DSP-800F

VFD Customer Display

User Manual

Table of Contents

Chapter 1 Introduction

1.1 Features

The DSP-800F is Vacuum Fluorescent Displays which display 20 columns and 2 lines.

Blue – green fluorescent color is easy on the eyes.

The display panel is movable so that it can be adjusted for the best viewing angle.

The customer display has different height by adjusting the support.

The interface of customer display is RS-232，with baud rates from 4800 up to 9600bps, or USB for DSP-800F.

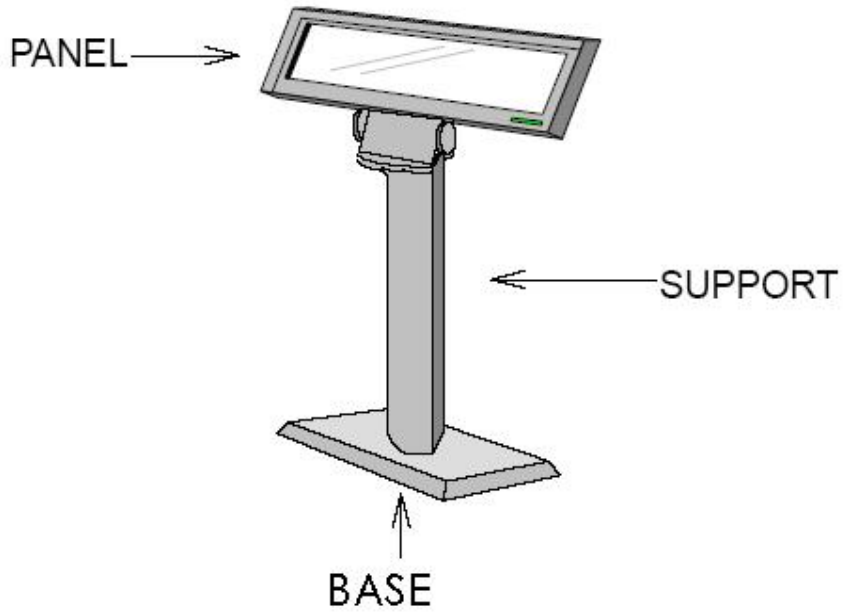
The user defined and international character sets are standard of customer display.

Attention

1. This specification shall apply only to the product(s) coming along whit this manual inside.
2. This manual many not apply to the previous or later product(s).
3. This specification many be modified without any notice. If it is necessary for “customers” to have a latest manual about specification, please inquire your suppliers.

1.2 Outline

The customer display outline has included of three parts: the panel, the support, and the base.



The standard VFD customer display should include following accessories.

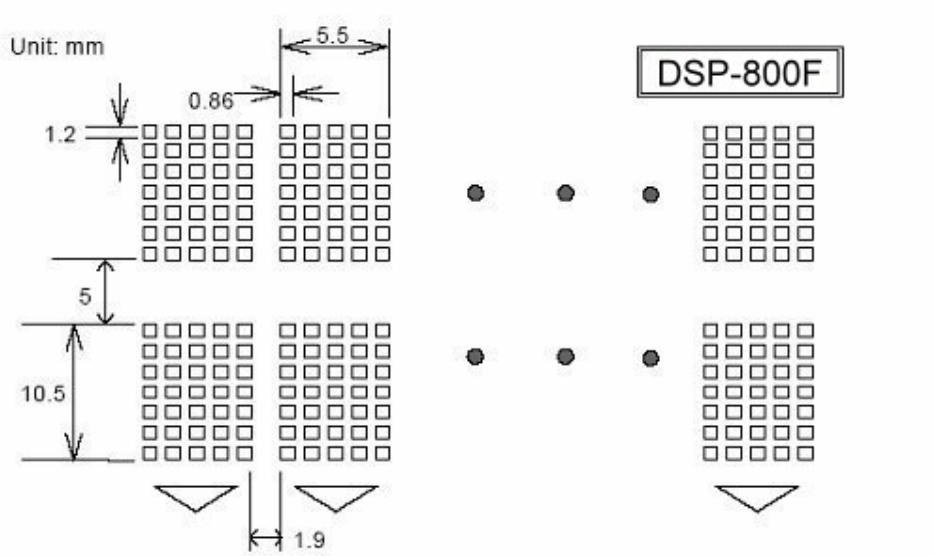
Item	Description	Dimension(mm)	Q'ty
1	Panel of DSP- 800F	225(W) x 50(D) x 92(H)	1
2	Support (Short)	88(H), 33(Diameter)	1
3	Support (Long)	220(H), 33(Diameter)	1
4	Base	190(W) x 95(D) x 50(H)	1
5	Metal Parts		1
6	Driver & Manual Disk		1
7	D - SUB 9PIN RS-232 Cable		1
8	Screw P3.1x15 for Interface Conversion Adapter		4
9	+ 5V PC 4P Plug Power Kit or USB Power Kit or 100V~240V Universal Adapter (5V / 2A) or 110V US or 230V Europe 2P Adapter （5V / 1A）		1

