XP-2025G

Customer Display

User Manual

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Safety Precaution

Please observe the following precautions to ensure safe use of equipment.

1. Disconnect the equipment from AC outlet before cleaning.

   Use only moist cloth (with water). Do not use detergent.

2. Power outlet must be easily accessible and near the equipment.
3. Keep the equipment away from humid and dusty environment.
4. Place the equipment on a stable surface during installation and operation.
5. Do not place any load on the power cord.
6. All cautions and warnings on the equipment should be noted.
7. When the equipment is not in use, disconnect it from the power source to avoid damage by transient over-voltage.
8. Liquid into the equipment may cause fire or electrical shock.
9. Only qualified service personnel should be allowed to open the equipment.
10. If any of the following situations arises, ask service personnel to check the equipment:
    A. Power cord / plug is damaged
    B. Liquid penetrates into the equipment
    C. The equipment does not function properly and/or cannot work according to the User Manual
    D. The equipment has been dropped
    E. The equipment shows signs of damage
11. Temperature below -20° C (-4°F) or above 60° C (140° F) may damage the equipment

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CHAPTER 1

Introduction

XP-2025G

XP-2025G is a 192*32 dot matrix customer display with FSTN LCD panel, as POS customer display.

Key Features

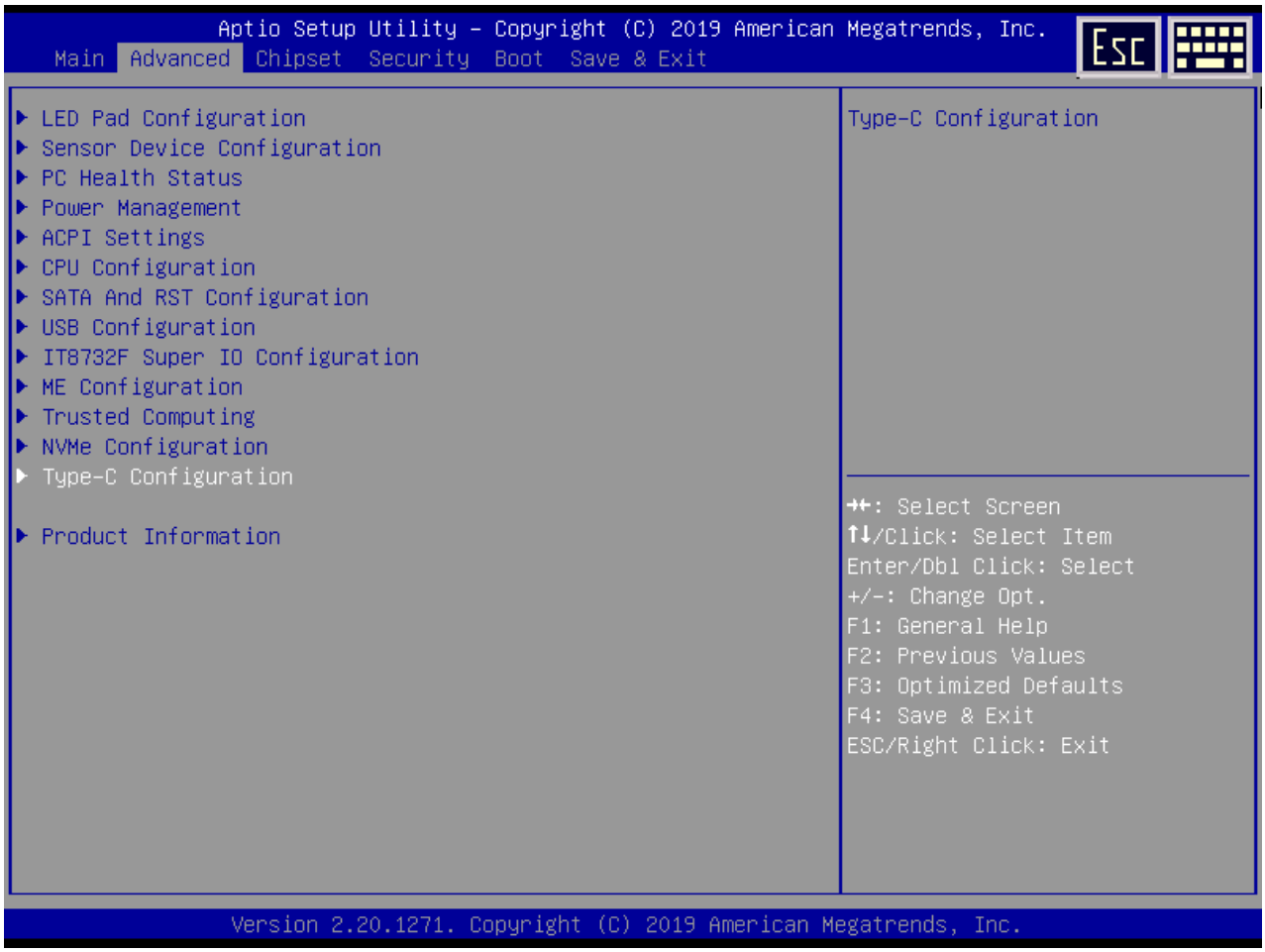
- Display 8×16 dot matrix alphanumeric in 20 columns x 2 lines, or 24 columns x 2 lines.
- Highlight white text over navy blue background makes it easy to read.
- In addition to ESC/POS command set, it also supports common commands.
- RS232C communication interface with adjustable baud rate.
- Easy adjust contrast by command

