Kit Instructions

2x20 LCD Customer Display

4505-K450/452
Issue A

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Revision Record

Issue	Date	Remarks
A	Nov 2018	First Issue

2x20 Customer Display

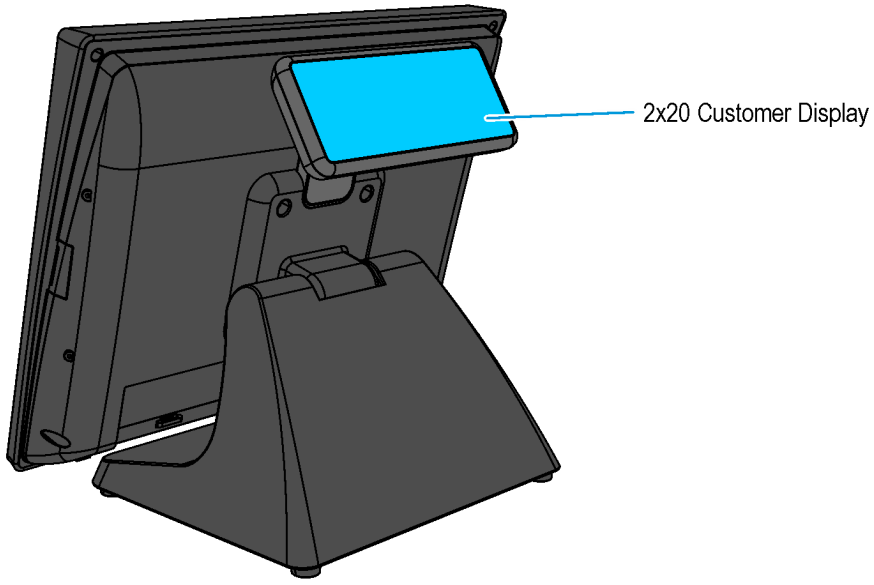
Introduction

This document provides procedures for installing the 2x20 LCD Customer Display on the EX15 POS.

The 2x20 LCD Customer Display is mounted on the back of the stand. It interfaces to the terminal through an RS232 connection using one of the COM ports in the display head.

The following options are available for the 2x20 Customer Display:

- International Character
- Simplified Chinese



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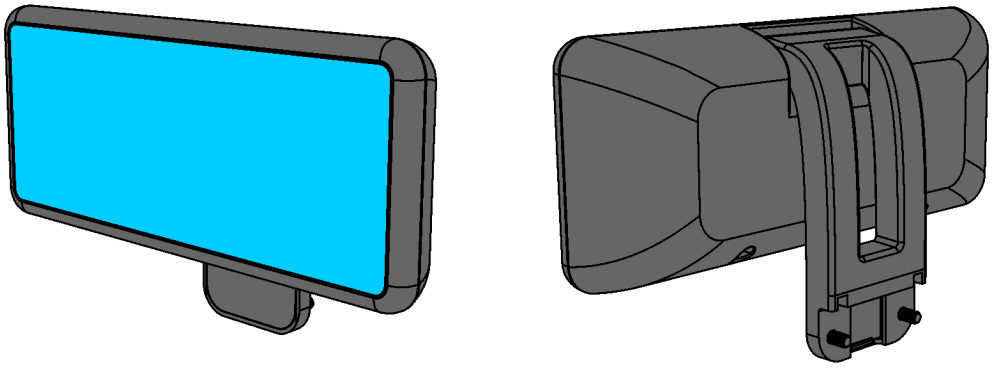
Kit Components



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Kit Number	Part Number	Description
4505-K450	497-0522773	Customer Display, 2x20 LCM, 20 columns x 2 lines (International Character)
4505-K452	497-0522775	Customer Display, 2x20 LCM, 20 columns x 2 lines (Simplified Chinese)