※*Above accessories may be different due to c ustomers' requirement when delivery*

Chapter 2 General Specification

2.1 Tube Display

Customer Display	Vacuum Fluorescent Display Blue Green
Display pattern	5 x 7 Dot Matrix
Brightness	350 ~ 700 cd / m²
Character Type	95 Alphanumeric & 32 International Characters
Character Size	5.5mm（W）x 10.5 mm（H）
Character Number	20x2
Character Pitch	Refer the figure 2.1



2.2 Electricity

Central Control Unit	Processor：HT48RU80 ROM：64K EPROM RAM：32K SRAM
Connector	10 PIN Phone Jack Connector 5 PIN USB Connector
Power Source	DC + 5V
Power Consumption	3 Watts Average

2.3 Overall Dimensions

Dimension of Panel	225 mm （W）x 50 mm（D）x 92 mm （H）
Dimension of Support **Long Support** **Short Support**	 220mm （H）x 33mm （Diameter） 88mm （H）x 33mm （Diameter）
Dimension of Base	190 mm （W）x 95 mm（D）x 55 mm （H）
Viewing Angle	Max. 45°
Horizontal Rotation	Max. 340°
Weight	About 0.8 Kg

2.4 Environment

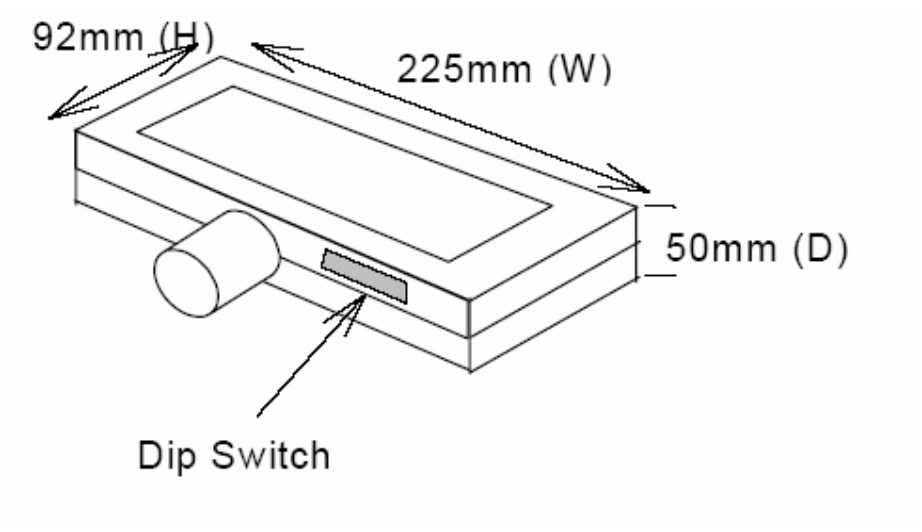
Operating Temperature	+ 10℃ to + 40℃
Storage Temperature	－10℃ to + 50℃
Relative Humidity	0％ to 90％ RH

2.5 Driver Interface

Driver Interface	RS232 or USB

2.6 DIP Switch Settings

The default protocol is 9600 bps, non-parity, 8 data bits, 1 stop bit and with DTR/DSR control.



(I) Baud Rate Select

SW Number – SW1	Function Description Baud Rate （bps）
OFF	9600
ON	4800

(II) Command Type Select

SW Number			Function description	Software Defined
SW4	SW3	SW2	Command Type	Hex Code
OFF	OFF	ON	EPSON POS D101	01
OFF	ON	OFF	UTC Standard	02
OFF	ON	ON	UTC enhance	03
ON	OFF	OFF	AEDEX	04
ON	OFF	ON	ADM788	05
ON	ON	OFF	DSP-800F	06
ON	ON	ON	CD5220	07