Installation

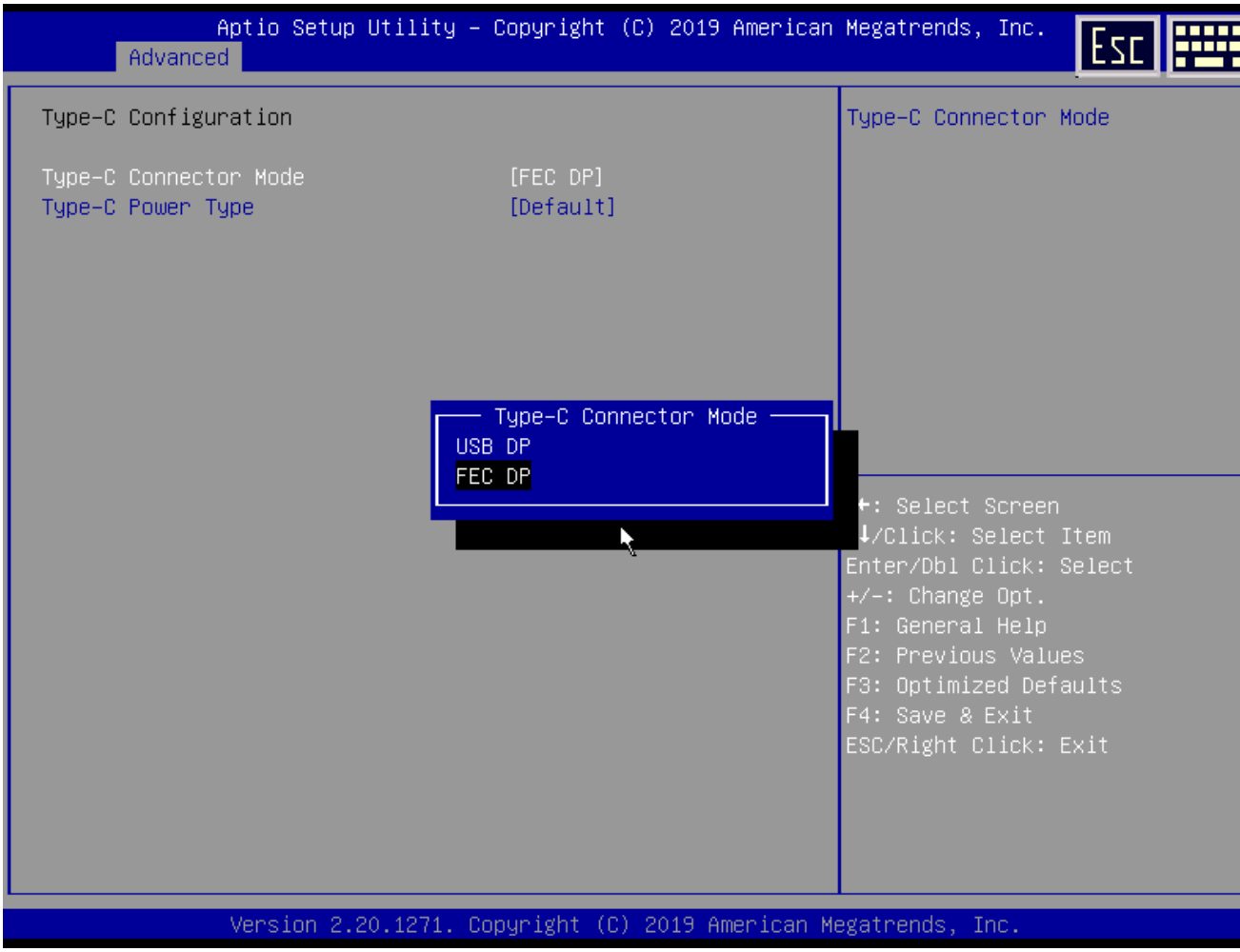
The XP-2025G draws power from the main unit. **Ensure the COM port voltage supply is set to 5V before connecting.** Failure to do so will damage the unit and is not covered under warranty.

Setting the voltage supply on XP-3685/3685W/3687

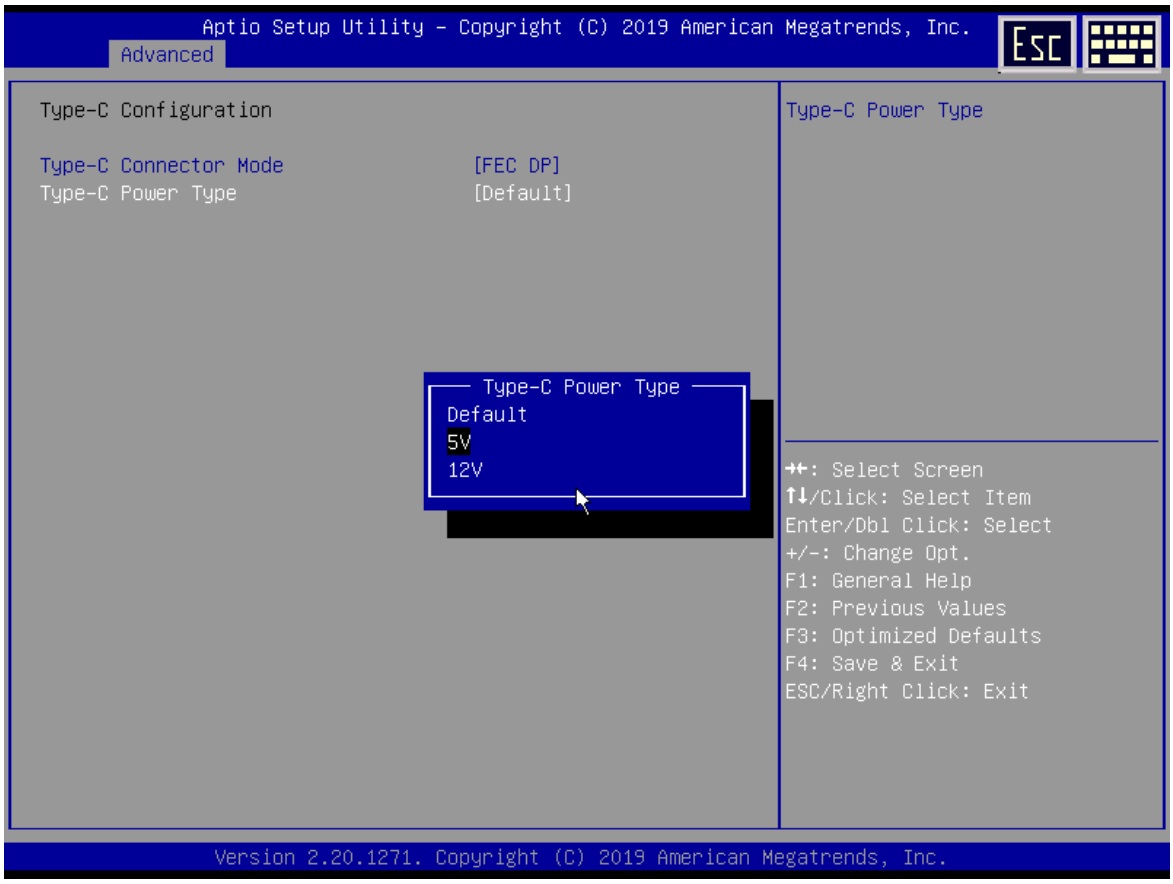
1. Attach a keyboard to an available USB slot and wait for the driver installation to complete or touch from BIOS DEL option appear.
2. Reboot the computer
3. After seeing BIOS boot logo or hearing the beep sound, quickly press the <DEL> or <DELETE> key on your keyboard a few times to enter the BIOS setting screen. Using the <RIGHT> arrow key on your keyboard, navigate and highlight **Advanced** menu next to Main and goes to TYPE C Configuration then press <ENTER> key