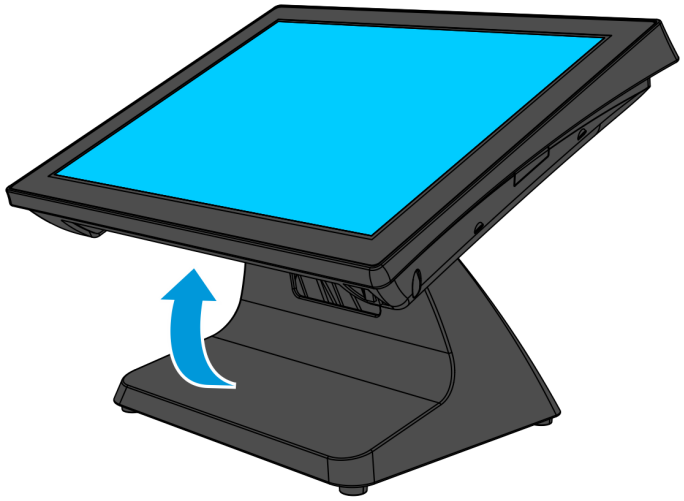
Installation Procedures

To install the 2x20 Customer Display, perform the following procedures:

1. Lay the terminal face down.
2. Remove the stand.
3. Install the Customer Display.
4. Re–install the stand.
5. Connect the Customer Display cable to the terminal port.

Laying the Terminal Face Down

1. Pivot the display toward the back.



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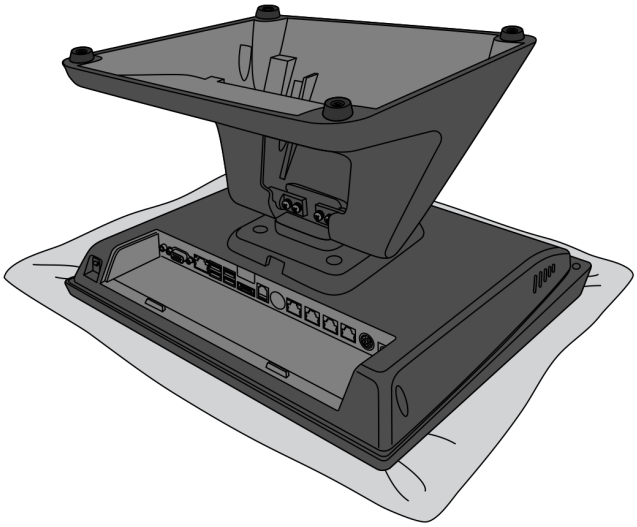
2. Lay the terminal face down on a flat surface.

Caution: Always use a soft material (cloth, foam) to protect the display screen when placing the terminal face down.



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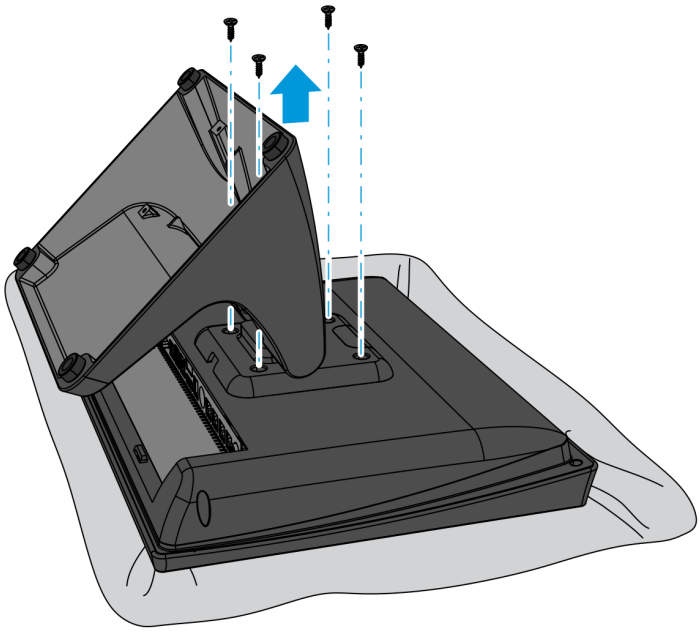
Removing the Stand