(III) International Character Set

SW Number				Function Description	
SW 8	SW 7	SW 6	SW5	International Character Set (Code 20H-7FH)	Code Table (Code 80H-FFH)
OFF	OFF	OFF	OFF	U.S.A	PC-437 （USA） （Standard European）
OFF	OFF	OFF	ON	FRANCE	PC-850（Multilingual）
OFF	OFF	ON	OFF	GERMARY	PC-850（Multilingual）
OFF	OFF	ON	ON	U.K.	PC-850（Multilingual）
OFF	ON	OFF	OFF	DENMARK I	PC-850（Multilingual）
OFF	ON	OFF	ON	SWEDEN	PC-850（Multilingual）
OFF	ON	ON	OFF	ITALY	PC-850（Multilingual）
OFF	ON	ON	ON	SPAIN	PC-850（Multilingual）
ON	OFF	OFF	OFF	JAPAN	Katakana
ON	OFF	OFF	ON	NORWAY	PC-850（Multilingual）
ON	OFF	ON	OFF	DENMARK II	PC-850（Multilingual）
ON	OFF	ON	ON	SLAVONIC	
ON	ON	OFF	OFF	RUSSIAN	
ON	ON	OFF	ON	Factory Define	
ON	ON	ON	OFF	Factory Define	
ON	ON	ON	ON	Factory Define	

Chapter 3 Interface

3.1 RS-232

Specifications

Data Transmission Method：Asynchronous Serial
Handshaking ：DTR / DSR Control
Default Protocol ：9600 bps，non-parity，8 data bits，1 stop bit

Communication Protocol

1. Receive Data.

The DTR signal is as follow:

【HIGH】 This indicates that the display isn't ready to receive data.
It depend on the following conditions:

The period from when the power is turned on to when the printer first becomes ready.
When the remaining space in the receiving buffer becomes 128 bytes or less.
When the DTR signal of the printer is HIGH when the printer is selected using the command.

【Low】This indicates that the display isn't ready to receive data.
It depends on the following conditions:

When the printer first becomes ready to receive data after power – on.
When the remaining space in the receiving buffer becomes 128 bytes or more.
When the DTR signal of the printer is LOW when the printer is selected using the command.

2. Transmit Data.

After confirming the DSR is LOW, data transmitted to printer.

3.2 USB

Fully Compliant with USB Specification v2.0 (Full-Speed)

On Chip USB 1.1 transceiver

On-chip 96MHz clock generator

Supports RS-422/RS-485 like serial interface (TXD, DTR_N, and RTS_N pins should be externally pulled-up to 5V)

Supports RS232-like Serial Interface

Chapter 4 Command Description

4.1 EPSON Command Mode

Command	Hex	Function Description
HT	09	Move cursor right
BS	08	Move cursor left
US LF	1F0A	Move cursor up
LF	0A	Move cursor down
US CR	1F0D	Move cursor to right-most position
CR	0D	Move cursor to left-most position
HOM	0B	Move cursor to home position
USB	1F42	Move cursor to bottom position
US $ xy	1F24 x y	Move cursor to specified position 1≦x（column）≦20 ; 1≦y（row）≦2
US C n	1F 43 n	Select/cancel cursor display n=0,canceled ; n=1 selected
CLR	0C	Clear display screen
CAN	18	Clear cursor line
US X n	1F 58 n	Brightness adjustment 1≦n≦4
US E n	1F 45 n	Blink display screen 0≦n≦255 （n*50msec）ON / （n*50msec）OFF n = 0,blinking is canceled n = 255,display is turned off
ESC @	1B 40	Initialize display
ESC t n	1B 74	Select character code table 0≦n≦5（Please refer “chapter 5”）
ESC R n	1B 52 n	Select international character set （Please refer ***International Font Set Table***）
US r n	1F 72 n	Select/cancel reverse character n = 0, canceled ; n=1, select
US MD1	1F 01	Specify overwrite mode
US MD2	1F 02	Specify vertical scroll mode
US MD3	1F 03	Specify horizontal scroll mode
US . n	1F 2En	Specify period display n=display character code
US, n	1F 2Cn	Specify comma display n=display character code
US ; n	1F 3Bn	Specify semicolon (period + comma) display n=display character code
US # n m	1F23 n m	Specify display annunciator ,, turn the annunciator at“m”column on or off n=0 , 1 (off , on) ;0≦m≦20
ESC % n	1B 25 n	Select / cancel download character set n =0,cancel;n=1,selected
ESC % n	1B 57 n s （x1y1x2y²）	Specify /cancel the window range n=1,2,3,4(four windows);s=0,1(disable , enable) 1≦x1≦x2≦20(column);1≦y1≦y2≦2(row)
US :	1F 3A	Set starting/ending position of macro definition
US@	1F 40	Execute self -test

US T h m	1F 54 h m	Display time 0≦h≦23 ; 0≦m≦59
US U	1F 55	Display of time counter

***International Font Set Table**

n (Hex)	International Font Set	n (Hex)	International Font Set
00h	U.S.A.	06h	ITALY
01h	FRANCE	07h	SPAIN JPAIN
02h	GERMANY	08h	NORWAY
03h	U.K.	09h	DENMARK II
04h	DENMARK I	0AH	
05h	SWEDEN		

※ Specify decimal point , comma semicolon , annunciator :

（1） US . n（Decimal Point）US , n（Comma）/ US ; n（Semicolon）

The displayed character codes are form 32（20h） to 127（7Eh）,and 128（80h）to 255（FFh）in the chrarater code

table . The period /comma / semicolon displayed only for n. The period is not displayed for the subsequent display characters.