4. Using the <DOWN> arrow key, highlight the **Type-C Connector Mode and choose FEC DP** and press <ENTER>



5. Using the <DOWN> arrow key, highlight the **5V** and press <ENTER>



6. Press <F4> on your keyboard and select **YES** with <ENTER> key to confirm and save the changes into BIOS. The unit will then reboot back into the OS.

Installation the Customer display on XPOS

The XP-2025G features easy installation; only a Philips(+) screwdriver is required.

1. Shutdown your unit and unplug the power supply to avoid damage to sensitive components during installation.
2. Turn the unit around so the screen is facing away from you.
3. Locate the **Customer Display Seat Cover**near the top of the unit
4. Using the screwdriver, loosenthe screw and lift up to remove the cover. Store the cover separately.
5. Carefully pull out the

6. Connect the cable from the customer display to the unit; observing the direction of the cable with a dot from the BACK side as following picture.

Specification

Model	XP-2025G
Display Method	FSTN LCD display panel
Number of Characters	40 characters (20 columns x 2 lines) 48 characters (24 columns x 2 lines) (option)
Display Color	Navy Blue with Positive display
Brightness	500 cd/m²
Font	96 alphanumeric characters, 14 international, 20 code page.
Character Size	8x16 Dot Matrix
Command Set	1. EPSON ESC/POS 2. ADM788 3. ADM787 4. AEDEX 5. UTC/S 6. UTC/P 7. DSP800 8. ICD2002 9. CD5220
Interface	RS-232C 4800/9600/19200/38400/115200 bps
Power Supply	Power input DC 5V
Power Consumption	2.5W
MTBF	40K Hrs

CHAPTER 2

INTERFACE

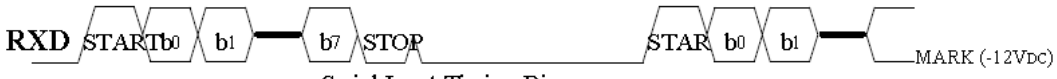
Communication Specification

DATA Transmission	Serial
Synchronization	Asynchronous
Handshaking	None
Signal level	MARK = -3 to -15V (logical “1” OFF) SPACE = +3 to +15V (logical “0” ON)
Baud rate	4800, 9600, 19200, 38400, 115200 bps
Parity	None, Even
Bit length (Data word length)	7 or 8 bits
Stop bits	1 bit

Serial Data Input Stream

(Example of none parity, 8-bit data, 1 stop bit)

Space (+12Vdc)



Serial Input Timing Diagram

CHAPTER 3

CONFIGURATION

3.1 Configure your device

The system parameters of XP-2025G can be set by using utility . You can find the tool from FEC Website. In addition to setting system parameters, you can configure welcome message and user font with the software tool. The system parameters include the following items.
Language Character Set, Command Type, Baud rate and Parity Check.

3.1.1 Command Type

The XP-2025G supports up to 8 command sets. They are listed on the following table. Please select on from the pull-down list.

Command Type	Default
EPSON ESC/POS	■
DSP-800	
ADM787/788	
AEDEX	
UTC/S	
UTC/P	
CD5220	
ICD2002	

3.1.2 Language Character Set Selection

The XP-2025G supports the following language character set. Please refer to following table for character code page.

Character Set (20h-7Fh)	Code page Table (80H-FFH)	Default
U.S.A	PC-437 (USA, Standard European)	
France	PC-850 (Multilingual)	
Germany	PC-850 (Multilingual)	
U.K	PC-850 (Multilingual)	
Denmark I	PC-850 (Multilingual)	
Sweden	PC-850 (Multilingual)	
Italy	PC-850 (Multilingual)	
Spain	PC-850 (Multilingual)	
Russia	Windows-1251	
Norway	PC-858 (Multilingual with Euro Sigh)	
Denmark II	PC-858 (Multilingual with Euro Sigh)	
Slavonic	Cyrillic	
Russia	Russia	
Japan	Katakana	
User Defined		

3.1.3 Baud Rate Selection

Baud Rate (Bps)	Default
4800	
9600	■
19200	
38400	
115200	

3.1.4 Parity Check Selection

Parity Check	Default
None-Parity	■
Even-Parity	

CHAPTER 4

SOFTWARE SETTING COMMNAD

User can re-set the default configuration by using the following software commands:

4.1 Baud Rate Setting Command

STX 05 B n ETX: Change the baud rate

ASCII Format: STX 05 B n ETX

Dec. Format: [02][05][66] n [03] 49≦n≦56

Hex. Format: [02h][05h][42h] n [03h] 30h≦n≦38h

Description: Change the display communication baud rate. The baud rate setting can be selected from 4800~115200 bps.

N	Baud Rate	N	Baud Rate
30h	9600 bps	37h	19200 bps
31h	4800 bps	38h	115200 bps
32h~35h	Reserved		
36h	38400 bps		

4.2 Parity Check Setting Command

STX 05 P n ETX: Change the parity check

ASCII Format: STX 05 P n ETX

Dec. Format: [02][05][80] n [03] 49≦n≦54

Hex. Format: [02h][05h][50h] n [03h] 31h≦n≦36h

Description

n	Parity	n	Parity	n	Parity
31h	N-8-1	**33h**	E-8-1	**35h**	O-8-1
32h	N-7-1	**34h**	E-7-1	**36h**	O-7-1

4.3 Command Type Setting Command

STX 05 C n ETX : Change the command type

ASCII Format : STX 05 C n ETX

Dec. Format: [02][05][67] n [03] 49≦n≦56

Hex. Format: [02h][05h][43h] n [03h] 30h≦n≦38h

Description: Change the command type and initialize the display

n	Command type	n	Command type
30h	DSP-800	**35h**	UTC/S
31h	ESC/POS	**36h**	UTC/P
32h	ADM788	**37h**	CD5220
33h	ADM787	**38h**	ICD2002
34h	AEDEX		