1. Remove the four screws that secure the stand to the back of the display.



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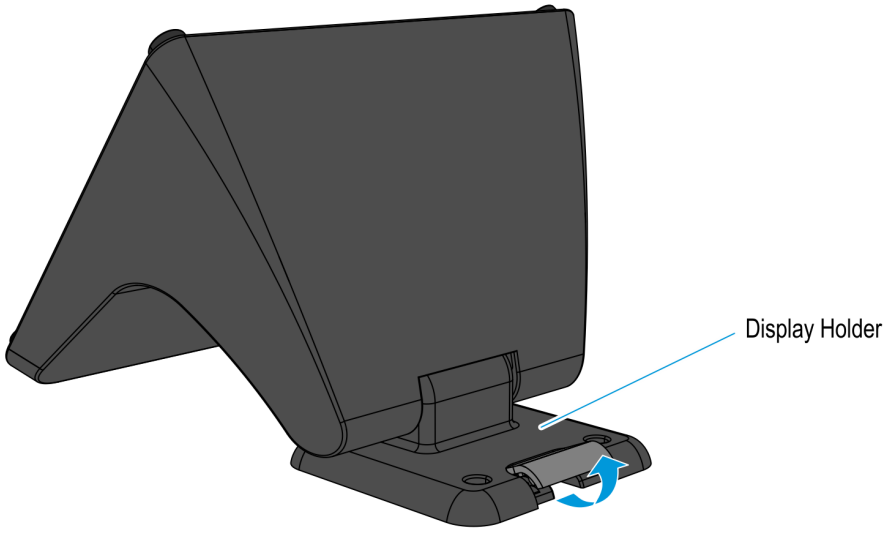
2. Remove the stand and lay it down on a flat surface.

Installing the 2x20 Customer Display

1. Remove the compartment cover on the display holder.



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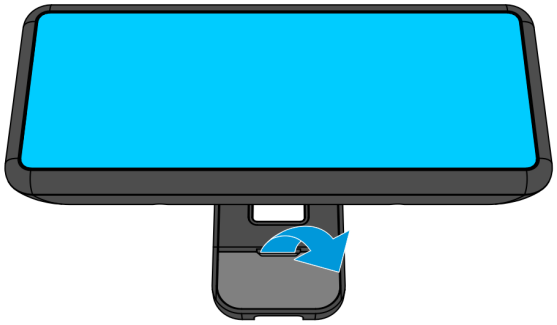
2. Remove the compartment cover on the neck of the Customer Display.



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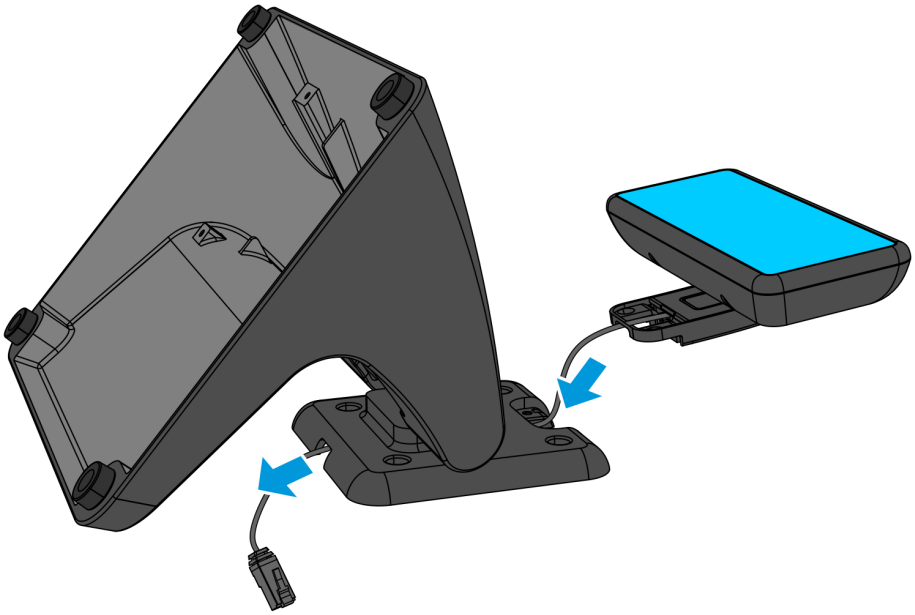
3. Route the Customer Display Cable through the compartment on the display holder.