（2） US# n m （annunicator）:

〔range〕n = 0(00h) or 1(01h) / m = 0(00h) ~20(14h)

〔notes〕When n = 0, the annunicator at column m is turned off.

When n = 1, the annunicator at column m is turned off.

"m"specify column number (the most left column is column 1) at which annunciator to be turned on / off is placed.

When m=0, all annunciators are turned on or off.

Once an annuciator (s) is turned on, it remains on until turned off by this command ,the ESC@ or US@ command is executed, or the power is turned off .

〔example〕To turn on the annunciator at the third column：

〔n = 01h〕, 〔m = 03h〕

To turn off all the annunciators：

〔n = 00h〕, 〔m = 00h〕

※Above commands relating decimal point, comma, semicolon, and annunciator may not be available due to hardware limit of display tube.

4.2 UTC Standard Command Mode

Command	n (Hex)	Function Description
BS	08	Back space
HT	09	Horizontal tab
LF	0A	Line feed
CR	0D	Carriage return
DC0p	10p	Move cursor specified position, 0≦p≦39 （Please refer ***Row character Position chart***）
DC1	11	Over write display mode
DC2	12	Vertical scroll mode
DC3	13	Cursor on
DC4	14	Cursor off
ESC d	1B 64	Change to UTC enhanced mode
US	1F	Clear display

Row Character Position Chart （Decimal）

Row1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Row2	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39

Row Character Position Chart （Hex）

Row1	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	10	11	12	13
Row2	14	15	16	17	18	19	1A	1B	1C	1D	1E	1F	20	21	22	23	24	25	26	27

4.3 UTC Enhance Command Mode

Command	n (Hex)	Function Description
ESC u A．．CR	1B 75 41〔data x 20〕0D	Upper line display
ESC u B．．CR	1B 75 42〔data x 20〕0D	Bottom line display
ESC u D．．CR	1B 75 44〔data x 45〕0D	Upper line message scroll continuously
ESC u E．．CR	1B 75 45 hh“：”mm 0D	Set and display 24 hour time 0 ≦ h , m ≦
ESC u F．．CR	1B 75 46〔data x 45〕0D	Upper line message scroll once pass
ESC u H．．CR	1B 75 48 n m 0D	Change attention code 32 ≦ n,m （Default attention code n=1Bh,m=75h ）
ESC u 1．．CR	1B 75 49〔data x 40〕0D	Two line display
ESC RS．．CR	1B 0F 0D	Change to UTC standard mode

4.4 AEDEX Command Mode

Command	Hex	Function Description
! # 1..CR	21 23 31〔data x 20〕0D	Upper line display
! # 2..CR	21 23 32〔data x 20〕0D	Bottom line display
! # 4..CR	21 23 34〔data x 45〕0D	Upper line message scroll continuously
! # 5..CR	21 23 35 hh“：”mm 0D	Set and display 24 hour time 0≦h , m≦9
! # 5 CR	21 23 35 0D	Display 24 hour time
! # 6..CR	21 23 36〔data x 45〕0D	Upper line message scroll once pass
! # 8..CR	21 23 38 n m 0D	Change attention code 32≦n , m （Default attention code n=“1”,m=“#”）
! # 9..CR	21 23 39〔data x 40〕0D	Two line display

4.5 ADM788 Command Mode

Command	Hex	Function Description
CLR	0C	Clear display
CR	0D	Carriage return
SLE1	0E	Clear up line and move cursor to upper line lsft most end
SLE2	0F	Set period to upper line last n postion
DC0	10 n	1≦n≦7
DC1	11 n	Set line blinking n=1,upper line n=2,lower line
DC2	12 n	Set line blinking n=1,upper line n=2,lower line
SF1	1E	Clear field 1 and move cursor to field 1 fast position
SF2	1F	Clear field 2 and move cursor to field 2 fast position