4.4 International Character Set Setting Command

STX 05 S n ETX Change the International character set

ASCII Format STX 05 S n ETX

Dec. Format [02][05][83] n [03] 48≦n≦63

Hex. Format [02h][05h][53h] n [03h] 30h≦n≦3Fh

Description Change the display International character set

n	Character Set (20h – 7Fh)	Code Table (80H-FFH)
30h	U.S.A	PC-437 (USA, Standard Europe)
31h	France	PC-858
32h	Germany	
33h	U.K.	
34h	Denmark I	
35h	Sweden	
36h	Italy	
37h	Spain	
38h	Russia	WPC1251
39h	Norway	PC-858
3Ah	Denmark II	
3Bh	Slavonic	Slavonic
3Ch	Russia	Russia

3Dh	Japan	Katakana
3Eh	U.K.	Greek
3Fh	User Font	

4.5 Save Display Demo Data

ASCII Format	<STX> <ENQ> L n d1...dm <ETX>
Dec. Format	2, 5, 76, n, d1.....dm, 3 (n=49 or 50, d1...dm: message data, maximum character is under 92)
Hex. Format	[02h][05h][4Ch] n d1.....dm [03h] (n=31h or 32h)
Description	Save demo message for upper line and bottom line. n=31h : save data message for upper line, n=32h : save data message for lower line

4.6 Run Demo Data

ASCII Format	<STX> <ENQ> D <MD8> <ETX>
Dec. Format	2, 5, 68, 8, 3
Hex. Format	[02h][05h][44h][08][03h]
Description	Run the demo messages which were saved by <STX> <ENQ> L command for the display.

4.7 Reset EE-PROM Data

ASCII Format	<STX> <ENQ> <MD7> n <ETX>
Dec. Format	2, 5, 7, n, 3 n=49,50,51
Hex. Format	[02h][05h][07h]n[03h] n=31h,32h,33h
Description	This command will reset the content of EEP-ROM. n =31h, clear all EEPROM contents including default setting value n =32h, clear upper line data message n =33h, clear lower line data message

CHAPTER 5

COMMAND SET

5.1 ESC/POS Mode Command Set

Command	Code (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-most
CR	0D	Move cursor to left-most 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=01h, 02h	Move cursor to specified position.
CAN	18	Clear cursor line.
CLR	0C	Clear display screen.
US X n	1F 58 n 01h≦n≦0Ah	Contrast adjustment.
Us F	1F 46	Tune down contrast.
Us G	1F 47	Tune up contrast.
US E n	1F 45 n 00h≦n≦FFh	Blink display screen.
ESC @	1B 40	Initialize display.
ESC R n	1B 52 n 00h≦n≦0Ch	Select international character set. (see Table 5-A)
ESC t n	1B 74 n n=00h, 01h..07h, 10h.	Select character code table. (see Table 5-B)
US r n	1F 72 n n=00h, 01h	Select/Cancel reverse character. n=01 select, n=00 cancel
US # n m	1F 23 n m n=00h, 01h, 01h<m≦14h	Turn annunciate on/off n=01 on, n=00 off
US C n	1F 43 n n=00h, 01h	Set cursor on/off n=01 on, n=00 off

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.
ESC W n s x1 y1 x2 y2	1B 57 n s x1 y1 x2 y2 1≦n≦4, s=00h,01h 01h≦x1≦x2≦14h 01h≦y1≦y2≦02h	Specify/cancel the window range. s=01 specify, 00 cancel n=select the window x= column position y= row position
ESC = n	1B 3D n n=01h, 02h, 03h	Select peripheral device. n=01h, select printer n=02h, select display n=03h, select printer + display
US :	1F 3A	Set starting/ending position of macro definition.
US ^ n m	1F 5E n m 00h≦n≦FFh 00h≦m≦FFh	Execute and quit macro. n=word time m=show string time
US T h m	1F 54 h m 00h≦h≦17h 00h≦m≦3bh	Display time
US U	1F 55	Display time continuously
<ESC>_n	1B 5F n	Set Cursor On/Off n=00h cursor off, n=01h cursor on
<ESC> Q A d1 d2	1Bh 51h 41h d1 d2 d3 d4 ..... dn 0Dh	Write String Character to Upper Line
<ESC> Q B d1 d2	1Bh 51h 42h d1 d2 d3 d4 ..... dn 0Dh	Write String Character to Lower Line
<ESC> Q D d1 d2	1Bh 51h 44h d1 d2 d3 d4 ..... dn 0Dh	Upper Line Message Scroll Continuously
ESC t m	1B 73 n x x = data*24 for 2*24 mode x = data*20 for 2*20 mode	Define custom logo. n = 1 upper line, n = 2 lower line. x higher byte = 0~C select code table ,
Us A	1F 41 00	Version & Checksum status.

n	International Font
00h	U.S.A.
01h	France
02h	Germany
03h	U.K.
04h	Denmark I
05h	Sweden
06h	Italy
07h	Spain
08h	Japan
09h	Norway
0Ah	Denmark II
0Bh	Slavonic
0Ch	Russia

N	Code Table (80H-FFH)
00h	Page 0, (PC437, USA standard
01h	Page 1, (Katakana)
02h	Page 2, (PC858, +Euro symbol)
03h	Page 3, (PC860, Portuguese)
04h	Page 4, (PC863,
05h	Page 5, (PC865, Nordic)
06h	Page 6, (Russia)
07h	Page 7, (Slavonic)
08h	Page 8, (PC852)
09h	Page 9, (PC866)
0Ah	Page 10, (WPC1253)
0Bh	Page 11, (PC857)
0Ch	Page 12, (PC862)
0Dh	Page 13, (ISO8859-8)
0Eh	Page 14, (ISO8859-9)
0Fh	Page 15, (WPC1251)
10h	Page 16, (WPC1257)
11h	Page 17, (WPC1252)
12h	Page 18, (Greek)
13h	Page 19, (PC850, Multilingual)

