Flashing text stop
<RS>	1Eh	Clear display and cursor home
<US>	1Fh	Reset

UTC-E commands instruction set list

ASCII Command	Hex. Code	Function Description
<SI>	0Fh	Flashing text start
<SO>	0Eh	Flashing text stop
<ESC> u A d 1 d 2 ....d n <CR>	1Bh 75h 41h d 1 d 2 ....d n 0Dh	Upper line display(1<n<20, 20h<dn<FFh) -. Clear upper line: <ESC> u A <CR>
<ESC> u B d 1 d 2 ....d n <CR>	1Bh 75h 42h d 1 d 2 ....d n 0Dh	lower line display(1<n<20,20h<dn <FFh) -. Clear bottom line: <ESC> u B <CR>
<ESC> u D d 1 d 2 ....d n <CR>	1Bh 75h 44h d 1 d 2 ....d n 0Dh	Upper line message scroll continuously (1<n<40)
<ESC> u E h m <CR>	1Bh 75h 45h h m 0Dh	Display time (00h<=h<=17h,,00<=m<=3ch) -. Display previously set time: ! # E <CR>
<ESC> u F d 1 d 2 ....d n <CR>	1Bh 75h 46h d 1 d 2 ....d n 0D	Upper line message scroll one time (1<n<40)
<ESC> u I d 1 d 2 ....d n <CR>	1Bh 75h 49h d 1 d 2 ....d n 0Dh	Two line display (1<n<40) -. Clear display: <ESC> u I <CR>
<ESC> u l n <CR>	1Bh 75h 6Ch n 0Dh	Select international code set (30h<n<3Fh)
<ESC> <RS> <CR>	1Bh 0Fh 0Dh	Change to UTC standard mode

NCR Real POS Emulation Mode

ASCII Command	Hex. Code	Function Description
<NUL> K or <BS>	00 4B or 08	Move cursor left (back space)
<NUL> M or <HT>	00 4D or 09	Move cursor right (horizontal tab)
<NUL> P or <LF>	00 50 or 0A	Move cursor down (line feed)
<NUL> H	00 48	Move cursor up
<HOM>	0B	Move cursor to home position
<NUL> G or <CR>	00 47 or 0D	Move cursor to left-most position
<NUL> O	00 4F	Move cursor to right-most position
<ESC> P x y	1B 50 x y , 01<x<14H,y=01,02	Move cursor to specified position
<CLR>	0C	Clear display screen, and clear string mode
<CAN>	18	Clear cursor line, and clear string mode
<ESC> @	1B 40	Initialize display
<ESC> <DC1>	1B 11	Overwrite mode
<ESC> <DC2>	1B 12	Vertical scroll mode
<ESC> <DC3>	1B 13	Horizontal scroll mode
<US> E n	1F 45 n, 00<=n<=FFh	Set display screen blink interval
<ESC> _ n	1B 5F n, n=30,31h	Set cursor on/off
<US> <DC1> n	1F 11 n, n=01,02h	Set line blinking
<US> <DC2> n	1F 12 n, n=01,02h	Clear line blinking
<ESC> F A d1 ..... d n <CR>	1B 46 41 d1…dn 0D , n<=20	Write string character to upper line
<ESC> F B d1 ..... d n <CR>	1B 46 42 d1…dn 0D, n<=20	Write string character to lower line
<ESC> F D d1 ..... d n <CR>	1B 46 44 d1…dn 0D ,n<70	Upper line message scroll continuously
<ESC> F O d1 ..... d n <CR>	1B 46 4f d1…dn 0D , n<70	Lower line message scroll continuously

PD6000 (Logic Controls) Emulation Mode

ASCII Command	Hex. Code	Function Description
<DC2>	12h	Vertical scroll mode
<DC1>	11h	Normal display mode
<EOT> n	04h n	Brightness control (n=FFh, 60h, 40h, 20h)
<BS>	08h	Back space
<HT>	09h	Horizontal tab
<LF>	0Ah	Line feed
<CR>	0Dh	Carriage
<DLE> n	10h n	Digit select (00h< =n<=27h)
<DC3>	13h	Cursor on
<DC4>	14h	Cursor off
<US>	1Fh	Reset
<ENQ> d 1 .....d n <CR>	05h d 1 .....d n 0Dh	Message scroll (up to 40 characters)