4.6 DSP800F Command Mode

Command	Hex	Function Description
EOT SOH I n ETB	04 01 49 n17	Select international character set （Please refer ***International Font Set Table***）
EOT SOH P n ETB	04 01 50 n17	Move cursor specified position 49≦n≦88
EOT SOH C n m ETB	04 01 43 n m 17	Clear display range from n position to m position and move cursor to n position 49≦n≦m≦88
EOT SOH S n ETB	04 01 53 n 17	Save the current display data（40 character） to n'th layer for demo display 1≦n≦3 （n specify the layer 1,2, or 3）
EOT SOH D n m ETB	04 01 44 n m 17	Display the saved data 1≦n≦3 （n specify the layer 1,2, or 3） "m"can be ignored
EOT SOH A n ETB	04 01 41 n 17	Brightness adjustment 1≦n≦4
EOT SOH = n ETB	04 01 3D n 17	Select peripheral device n=1,printer ; n=2, display
EOT SOH% ETB	04 01 25 17	Initialize display

***International Font Set Table**

n (Hex)	International Font Set
30h	U.S.A.
31h	FRANCE
32h	GERMANY
33h	U.K.
34h	DENMARK I
35h	SWEDEN
36h	ITALY
37h	SPAIN
38h	JAPAN
39h	NORWAY
3Ah	DENMARK II

4.7 CD5220 Command Mode

Command	Hex	Function Description
ESC DC1	1B11	Overwrite mode
ESC DC2	1B12	Vertical scroll mode
ESC DC3	1B13	Horizontal scroll mode
ESC Q A CR	1B51 41 〔N〕20 0D	Set string mode ,write string to upper line
ESC Q B CR	1B51 42 〔N〕20 0D	Set string mode ,write string to lower line
ESC Q D CR	1B51 44 〔N〕m20 0D	Upper line message scroll continuously m＜40
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
ESD [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 1 x y	1B 6C x y	Move cursor to specified position 1≦x≦20（column）; y=1,2（row）
ESC@	1B 40	Initialize display
ESC W s x 1 X2 y	1B 57 s x 1 x2 y	Enable or disable the window range at horizontal Scroll mode s=0,1（disable , enable） 1≦x1≦x2≦20（column）; y=1,2（row）
CLR	0c	Clear display screen , and clear string mode
CAN	18	Clear cusor line , and clear string mode
ESC*n	1B2A n	Brightness adjustment 1≦n≦4
ESC & s n m [a（p1..p5]）（m-n+1）	1B 26 s n m [a（p1..p5）]（m-n+1）	Define download characters s=1 ; 32≦n≦m≦126 ;a=5 (p1..p5 = pattern1..parttern5）
ESC ? n	1B 3F n	Delete download characters 32≦n≦126（n=character code）
ESC ％ n	1B 25 n	Select / cancel download character set. n=0,canceled ; n=1,selected
ESC _ n	1B 5F n	Set cursor ON/OFF n=0,1（Off,On）

ESC f n	1B 66 n	Select international fonts set
ESC c n	1B 63 n	Select fonts, ASCII code or JIS code
ESC = n	1B 3D n	Select peripheral device n=1,printer ; n=2,display ; n=3, printer & display

（**REMARK**）

*While using command “ESC Q A”or “ESC Q B”, these two commands could be used combining with terminal printer – TP 2688 or TP36887

*If using command “ESC Q A”or “ESC Q B”,others commands can’t be used except using command “CLR”or “CAN”to change operating mode.

*If using command “ESC Q D”,message on upper line will move continuously till receiving a new command , clearing upper line , and moving cursor to most left position on upper line.

*** International Font Set Table**

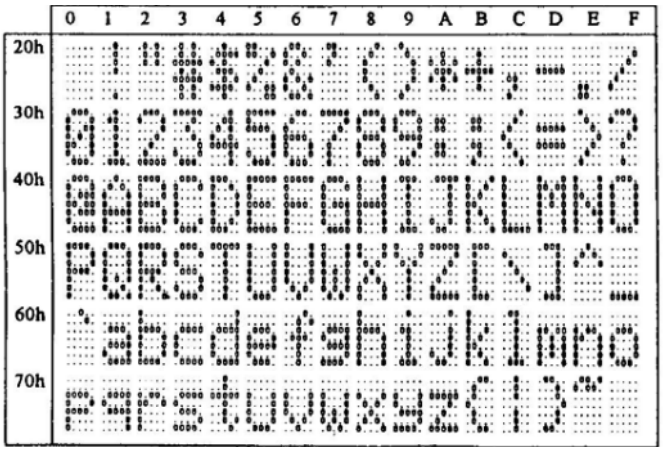
n (Decimal)	**International Font Set**
A	U.S.A.
G	GERMANY
I	ITALY
J	JAPAN
U	U.K.
F	FRANCE
S	SPAIN
N	NORWAY
W	SWEDEN
D	DENMARK I
E	DENMARK II
L	SLAVONIC
R	RUSSIA
	Reserved