5.2 ADM787/788 Mode Command Set

Command	Code (hex)	Function Description
CLR	0C	Clear display
CR	0D	Carriage return
SLE1	0E	Clear upper line and move cursor to upper left-end position
SLE2	0F	Clear bottom line and move cursor to bottom left-end position
DC0	10 n 31H≦n≦37H	Set the period to the upper line last n position
DC1	11 n n=31h, 32h	Set line blinking, n=31h upper line; n=32h bottom line
DC2	12 n n=31h, 32h	Clear line blinking, n=31h upper line; n=32h bottom line
SF1	1E	Clear field 1 and move cursor to field 1, first position
SF2	1F	Clear field 2 and move cursor to field 2, first position

5.3 EMAX (AEDEX) Mode Command Set

Command	Code (hex)	Function Description
! # 1 … CR	21 23 31 [d1, d2...dn] 0D 1≦n≦20	Upper line display
! # 2 … CR	21 23 32 [d1, d2...dn] 0D 1≦n≦20	Bottom line display
! # 4 … CR	21 23 34 [d1, d2...dn] 0D 1≦n≦40	Upper line message scroll continuously
! # 5 … CR	21 23 35 h1h2 ":" m1m2 0D ":"=3A 30h≦h1≦32h; 30h≦m1≦35h 30h≦h2, m2≦39h	Display time h=hour m=minute
! # 6 … CR	21 23 36 [d1, d2...dn] 0D 1≦n≦64	Upper line message scroll once pass
! # 8 … CR	21 23 38 n m 0D 20h≦n, m	Change attention code
! # 9 … CR	21 23 39 [d1, d2...dn] 0D 1≦n≦40	Two line display

5.4 EMAX (AEDEX) Mode Command Set

UTC/S (STANDARD)

Command	Code (hex)	Function Description
BS	08	Back space
HT	09	Horizontal tab
LF	0A	Line feed
CR	0D	Carriage return
DLE	10 n 00h≦n≦27h	Display cursor position
DC1	11	Over write display mode
DC2	12	Vertical scroll mode
DC3	13	Cursor on
DC4	14	Cursor off
US	1F	Clear display
ESC d	1B 64	Change to UTC enhanced mode

UTC/P (ENHANCED)

Command	Code (hex)	Function Description
ESC u A ….CR	1B 75 41 [d1, d2...dn] 0D 1≦n≦20	Upper line display
ESC u B ….CR	1B 75 42 [d1, d2...dn] 0D 1≦n≦20	Bottom line display
ESC u D ….CR	1B 75 44 [d1, d2...dn] 0D 1≦n≦40	Upper line message scroll continuously
ESC u E ….CR	1B 75 45 h1h2 “:” m1m2 0D “:”=3A 30h≦h1≦32h; 30h≦m1≦35h 30h≦h2, m2≦39h	Display time hh= hour mm= minute
ESC u F ….CR	1B 75 46 [d1, d2...dn] 0D 1≦n≦40	Upper line message scroll once pass
ESC u H ….CR	1B 75 48 n m 0D 20h≦n, m	Change attention code
ESC u I ….CR	1B 75 49 [d1, d2...dn] 0D 1≦n≦40	Two line display
ESC RS ….CR	1B 0F 0D	Change to UTC standard mode

5.5 CD5220 Mode Command Set

Command	Code (hex)	Function description
ESC DC1	1B 11	Overwrite mode
US SOH	1F 01	Overwrite mode
ESC DC2	1B 12	Vertical scroll mode
US STX	1F 02	Vertical scroll mode
ESC DC3	1B 13	Horizontal scroll mode
US ETX	1F 03	Horizontal scroll mode
ESC QA ....CR	1B 51 41 [d1, d2...dn] 0D 1≦n≦20	Set the string display mode, write string to upper line (see Note 1)
ESC QB ....CR	1B 51 42 [d1, d2…dn] 0D 1≦n≦20	Set the string display mode, write string to bottom line (see Note 1)
ESC QD ....CR	1B 51 44 [d1, d2…dn]xm 0D m≦40	Upper line message scroll continuously (see Note 2)
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
US LF	1F 0A	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 top-left
CR	0D	Move cursor to top-left
ESC [R	1B 5B 52	Move cursor to top-right position
US CR	1F 0D	Move cursor to top-right position
ESC [K	1B 5B 4B	Move cursor to bottom
US B	1F 42	Move cursor to bottom
US @	1F 40	Execute self test

US E n	1F 45 n n=00h~FFh	Blink display screen n=00h for no blink
ESC l x y	1B 6C x y 1≦x≦14h y=01h, 02h	Move cursor to specified position x= column position y= row
US $ x y	1F 24 x y 01h≦x≦14h; y=01h, 02h	Move cursor to specified position
ESC @	1B 40	Initialize display
ESC W s x1 x2 y	1B 57 s x1 x2 y 01h≦x1≦x2≦ 13h y=01h, 02h, s=00h, 01h	Set/Cancel the window range at horizontal scroll mode x= column position y= row
CLR	0C	Clear display screen and clear string mode
CAN	18	Clear cursor line and clear string mode
ESC * n	1B 2A n 01h≦n≦0Ah	Contrast adjustment
US X n	1F 58 n 01h≦n≦0Ah	Contrast adjustment
ESC % n	1B 25 n n=00h, 01h	Select/Cancel download character set n=01 select, n=00 cancel
ESC _ n	1B 5F n n=00h, 01h	Set cursor on/off n=01 cursor on, n=00 cursor
ESC f n	1B 66 n	Select international font set (see Note 3)
ESC c n	1B 63 n	Select code (see Note 4)
ESC = n	1B 3D n n=01, 02h, 03h	Select peripheral device n=01h, select printer n=02h, select display
ESC s 1	1B 73 01	Store the user defined character into EEPROM.
ESC d 1	1B 64 01	Download the user defined character from EEPROM.

NOTE:

1 While using the command “ESC Q A” or “ESC Q B”, other commands cannot be used except for “CLR” or “CAN” to change the operating mode.

2. When using the command “ESC Q D”, the upper line message will scroll continuously until a new command is received. It will then clear the upper line and move the cursor to the upper left end position.