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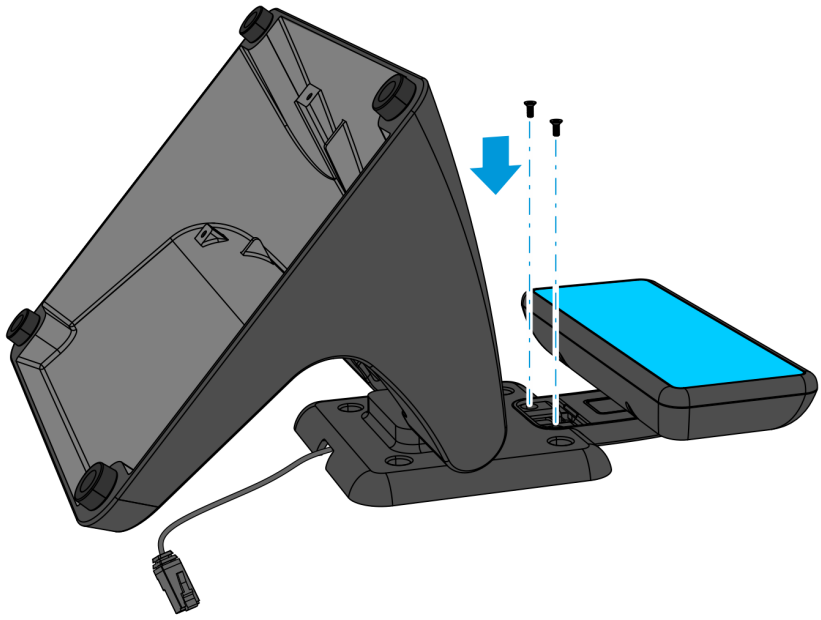
4. Position the neck of the Customer Display onto the display holder compartment, and then secure with two M4x6.5 screws.



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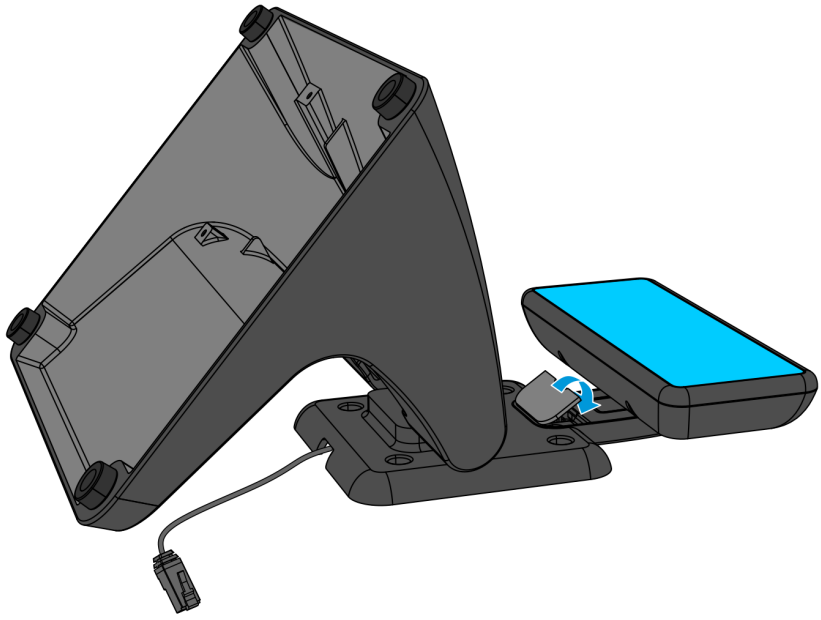
5. Re–install the compartment cover on the neck of the Customer Display.



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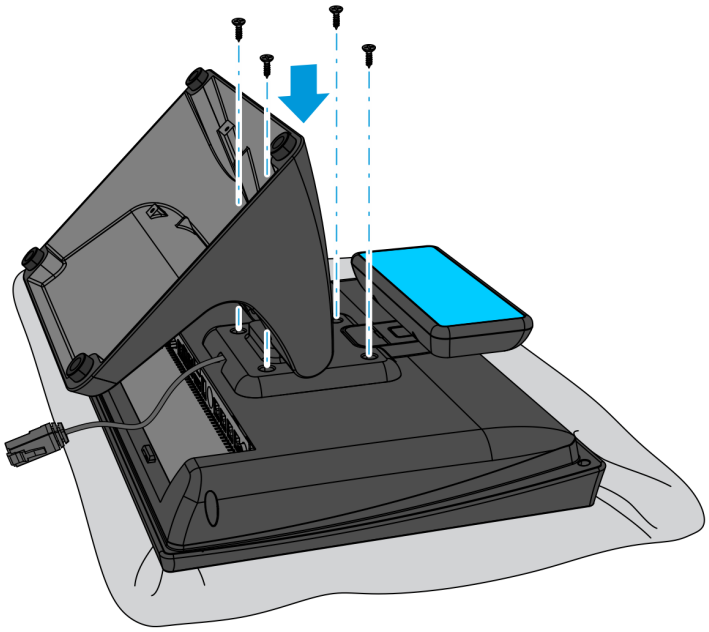
6. Position the stand onto the back of the display, and then secure with four M4x10 screws.