ICD-2002 (Puritron) Emulation Mode

ASCII Command	Hex. Code	Function Description
<HT>	09h	Move cursor right (only valid in overwrite mode)
<BS>	08h	Move cursor left (only valid in overwrite mode)
<CR>	0Dh	Move cursor to left-end position (only valid in overwrite mode)
<ESC> @	1Bh 40h	Initialize customer display to initial state
<ESC> C r c	1Bh 43h r c	Move cursor to specified position (only valid in overwrite mode) (r=55h: upper line, r=44h: lower line, 1<c<20 : column number)
<ESC> E r n	1Bh 45h r n	Set special effect or display mode of specified row. <table><tr><td>r</td><td>Select Row</td><td>n</td><td>Select Function</td></tr><tr><td>58h</td><td>all rows</td><td>30h</td><td>shift mode (default displaymode)</td></tr><tr><td>55h</td><td>upper row</td><td>31h</td><td>rotation mode</td></tr><tr><td>44h</td><td>lower row</td><td>32h</td><td>blink mode</td></tr><tr><td></td><td></td><td>33h</td><td>clear this row and switch to shift mode</td></tr><tr><td></td><td></td><td>34h</td><td>overwrite mode</td></tr><tr><td></td><td></td><td>35h</td><td>vertical mode</td></tr></table>
<ESC> R n	1Bh 52h n	Set international code set sets (30h<n<3Fh)

ASCII (American Standard Code for Information Interchange) Code Table

Dec.	Hex.	Char.	ASCII Function		Description
0	00h	Ctrl-@	<NUL>		Null
1	01h	Ctrl-A	<SOH>	or <MD1>	Start of Heading
2	02h	Ctrl-B	<STX>	or <MD2>	Start of Text
3	03h	Ctrl-C	<ETX>	or <MD3>	End of Text
4	04h	Ctrl-D	<EOT>	or <MD4>	End of Transmission
5	05h	Ctrl-E	<ENQ>	or <MD5>	Enquiry
6	06h	Ctrl-F	<ACK>	or <MD6>	Acknowledge
7	07h	Ctrl-G	<BEL>	or <MD7>	Bell (audible or attention signal)
8	08h	Ctrl-H	<BS>	or <MD8>	Backspace
9	09h	Ctrl-I	<HT>		Horizontal Tabulation
10	0Ah	Ctrl-J	<LF>	or <NL>	Line Feed or New Line
11	0Bh	Ctrl-K	<VT>	or <HOM>	Vertical Tabulation or Home
12	0Ch	Ctrl-L	<FF>	or <NP>	Form Feed or New Page
13	0Dh	Ctrl-M	<CR>		Carriage Return
14	0Eh	Ctrl-N	<SO>	or <SLE1>	Shift Out
15	0Fh	Ctrl-O	<SI>	or <SLE2>	Shift In
16	10h	Ctrl-P	<DLE>		Data Link Escape
17	11h	Ctrl-Q	<DC1>		Device Control 1
18	12h	Ctrl-R	<DC2>		Device Control 2
19	13h	Ctrl-S	<DC3>		Device Control 3
20	14h	Ctrl-T	<DC4>		Device Control 4 (Stop)
21	15h	Ctrl-U	<NAK>		Negative Acknowledge
22	16h	Ctrl-V	<SYN>		Synchronous Idle
23	17h	Ctrl-W	<ETB>		End of Transmission Block
24	18h	Ctrl-X	<CAN>		Cancel
25	19h	Ctrl-Y	<EM>		End of Medium
26	1Ah	Ctrl-Z	<SUB>		Substitute
27	1Bh	Ctrl-[	<ESC>		Escape
28	1Ch	Ctrl-\	<FS>		File Separator
29	1Dh	Ctrl-]	<GS>		Group Separator
30	1Eh	Ctrl-^	<RS>	or <SF1>	Record Separator
31	1Fh	Ctrl-_	<US>	or <SF2>	Unit Separator