3. The parameters of the international font set control command “ESC f n”.

Parameter “n”		International Font Set
‘A’	41h	U.S.A.
‘G’	47h	Germany
‘I’	49h	Italy
‘J’	4Ah	Japan
‘U’	55h	U.K.
‘F’	46h	France
‘S’	53h	Spain
‘N’	4Eh	Norway
‘W’	57h	Sweden
‘D’	44h	Denmark I
‘E’	45h	Denmark II
‘L’	4Ch	Slavonic
‘R’	52h	Russia

4. The parameters of the code table control command “ESC c n”.

Parameter “n”		International Font Set
‘A’	41h	Compliance with ASCII code
‘L’	4Ch	Compliance with SLOVONIC code
‘R’	52h	Compliance with RUSSIA code

5.6 ICD-2002 Mode Command Set

Command	Code(hex)	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> U	1Bh 55h	Select upper row as current row (initial default)
<ESC> D	1Bh 44h	Select lower row as current row
<ESC> C r c	1Bh 43h r c	Move cursor to specified position (only valid in overwrite mode)
<ESC> E r n	1Bh 45h r n	Set special effect or display mode of specified row. r: 58h All rows; 55h upper row; 44h lower row n: 30h Select shift mode (default display mode) rotation mode; 31h Select blink mode; 32h clear this row and switch to shift mode overwrite mode
<ESC> R n	1Bh 52h n	Set international code set sets (n=30h:USA, n=31h:Germany, n=32h:France,
<ESC> % n	1Bh 25h n	Select/cancel character user defined character (n=0: canceled, n=1: selected)
<ESC> = n	1Bh 3Dh n	Select Peripheral (n=1: printer, n=2: display)
<ESC> & n s [p_n]*5	1Bh 26h n s data	Define user font pattern n=code for first character, s=code for last character

5.7 DSP-800 Mode Command Set

Command	Code (hex)	Function Description
EOT SOH I n ETB	04 01 49 n 17 n=00~0Fh or 30~3Fh	Select International character set (see Table 5-C)
EOT SOH P n ETB	04 01 50 n 17 31h≦n≦58h	Move cursor to specified position
EOT SOH C n m ETB	04 01 43 n m 17 31h≦n≦m≦58h	Clear display range from n to m position and move cursor to n
EOT SOH S n ETB	04 01 53 n 17 31h≦n≦35h	Save the current view data to n layer for demo display
EOT SOH D n m ETB	04 01 44 n m 17 31h≦n≦4Fh 31h≦m≦33h	Display the saved demo message (see Table 5-D)
EOT SOH A n ETB	04 01 41 n 17 31h≦n≦3Ah	Contrast adjustment
EOT SOH F n ETB	04 01 46 n 17 00h≦n≦FFh	Blink display screen n=00h for no blink
EOT SOH = n ETB	04 01 3D n 17 n=31h, 32h, 33h	Select peripheral device. n=31h, select printer n=32h, select display
EOT SOH % ETB	04 01 25 17	Initialize display
EOT SOH @ ETB	04 01 40 17	Execute self-test

n	International Font
30h	USA
31h	France
32h	Germany
33h	UK
34h	Denmark I
35h	Sweden
36h	Italy
37h	Spain
38h	Japan
39h	Norway
3Ah	Denmark II

m	Show mode
bit 0=1	Show mode 1
bit 1=1	Show mode 2

n	Layer Select
bit 0=1	Layer 1
bit 1=1	Layer 2
bit 2=1	Layer 3
bit 3=1	Layer 4
bit 4=0	Layer 5

CHAPTER 6

CHRACATERSET

6.1 Character Code (20h-7Eh)

6.1.1 USA Standard Character Set

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
20h		!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
30h	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
40h	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
50h	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	
60h	`	a	b	c	d	e	F	g	h	i	j	k	l	m	n	o
70h	p	q	r	s	t	u	V	w	x	y	z	{	|	}	~	

6.1.2 International Character Set

Country	Hex / Dec	Character Code Number											
	Hex	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
	Dec	35	36	64	91	92	93	94	96	123	124	125	126
U.S.A		#	$	@	[	\	]	^	`	{	|	}	~
France		#	$	à	°	ç	§	^	`	é	ù	è	¨
Germany		#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	β
U.K		£	$	@	[	\	]	^	`	{	|	}	~
Denmark I		#	$	@	Æ	Ø	Å	^	`	æ	ø	å	~
Sweden		#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
Italy		#	$	@	°	\	é	^	ù	à	ò	è	ì
Spain		Pt	$	@	¡	Ñ	¿	^	`	¨	ñ	}	~
Japan		#	$	@	[	¥	]	^	`	{	|	}	~
Norway		#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Denmark II		#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Slavonic		#	$	@	[	\	]	^	`	{	|	}	~
Russia		#	$	@	[	\	]	^	`	{	|	}	~
Portuguese		#	$	@	[	\	]	^	`	{	|	}	~

6.2 Character Code Page (80h-FFh)

6.2.1 Page 0 PC437: USA, Standard Europe

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
90H	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	¢	£	¥	Pt	ƒ
A0H	á	í	ó	ú	ñ	Ñ	a	o	¿	⌐	¬	½	¼	¡	«	»
B0H	▒	▒	■	▏	┤	╡	╢	╖	╕	╣	▏	╗	╝	╜	╛	┐
C0H	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
D0H	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	■	▬	▌	▐	■
E0H	α	ß	Γ	π	Σ	σ	µ	τ	Φ	θ	Ω	δ	∞	ø	ϵ	∩
F0H	≡	±	≥	≤	⌠	⌡	÷	≈	°	•	·	√	n	2	■	SP

6.2.2 Page 1 : KATAKANA : Japanese

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	α	β	γ	⊿	ϵ	η	θ	λ	μ	π	ρ	σ	τ	Φ	Ω	Σ
90H	£	§	IE	IR	∫	□	□	⁻¹	²	³	×	½	1/	√	±	■
A0H		。	「	」	、	•	ヲ	ァ	ィ	ゥ	ェ	ォ	ャ	ュ	ョ	ッ
B0H	ー	ア	イ	ウ	エ	オ	カ	キ	ク	ケ	コ	サ	シ	ス	セ	ソ
C0H	タ	チ	ツ	テ	ト	ナ	ニ	ヌ	ネ	ノ	ハ	ヒ	フ	ヘ	ホ	マ
D0H	ミ	ム	メ	モ	ヤ	ユ	ヨ	ラ	リ	ル	レ	ロ	ワ	ン	゛	゜
E0H	↑	↓	←	→							"	“	《	》	∴	∵
F0H	□	□	≠	≒	‖	|	⊥	□	□	~	~	≡	∓	□	⊕	Θ