Note: Ensure that the Customer Display Cable is not pinched.



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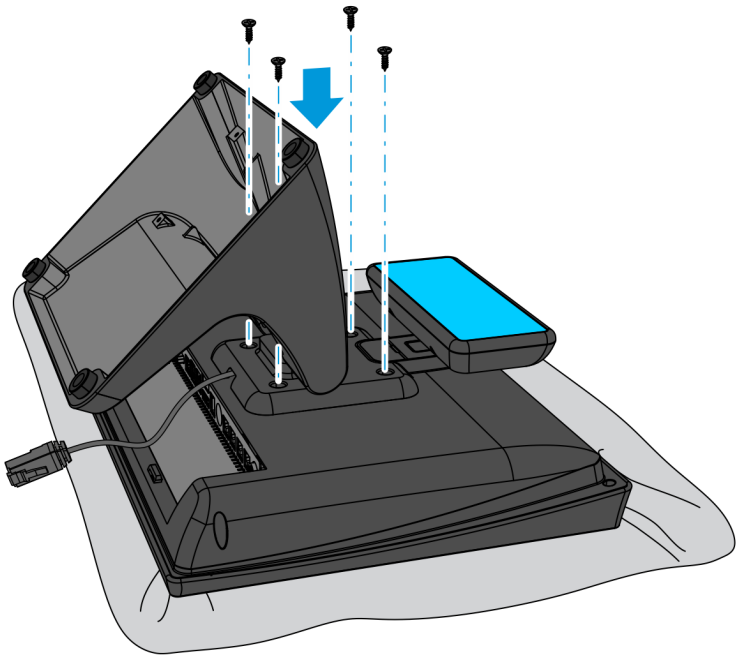
Installing the Stand

Position the stand onto the back of the display, and then secure with four M4x10 screws.

Note: Ensure that the Customer Display Cable is not pinched.



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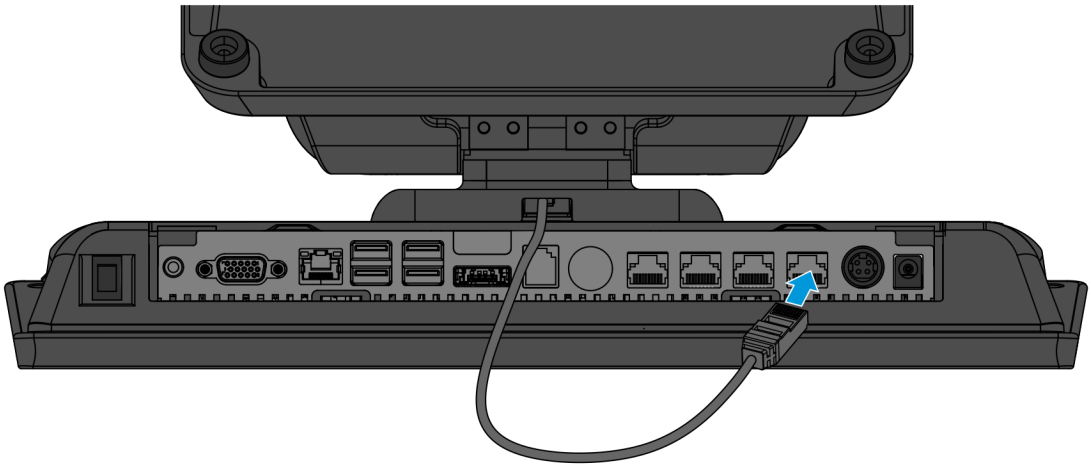
Connecting the Cables

Connect the Customer Display Cable to one of the COM ports.



