



VP-729/ 730/ 725XLA/ 725H Text Overlay Commands List

History

No	Issue Date	Version	Description	Apply Firmware
1.	2010/08/23	V1.00	First build for Text Overlay 2.0	NA

***Notice:**

1. The text overlay 2.0 commands list is for VP-729/ 730/ 725XLA/ 725H
2. The blue highlight  means the latest update
3. The yellow highlight  means the deleted item.

1 Communication Configuration:

1.1 UART

- 1.1.1 Baud rate : 9600(Bits per second)
- 1.1.2 Data bits : 8bits
- 1.1.3 Parity : None
- 1.1.4 Stop bits : 1bit
- 1.1.5 Byte time out : 500 ms

1.2 Ethernet

- 1.2.1 IP : depend on user setting
- 1.2.2 Port Number : 10001

2 Command Format:

2.1 Communication confirm

Send	CR
Reply	CRLF>

- 2.1.1 **CR** : Ascii Code 0x0D
- 2.1.2 **CRLF** : Ascii Code 0x0D+0x0A
- 2.1.3 **>** : 0x3E

2.2 Set Command

2.2.1 Format : Package1 + Package2

2.2.1.1 Package1 = Start Code + Block1 + Block2 + Block3 + Block4 + Checksum + End Code

2.2.1.1.1 Start Code = 0x40 (symbol "@", fixed value)

2.2.1.1.2 End Code = 0x24 (symbol "\$", fixed value)

2.2.1.1.3 Checksum = Sum (Sum(Block1), Sum(Block2), Sum(Block3), Sum(Block4)) and 0xFFFF

2.2.1.1.4 Block1 = 0x0080 (fixed value), number of environment parameters in byte after being translated (refer to 2.2.2), ie. translated before numbers of parameter must be 32 bytes, after being translated, the result become 128 bytes

2.2.1.1.5 Block2 = 0x0004 ~ 0x0208, number of character in Byte after being translated (refer to 2.2.2), ie. translated before range of number of character is 1~ 130 bytes, after being translated, the values changed to 4 ~ 520 bytes

2.2.1.1.6 Block3 = Environment Parameters

2.2.1.1.6.1 Format of Block3 : Parameter1 + Parameter2 + Parameter3 ++ Parameter32

2.2.1.1.6.2 Each time of command sending, Parameter1 to Parameter 32 is necessary even though they are not changed or used

2.2.1.1.6.2.1 Parameters :

Parameter number	Value	Description
1	0x0001 : Turn OFF Text Overlay Temporarily 0x0002 : Turn ON Text Overlay (Scrolling Data will be displayed immediately) 0x0003 : Send Text Overlay (Scrolling Data will be displayed after next period) 0x0004 : Exit Text Overlay	Set Text Overlay Status
2	0x0001 : Still 0x0002 : Scroll	Display Mode
3	0x0001 : 72 in pixel 0x0002 : 36 in pixel	Character Size
4	0x0001 : Left 0x0002 : Center 0x0003 : Right	Horizontal Position (Available only when Mode = Still)
5	0x0001 : Top 0x0002 : Center 0x0003 : bottom	Vertical Position
6	0x0001 : Normal 0x0002 : Transparent	Transparency
7	0x0001 : Low 0x0002 : High	Move Speed

Parameter number	Value	Description
8	0x0001 : Red 0x0002 : Green 0x0003 : Blue 0x0004 : Cyan 0x0005 : Magenta 0x0006 : Yellow 0x0007 : White 0x0008 : Black	Character Color
9	0x0001 : Red 0x0002 : Green 0x0003 : Blue 0x0004 : Cyan 0x0005 : Magenta 0x0006 : Yellow 0x0007 : White 0x0008 : Black 0x0009 : Off	Background Color
10	0x0001 : 1s 0x0002 : 2s 0x0003 : 3s 0x0004 : 4s 0x0005 : 5s	Blank Time
11	0x0001 ~ 0x0014 : 1 ~ 20 times 0xFF: Forever	Scrolling Repeat
12 - 32	0x0001	Reserved