*** Select Code Table**

n (Decimal)	**International Font Set**
A	compliance with ASCII code
J	compliance with JIS code
L	compliance with RUSSIA code
R	compliance with SLAVONIC code

Chapter 5 Character Set

5.1 U.S.A. / Standard Character Set (20h - 7Eh)



5.2 International Character Selection

ASCII CODE

No.	International	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
0	USA	#	$	@	[	\	]	^	`	{	|	}	~
1	FRANCE	#	$	à	°	ç	§	^	`	é	ù	è	¨
2	GERMANY	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
3	U.K.	£	$	@	[	\	]	^	`	{	|	}	~
4	DENMARK I	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	~
5	SWEDEN	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
6	ITALY	#	$	@	°	ç	é	^	ù	à	ò	è	ì
7	SPAIN	₧	$	@	¡	Ñ	¿	^	`	¨	ñ	}	~
8	JAPAN	#	$	@	[	¥	]	^	`	{	|	}	~
9	NORWAY	#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
10	DENMARK II	#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
11	SLAVONIC	#	$	@	[	\	]	^	`	{	|	}	~
12	RUSSIA	#	$	@	[	\	]	^	`	{	|	}	~

5.3 Character Code Table

5.3.1 Page 0 (PC437: U.S.A., Standard Europe) 00h – 7Fh

	HEX	0	1	2	3	4	5	6	7
HEX	BIN	0000	0001	0010	0011	0100	0101	0110	0111
0	0000	N.U.L 00	16	SP 32	0 48	@ 64	P 80	` 96	p 112
1	0001	01	17	! 33	1 49	A 65	Q 81	a 97	q 113
2	0010	02	18	" 34	2 50	B 66	R 82	b 98	r 114
3	0011	03	19	# 35	3 51	C 67	S 83	c 99	s 115
4	0100	04	20	$ 36	4 52	D 68	T 84	d 100	t 116
5	0101	05	21	% 37	5 53	E 69	U 85	e 101	u 117
6	0110	06	22	& 38	6 54	F 70	V 86	f 102	v 118
7	0111	07	23	' 39	7 55	G 71	W 87	g 103	w 119
8	1000	BS 08	CAN 24	(40	8 56	H 72	X 88	h 104	x 120
9	1001	HT 09	25	) 41	9 57	I 73	Y 89	i 105	y 121
A	1010	LF 10	26	* 42	: 58	G 74	Z 90	j 106	z 122
B	1011	HOM 11	ESC 27	+ 43	: 59	K 75	[91	k 107	{ 123
C	1100	CLR 12	28	, 44	< 60	L 76	\ 92	l 108	| 124
D	1101	CR 13	29	- 45	= 61	M 77	] 93	m 109	} 125
E	1110	14	30	. 46	> 62	N 78	^ 94	n 110	~ 126
F	1111	15	US 31	/ 47	? 63	O 79	_ 95	o 111	SP 127

To be continued on next page...

80h – FFh

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	á 160	▒ 176	└ 192	└ 208	α 224	≡ 240
1	0001	ü 129	Æ 145	í 161	▓ 177	┴ 193	╤ 209	ß 225	± 241
2	0010	é 130	æ 146	ó 162	▓ 178	┬ 194	┬ 210	Γ 226	≥ 242
3	0011	â 131	ô 147	ú 163	│ 179	├ 195	└ 211	π 227	≤ 243
4	0100	ä 132	ö 148	ñ 164	┤ 180	─ 196	└ 212	Σ 228	⌠ 244
5	0101	à 133	ò 149	Ñ 165	╡ 181	┼ 197	╒ 213	σ 229	⌡ 245
6	0110	å 134	û 150	ª 166	╢ 182	╞ 198	╒ 214	µ 230	÷ 246
7	0111	ç 135	ù 151	º 167	╖ 183	├ 199	┼ 215	τ 231	≈ 247
8	1000	ê 136	ÿ 152	¿ 168	╕ 184	└ 200	┼ 216	Φ 232	° 248
9	1001	ë 137	Ö 153	⌐ 169	╣ 185	╒ 201	┘ 217	Θ 233	∙ 249
A	1010	è 138	Ü 154	¬ 170	║ 186	┴ 202	╒ 218	Ω 234	· 250
B	1011	ï 139	¢ 155	½ 171	╗ 187	╤ 203	▒ 219	δ 235	√ 251
C	1100	î 140	£ 156	¼ 172	╝ 188	├ 204	▬ 220	∞ 236	n 252
D	1101	ì 141	¥ 157	¡ 173	╜ 189	─ 205	▌ 221	φ 237	² 253
E	1110	Ä 142	₧ 158	« 174	╛ 190	┼ 206	▐ 222	∈ 238	■ 254
F	1111	Å 143	ƒ 159	» 175	┐ 191	┴ 207	▀ 223	∩ 239	▪ 255