Dec.	Hex.	Char.	Dec.	Hex.	Char	Dec.	Hex.	Char.	Dec.	Hex.	Char.	Dec.	Hex.	Char.	Dec.	Hex.	Char.
32	20h	SP	48	30h	0	64	40h	@	80	50h	P	96	60h	`	112	70h	p
33	21h	!	49	31h	1	65	41h	A	81	51h	Q	97	61h	a	113	71h	q
34	22h	"	50	32h	2	66	42h	B	82	52h	R	98	62h	b	114	72h	r
35	23h	#	51	33h	3	67	43h	C	83	53h	S	99	63h	c	115	73h	s
36	24h	$	52	34h	4	68	44h	D	84	54h	T	100	64h	d	116	74h	t
37	25h	%	53	35h	5	69	45h	E	85	55h	U	101	65h	e	117	75h	u
38	26h	&	54	36h	6	70	46h	F	86	56h	V	102	66h	f	118	76h	v
39	27h	'	55	37h	7	71	47h	G	87	57h	W	103	67h	g	119	77h	w
40	28h	(	56	38h	8	72	48h	H	88	58h	X	104	68h	h	120	78h	x
41	29h	)	57	39h	9	73	49h	I	89	59h	Y	105	69h	i	121	79h	y
42	2Ah	*	58	3Ah	:	74	4Ah	J	90	5Ah	Z	106	6Ah	j	122	7Ah	z
43	2Bh	+	59	3Bh	;	75	4Bh	K	91	5Bh	[	107	6Bh	k	123	7Bh	{
44	2Ch	,	60	3Ch	<	76	4Ch	L	92	5Ch	\	108	6Ch	l	124	7Ch		
45	2Dh	-	61	3Dh	=	77	4Dh	M	93	5Dh	]	109	6Dh	m	125	7Dh	}
46	2Eh	.	62	3Eh	>	78	4Eh	N	94	5Eh	^	110	6Eh	n	126	7Eh	~
47	2Fh	/	63	3Fh	?	79	4Fh	O	95	5Fh	_	111	6Fh	o	127	7Fh	DEL

5*7 Dot Matrix Character Font Table (ASCII with PC-437)

Upper Nibble \ Lower Nibble	D3	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	D2	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
	D1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
	D0	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
D7 D6 D5 D6		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0 0 0 0	0																
0 0 0 1	1																
0 0 1 0	2																
0 0 1 1	3																
0 1 0 0	4																
0 1 0 1	5																
0 1 1 0	6																
0 1 1 1	7																
1 0 0 0	8																
1 0 0 1	9																
1 0 1 0	A																
1 0 1 1	B																
1 1 0 0	C																
1 1 0 1	D																
1 1 1 0	E																
1 1 1 1	F																

5*7 Dot Matrix Character Font Table (Code Area = 80h ~ FFh)

4.1 PC-437 (Standard European / U.S Script) Character Font Table

4.2 Japanese Katakana (JIS) Character Code Set

4.3 PC-850 (Multilingual International) Character Font Table

The table below shows the character font bitmaps arranged in a 16-column grid (columns 0–F) with rows 80H, 90H, A0H, B0H, C0H, D0H, E0H, and F0H. Each cell contains a dot-matrix font representation.

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

4.4 PC-860 (Portuguese) Character Font Table

The table below shows the character font bitmaps arranged in a 16-column grid (columns 0–F) with rows 80H, 90H, A0H, B0H, C0H, D0H, E0H, and F0H. Each cell contains a dot-matrix font representation.

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

.4.5 PC-863 (Canadian French) Character Font Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

.4.6 PC-865 (Nordic) Character Font Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

A4.7 WPC-1250 (Central European Windows Code Set) Character Font Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

A4.8 WPC-1251 (Cyrillic Windows Code Set) Character Font Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

4.10 PC-866 (Cyrillic 2) Character Font Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

A4.11 PC-852 (Latin 2) Character Font Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

A4.12 PC-858 (Euro) Character Font Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

A4.13 WPC-1253 (Greek) Character Font Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

.4.14 WPC-1254 (Turkish) Character Font Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

A4.15 PC-737 (Greek) Character Font Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

.4.16 PC-775 (Baltic) Character Font Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80H																
90H																
A0H																
B0H																
C0H																
D0H																
E0H																
F0H																

A4.17 PC-864 (Arabic) Character Font Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80																
90																
A0																
B0																
C0																
D0																
E0																
F0																

A4.18 Farsi Character Font Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
80																
90																
A0																
B0																
C0																
D0																
E0																
F0																