6.2.3 Page 2 PC858 : Multilingual + Euro Symbol

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
90H	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	×	ƒ
A0H	á	í	ó	ú	ñ	Ñ	a	o	¿	®	¬	½	¼	¡	«	»
B0H	▒	▒	■	▏	┤	Á	Â	À	©	╣	▏	╗	╝	¢	¥	┐
C0H	└	┴	┬	├	─	┼	ã	Ã		┏			┣	═	╋	¤
D0H	ð	Ð	Ê	Ë	È	€	Í	Î	Ï	┘	┌	■	▬	¦	Ì	■
E0H	Ó	ß	Ô	Ò	õ	Õ	µ	þ	Þ	Ú	Û	Ù	ý	Ý	¯	´
F0H	¯	±	=	¾	¶	§	÷	¸	°	¨	·	1	3	2	■	NBSP

6.2.4 Page 3 PC860 : Portuguese

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	Ç	ü	é	â	ã	à	Á	ç	ê	Ê	è	ï	Ô	ì	Ä	Å
90H	É	À	È	ô	ö	ò	ú	ù	ì	Ö	Ü	ø	£	ù	Pt	ó
A0H	á	í	ó	ú	ñ	Ñ	a	o	¿	Ò	¬	½	¼	¡	«	»
B0H	▒	▓	■	▏	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
C0H	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
D0H	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	■	▬	▌	▐	■
E0H	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	ø	ε	∩
F0H	≡	±	≥	≤	⌠	⌡	÷	≈	°	•	.	√	n	2	■	

6.2.5 Page 4 PC863 : Canadian-French

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	Ç	ü	é	â	Â	à	¶	ç	ê	ë	è	ï	î	=	À	§
90H	É	È	Ê	ô	Ë	Ï	û	ù	¤	Ô	Ü	¢	£	Ù	Û	ƒ
A0H	¦	´	ó	ú	¨	¸	³	¯	Î	⌐	¬	½	¼	¾	«	»
B0H	▒	▓	▓	▏	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
C0H	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
D0H	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
E0H	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	ø	ε	∩
F0H	≡	±	≥	≤	⌠	⌡	÷	≈	°	•	.	√	n	2	■	

6.2.6 Page 5 PC865 : Nordic

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	Ç	ü	é	â	ä	à	å	ç	ê	Ë	è	ï	î	ì	Ä	Å
90H	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	Pt	ƒ
A0H	á	í	ó	ú	ñ	Ñ	a	o	¿	⌐	¬	½	¼	¡	«	¤
B0H	▒	▓	■	▏	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
C0H	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
D0H	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▉	▄	▌	▐	▀
E0H	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	ø	ε	∩
F0H	≡	±	≥	≤	⌠	⌡	÷	≈	°	•	.	√	n	2	■	

6.2.7 Page 6 : Russia

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	А	Б	В	Г	Д	Е	Ж	З	и	Й	К	Л	М	Н	О	П
90H	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
A0H	а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п
B0H																
C0H																
D0H																
E0H	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я
F0H	Ё	ё	K	H	θ	¥	Y	h	ə		k	H	θ	¥	Y	

6.2.8 Page 7 : Slavonic

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	Ç	ü	é	â	ä	ů	ć	ç	Ţ	ë	Õ	õ	î	Ź	ä	Ć
90H	é	Ĺ	í	ô	ö	Ľ	ľ	ś	ś	Ö	Ü	ť	ť	Ł	x	č
A0H	á	í	ó	ú	ą	ą	ž	ž	ę	ę		ź	č	ş	«	»
B0H	▒	▓	■	│	┤	á	â	ě	Ş					ż	ż	
C0H					—	┼	ă	ă						═		¤
D0H	đ	Đ	Ď	Ë	ď	Ň	í	î	ě			▇	▬	ţ	Ů	■
E0H	Ó	ß	Ô	ń	ń	ň	š	š	ŕ	Ú	ŕ	Ű	ý	Ý	ţ	
F0H	-	˝	˛	ˇ	˘	§	÷		°	¨	·	ű	ŕ	ř	■	

6.2.9 Page 8 PC852 : Latin2

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	Ç	ü	é	â	ä	ů	ć	ç	ł	ë	Ő	ő	î	Ź	Ä	Ć
90H	É	Ĺ	Í	ô	ö	Ľ	Ĺ	Ś	ś	Ö	Ü	Ť	ť	Ł	×	č
A0H	á	í	ó	ú	Ą	ą	Ž	ž	Ę	ę	¬	ź	Č	ş	«	»
B0H	▒	▓	▓	│	┤	Á	Â	Ě	Ş	╣	║	╗	╝	Ż	ż	┐
C0H	└	┴	┬	├	─	┼	Ă	ă	╚	╔	╩	╦	╠	═	╬	¤
D0H	đ	Đ	Ď	Ë	ď	Ň	Í	Î	ě	┘	┌	▉	▄	Ţ	Ů	■
E0H	Ó	ß	Ô	Ń	ń	ň	Š	š	Ŕ	Ú	ŕ	Ű	ý	Ý	ţ	´
F0H	-	˝	˛	ˇ	˘	§	÷	¸	°	¨	·	ű	Ř	ř	■	

6.2.10 Page 9 : PC866

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	А	Б	В	Г	Д	Е	Ж	З	и	Й	К	Л	М	Н	О	П
90H	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
A0H	а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п
B0H	▒	▓	■	│	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
C0H	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
D0H	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	■	▄	▌	▐	▀
E0H	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я
F0H	Ё	ё	Є	є	Ї	ї	Ў	ў	°	∙	·	√	№	¤	■	SP

6.2.11 Page 10: WPC1253

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	€		‚	ƒ	„	…	†	‡		‰		‹				
90H		‘	’	“	”	•	–	—		™		›				
A0H				£	¤	¥	¦	§	¨	©	a	«	¬	-	®	―
B0H	°	±	2	3	΄	µ	¶	·	Έ	Ή	Ί	»	Ό	½	Ύ	Ώ
C0H	ΐ	Α	Β	Γ	Δ	Ε	Ζ	Η	Θ	Ι	Κ	Λ	Μ	Ν	Ξ	Ο
D0H	Π	Ρ		Σ	Τ	Υ	Φ	Χ	Ψ	Ω	Ϊ	Ϋ	ά	έ	ή	ί
E0H	ΰ	α	β	γ	δ	ε	ζ	η	θ	ι	κ	λ	μ	ν	ξ	ο
F0H	π	ρ	ς	σ	τ	υ	φ	χ	ψ	ω	ϊ	ϋ	ό	ύ	ώ	