5.3.2 Page 1 (Japanese Katakana)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	128	144	160	176	192	208	224	240
1	0001	129	145	161	177	193	209	225	241
2	0010	130	146	162	178	194	210	226	242
3	0011	131	147	163	179	195	211	227	243
4	0100	132	148	164	180	196	212	228	244
5	0101	133	149	165	181	197	213	229	245
6	0110	134	150	166	182	198	214	230	246
7	0111	135	151	167	183	199	215	231	247
8	1000	136	152	168	184	200	216	232	248
9	1001	137	153	169	185	201	217	233	249
A	1010	138	154	170	186	202	218	234	250
B	1011	139	155	171	187	203	219	235	251
C	1100	140	156	172	188	204	220	236	252
D	1101	141	157	173	189	205	221	237	253
E	1110	142	158	174	190	206	222	238	254
F	1111	143	159	175	191	207	223	239	255

5.3.3 Page 2 (PC850: Multilingual)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	á 160	▒ 176	└ 192	ð 208	ó 224	240
1	0001	ü 129	▀ 145	í 161	▒ 177	┴ 193	Ð 209	ß 225	± 241
2	0010	é 130	Æ 146	ó 162	▒ 178	┬ 194	Ê 210	Ô 226	‗ 242
3	0011	â 131	ô 147	ú 163	│ 179	├ 195	Ë 211	Ò 227	¾ 243
4	0100	à 132	ö 148	ñ 164	┤ 180	─ 196	È 212	õ 228	¶ 244
5	0101	à 133	ò 149	Ñ 165	╡ 181	┼ 197	ı 213	Õ 229	§ 245
6	0110	å 134	û 150	ª 166	Â 182	ã 198	Í 214	µ 230	÷ 246
7	0111	ç 135	ù 151	º 167	À 183	Ã 199	Î 215	þ 231	¸ 247
8	1000	ê 136	ÿ 152	¿ 168	© 184	└ 200	Ï 216	Þ 232	° 248
9	1001	ë 137	Ö 153	® 169	╣ 185	┌ 201	┘ 217	Ú 233	¨ 249
A	1010	è 138	Ü 154	¬ 170	║ 186	┴ 202	┌ 218	Û 234	· 250
B	1011	ï 139	ø 155	½ 171	╗ 187	┬ 203	▀ 219	Ù 235	¹ 251
C	1100	î 140	£ 156	¼ 172	╝ 188	├ 204	▄ 220	ý 236	³ 252
D	1101	ì 141	Ø 157	¡ 173	¢ 189	─ 205	¦ 221	Ý 237	² 253
E	1110	Ä 142	× 158	« 174	¥ 190	┼ 206	Ì 222	¯ 238	■ 254
F	1111	Å 143	ƒ 159	» 175	┐ 191	¤ 207	▀ 223	´ 239	160 255

5.3.4 Page 3 (PC860: Portuguese)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	á 160	▒ 176	└ 192	┴ 208	α 224	≡ 240
1	0001	ü 129	æ 145	í 161	▓ 177	┴ 193	┬ 209	ß 225	± 241
2	0010	é 130	Æ 146	ó 162	▓ 178	┬ 194	┬ 210	Γ 226	≥ 242
3	0011	â 131	ô 147	ú 163	│ 179	├ 195	└ 211	π 227	≤ 243
4	0100	ã 132	ò 148	ñ 164	┤ 180	─ 196	┘ 212	Σ 228	⌠ 244
5	0101	à 133	õ 149	Ñ 165	┤ 181	┼ 197	┌ 213	σ 229	⌡ 245
6	0110	Á 134	Ú 150	ª 166	┤ 182	├ 198	┌ 214	µ 230	÷ 246
7	0111	ç 135	ù 151	º 167	┐ 183	├ 199	┼ 215	τ 231	≈ 247
8	1000	ê 136	ì 152	¿ 168	┐ 184	└ 200	┼ 216	Φ 232	° 248
9	1001	Ê 137	Õ 153	⌐ 169	┤ 185	┌ 201	┘ 217	Θ 233	∙ 249
A	1010	è 138	Ü 154	¬ 170	╣ 186	┴ 202	┌ 218	Ω 234	· 250
B	1011	í 139	¢ 155	½ 171	┐ 187	┬ 203	▒ 219	δ 235	√ 251
C	1100	Ô 140	£ 156	¼ 172	┘ 188	├ 204	═ 220	∞ 236	n 252
D	1101	ì 141	Ù 157	¡ 173	┘ 189	─ 205	▌ 221	φ 237	² 253
E	1110	Ã 142	₧ 158	« 174	┘ 190	┼ 206	▐ 222	∈ 238	■ 254
F	1111	Â 143	ƒ 159	» 175	┐ 191	┴ 207	▀ 223	∩ 239	sp 255