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The 2x20 Customer Display has the following voltage requirement and COM port settings:

Vdc	+5V
Baud rate	9600
Data bits	8 bits
Stop bits	1 bit
Parity	None

Configurable Settings

This section discusses the following settings for the 2x20 customer display:

- Command set
- Character set
  - International Font
  - Font Variations
  - Language
  - ASCII Font

Command Set

Command	Code (hex)	Description
ESC @	1B 40	Initialize
CLR	0C	Clear screen
Us C *n*	1F 43 *n* (n=1, 0)	Set/cancel cursor display
ESC - *n*	1B 5F *n* (*n*=1, 0)	Set/cancel cursor display
HT	09	Cursor right
BS	08	Cursor left
LF	0A	Cursor down
Us Lf	1F 0A	Cursor up
HOM	0B	Cursor home
CR	0D	Cursor left-end
Us CR	1F 0D	Cursor right-end
Us B	1F 42	Cursor to the bottom
Us $ *x y*	1F 24 *x* y (01h<=*x*<=18h, 01h<=*y*<=02h)	Cursor to specified position
ESC 1 *x* y	1B 6C *x y* (01h<=*x*<=18h, 01h<=*y*<=02h)	Cursor to specified position
ESC Q A	1B 51 41 [datax24 (BIG5)] 0D	Set string display mode, write string to upper line
ESC R *n*	1B 52 n 00h<=*n*<=0Fh	Select international character set for character range 20h-7Fh (Default *n* = 0)
ESC Q B	1B 51 42 [datax24 (BIG5)] 0D	Set string display mode, write string to lower line
Us r *n*	1F 72 *n* (*n*=0,1)	Set/cancel reverse character (Default *n* = 0)
Us X *n*	1F 58 *n* 01h<=*n*<=0Ah	Adjust contrast. Command process time 100ms
Us F	1F 46	Tune down contrast. Command process time 100ms
Us G	1F 47	Tune up contrast. Command process time 100ms
ESC t *n*	1B 74 *n* 00h<=*n*<=0Ah	Select code table for character range 80h-FFh (Default *n* = 0)
Us A	1F 41 00	Version & Checksum status

Character Set

International Font Set (20h–7Fh)

n	International Font Set
0	U.S.A.
1	France
2	Germany
3	U.K.
4	Denmark I
5	Sweden
6	Italy
7	Spain
8	Japan
9	Norway
A	Denmark II
B	Slavonic
C	Russia
D	Reserved
E	Reserved
F	Reserved

Font Variations (20h–7Fh)

n	Country	23	24	40	5B	5C	5D	5T	60	7B	7C	7D	7T
0	U.S.A.	#	$	@	[	\	]	^	`	{	|	}	~
1	France	#	$	à	°	ç	§	^	`	é	ù	è	¨
2	Germany	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	β
3	U.K.	£	$	@	[	\	]	^	`	{	|	}	~
4	Denmark I	#	$	@	Æ	Φ	Å	^	`	æ	ø	å	~
5	Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
6	Italy	#	$	@	°	\	é	^	ù	à	ò	è	ì
7	Spain	Pt	$	@	¡	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	#	$	@	[	\	]	^	`	{	|	}	~

Supported Languages

Language	Code	Code range	Font size
U.S.A.	ASCII	20-7F	8X16
Traditional Chinese	BIG5	A140-F9DC	16X16

ASCII Front Table

	00	20	30	40	50	60	70
0	Reserved	SPACE	0	@	P	`	p
1	Reserved	!	1	A	Q	a	q
2	Reserved	“	2	B	R	b	r
3	Reserved	#	3	C	S	c	s
4	Reserved	$	4	D	T	d	t
5	Reserved	%	5	E	U	e	u
6	Reserved	&	6	F	V	f	v
7	€	‘	7	G	W	g	w
8	Command	(	8	H	X	h	x
9	Command	)	9	I	Y	i	y
A	Command		:	J	Z	j	z
B	Command	+	;	K	[	k	{
C	Command	,	<	L	\	l	|
D	Command	-	=	M	]	m	}
F	Command	.	>	N	^	n	~
G	Command	/	?	O	_	o	