6.2.12 Page 11 : PC857

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ı	Ä	Å
90H	É	æ	Æ	ô	ö	ò	û	ù	İ	Ö	Ü	ø	£	Ø	Ş	ş
A0H	á	í	ó	ú	ñ	Ñ	Ğ	ğ	¿	®	¬	½	¼	¡	«	»
B0H	▒	▓	■	│	┤	Á	Â	À	©	╣	║	╗	╝	¢	¥	┐
C0H	└	┴	┬	├	─	┼	ã	Ã	╚	╔	╩	╦	╠	═	╬	¤
D0H	º	ª	Ê	Ë	È	€	Í	Î	Ï	┘	┌	■	▄	¦	Ì	▀
E0H	Ó	ß	Ô	Ò	õ	Õ	µ		×	Ú	Û	Ù	ì	ÿ	¯	´
F0H		±	=	¾	¶	§	÷	¸	°	¨	·	1	3	2	■	SP

6.2.13 Page 12: PC862

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	א	ב	ג	ד	ה	ו	ז	ח	ט	י	ך	כ	ל	ם	מ	ן
90H	נ	ס	ע	ף	פ	ץ	צ	ק	ר	ש	ת	¢	£	¥	Pts	ƒ
A0H	á	í	ó	ú	ñ	Ñ	a	o	¿	⌐	¬	½	¼	¡	«	»
B0H	░	▒	■	│	┤	╡	╢	╖	╕	╣	║	╗	╝	╜	╛	┐
C0H	└	┴	┬	├	─	┼	╞	╟	╚	╔	╩	╦	╠	═	╬	╧
D0H	╨	╤	╥	╙	╘	╒	╓	╫	╪	┘	┌	▀	▄	▌	▐	▪
E0H	α	ß	Γ	π	Σ	σ	µ	τ	Φ	Θ	Ω	δ	∞	ø	ε	∩
F0H	≡	±	≥	≤	⌠	⌡	÷	≈	°	•	·	√	ⁿ	²	■	

6.2.14 Page 13: ISO8859-8

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H																
90H																
A0H		¡	¢	£	¤	¥	¦	§	¨	©	a	«	¬	-	®	¯
B0H	°	±	2	3	´	µ	¶	·	¸	1	o	»	¼	½	¾	
C0H																
D0H																=
E0H	א	ב	ג	ד	ה	ו	ז	ח	ט	י	ך	כ	ל	ם	מ	ן
F0H	נ	ס	ע	ף	פ	ץ	צ	ק	ר	ש	ת	ב				

6.2.15 Page 14 : ISO8859-9

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H																
90H																
A0H		¡	¢	£	¤	¥	¦	§	¨	©	a	«	¬	-	®	¯
B0H	°	±	2	3	´	µ	¶	·	¸	1	o	»	¼	½	¾	¿
C0H	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
D0H	Ğ	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	İ	Ş	ß
E0H	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
F0H	ğ	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ı	ş	ÿ

6.2.16 Page 15 WPC1251: Cyrillic (Slavic)

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	Ъ	Ѓ	‚	ѓ	„	…	†	‡	€	‰	Љ	‹	Њ	Ќ	Ћ	Џ
90H	ђ	‘	’	“	”	•	–	—		™	љ	›	њ	ќ	ћ	џ
A0H		Ў	ў	Ј	¤	Ґ	¦	§	Ё	©	Є	«	¬	-	®	Ї
B0H	°	±	І	і	ґ	µ	¶	·	ё	№	є	»	ј	S	s	ї
C0H	А	Б	В	Г	Д	Е	Ж	З	И	Й	К	Л	М	Н	О	П
D0H	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
E0H	а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п
F0H	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я

6.2.17 Page 16 WPC1257

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	€		‚		„	…	†	‡		‰		‹		¨	ˇ	¸
90H		‘	’	“	”	•	–	—		™		›		¯	˛	
A0H			¢	£	¤		¦	§	Ø	©	Ŗ	«	¬	-	®	Æ
B0H	°	±	²	³	´	µ	¶	·	ø	¹	ŗ	»	¼	½	¾	æ
C0H	Ą	Į	Ā	Ć	Ä	Å	Ę	Ē	Č	É	Ź	Ė	Ģ	Ķ	Ī	Ļ
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6.2.18 Page 17 WPC1252 : West European Latin

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	€	¨	‚	ƒ	„	…	†	‡	ˆ	‰	Š	‹	Œ		Ž	
90H		‘	’	“	”	•	–	—	˜	™	š	›	œ		ž	Ÿ
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B0H	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
C0H	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
D0H	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
E0H	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
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6.2.19 Page 18 PC737 : Greek

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	A	B	Γ	Δ	E	Z	H	Θ	I	K	Λ	M	N	Ξ	O	Π
90H	P	Σ	T	Y	Φ	X	Ψ	Ω	α	β	γ	δ	ε	ζ	η	θ
A0H	ι	κ	λ	μ	ν	ξ	ο	π	ρ	σ	ς	τ	υ	φ	χ	ψ
B0H																
C0H																
D0H																
E0H	ω															
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6.2.20 Page 19 PC850: Multilingual

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
80H	Ç	ü	é	â	ä	à	å	ç	ê	ë	è	ï	î	ì	Ä	Å
90H	É	æ	Æ	ô	ö	ò	û	ù	ÿ	Ö	Ü	ø	£	Ø	×	ƒ
A0H	á	í	ó	ú	ñ	Ñ	a	o	¿	®	¬	½	¼	¡	«	»
B0H	▒	▓	■	|	┤	Á	Â	À	©	╣	‖	╗	╝	¢	¥	┐
C0H	└	┴	┬	├	─	┼	ã	Ã	╚	╔	╩	╦	╠	═	╬	¤
D0H	ð	Ð	Ê	Ë	È	ı	Í	Î	Ï	┘	┌	■	▬	¦	Ì	■
E0H	Ó	ß	Ô	Ò	õ	Õ	µ	þ	Þ	Ú	Û	Ù	ý	Ý	¯	´
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