5.3.5 Page 4 (PC863: Canadian-French)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	⌐ 160	▒ 176	└ 192	╨ 208	α 224	≡ 240
1	0001	ü 129	È 145	¬ 161	▒ 177	┴ 193	╤ 209	ß 225	± 241
2	0010	é 130	Ê 146	½ 162	▒ 178	┬ 194	╥ 210	Γ 226	≥ 242
3	0011	â 131	ô 147	¼ 163	│ 179	├ 195	└ 211	π 227	≤ 243
4	0100	À 132	Ë 148	¨ 164	┤ 180	─ 196	╘ 212	Σ 228	⌠ 244
5	0101	à 133	Ï 149	» 165	╡ 181	┼ 197	╒ 213	σ 229	⌡ 245
6	0110	¶ 134	Î 150	ª 166	╢ 182	╞ 198	╓ 214	µ 230	÷ 246
7	0111	§ 135	ù 151	‗ 167	╖ 183	╟ 199	╫ 215	τ 231	≈ 247
8	1000	ê 136	¤ 152	¹ 168	╕ 184	╚ 200	╪ 216	Φ 232	° 248
9	1001	ë 137	Ö 153	⌐ 169	╣ 185	╔ 201	┘ 217	Θ 233	∙ 249
A	1010	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Ω 234	· 250
B	1011	ï 139	¢ 155	« 171	╗ 187	╦ 203	▒ 219	δ 235	√ 251
C	1100	î 140	£ 156	¬ 172	╝ 188	╠ 204	▬ 220	∞ 236	n 252
D	1101	▬ 141	Ù 157	½ 173	╜ 189	═ 205	▌ 221	φ 237	² 253
E	1110	À 142	Û 158	« 174	╛ 190	╬ 206	▐ 222	ε 238	■ 254
F	1111	§ 143	ƒ 159	» 175	┐ 191	╧ 207	▀ 223	∩ 239	▪ 255

5.3.6 Page 5 (PC865: Nordic)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	á 160	▒ 176	└ 192	└ 208	α 224	≡ 240
1	0001	ü 129	æ 145	í 161	▒ 177	┴ 193	┬ 209	ß 225	± 241
2	0010	é 130	Æ 146	ó 162	▒ 178	┬ 194	┬ 210	Γ 226	≥ 242
3	0011	â 131	ô 147	ú 163	│ 179	├ 195	└ 211	π 227	≤ 243
4	0100	ã 132	ö 148	ñ 164	┤ 180	─ 196	└ 212	Σ 228	⌠ 244
5	0101	à 133	ò 149	Ñ 165	┤ 181	┼ 197	┌ 213	σ 229	⌡ 245
6	0110	å 134	û 150	ª 166	┤ 182	├ 198	┌ 214	µ 230	÷ 246
7	0111	ç 135	ù 151	º 167	┐ 183	├ 199	┼ 215	τ 231	≈ 247
8	1000	ê 136	ÿ 152	¿ 168	┐ 184	└ 200	┼ 216	Φ 232	° 248
9	1001	ë 137	Ö 153	⌐ 169	┤ 185	┌ 201	┘ 217	Θ 233	∙ 249
A	1010	è 138	Ü 154	¬ 170	│ 186	┴ 202	┌ 218	Ω 234	· 250
B	1011	ï 139	ø 155	½ 171	┐ 187	┬ 203	▒ 219	δ 235	√ 251
C	1100	î 140	£ 156	¼ 172	┘ 188	├ 204	─ 220	∞ 236	n 252
D	1101	ì 141	Ø 157	¡ 173	¦ 189	─ 205	▒ 221	φ 237	² 253
E	1110	Ä 142	₧ 158	« 174	└ 190	┼ 206	▒ 222	ε 238	■ 254
F	1111	Å 143	ƒ 159	» 175	┐ 191	┴ 207	▒ 223	∩ 239	⁰ 255

Chapter 6 Installation Guide