- 2.2.1.1.7 Block4 = Character to display
 - 2.2.1.1.7.1 Decode in Unicode 16 (2 bytes)
 - 2.2.1.1.7.2 Characters

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLM
 NOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|
 ~ ¡¢£¥¦§¨ª«¬®¯°±²³´µ¶·¸¹º»¼½¾¿ÀÁÂÃÄÅÆÇÈÉ
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- 2.2.1.2 Package2 = Start Code + Mass1 + Mass2 + Mass3 + End Code
 - 2.2.1.2.1 Start Code = 0x40 (symbol “@”, fixed value)
 - 2.2.1.2.2 Mass1 = 0x0080
 - 2.2.1.2.3 Mass2 = 0x0001 (The numbers of 0x0001 is 33)
 - 2.2.1.2.4 Mass3 = 0x00A1
 - 2.2.1.2.5 End Code = 0x24 (symbol “\$”, fixed value)

2.2.2 Translate :

- 2.2.2.1 Start Code = 0x40, does not need to be translated
- 2.2.2.2 End Code = 0x24, does not need to be translated
- 2.2.2.3 Checksum : Translate Checksum from 4 digits in Hex into 4 bytes into Ascii code

Example : Before Translate	After Translate
0x1234	0x31 + 0x32 + 0x33 + 0x34

2.2.2.4 Block1 : Translate Block1 from 4 digits in Hex into 4 bytes Ascii code, ie.

Block1 before Translate	After Translate
0x0080	0x30 + 0x30 + 0x38 + 0x30

2.2.2.5 Block2 : Translate Block2 from 4 digits in Hex into 4 bytes Ascii code, ie.

Example : Before Translate	After Translate
0x0004	0x30 + 0x30 + 0x30 + 0x34
0x0005	0x30 + 0x30 + 0x30 + 0x35
....
0x0208	0x30 + 0x32 + 0x30 + 0x38

2.2.2.6 Block3 : Translate all parameters into Ascii code, ie. each parameter is translated from 4 digits in Hex into 4 bytes Ascii code

Example : Block3 before Translate	After Translate
Parameter1 + Parameter2 + ...Parameter32	Parameter1 + Parameter2 + ...Parameter32
0x0002 + 0x0001 + ...0x0001	(0x30 + 0x30 + 0x30 + 0x32) + (0x30 + 0x30 + 0x30 + 0x31) + ... (0x30 + 0x30 + 0x30 + 0x32)

2.2.2.7 Block4 : Translate character(s) into Ascii code, ie. each character is translated from Uni-code 16 (4 digits in Hex) into 4 bytes Ascii code

Example : Block4 before Translate	After Translate
Kramer	K r a m e r
0x004B + 0x0072 + 0x0061 + 0x006D + 0x0065 + 0x0072	(0x30 + 0x30 + 0x34 + 0x42) + (0x30 + 0x30 + 0x37 + 0x32) + (0x30 + 0x30 + 0x36 + 0x31) + (0x30 + 0x30 + 0x36 + 0x44) + (0x30 + 0x30 + 0x36 + 0x35) + (0x30 + 0x30 + 0x37 + 0x32)

2.2.2.8 Mass1: Translate Mass1 from 4 digits in Hex into 4 bytes Ascii code, ie.

Mass1 before Translate	After Translate
0x0080	0x30 + 0x30 + 0x38 + 0x30

2.2.2.9 Mass2: Translate Mass2 from 4 digits in Hex into 4 bytes Ascii code, ie.

Example : Before Translate		After Translate
NO:1	0x0001	0x30 + 0x30 + 0x30 + 0x31
NO:2	0x0001	0x30 + 0x30 + 0x30 + 0x31
...
NO:33	0x0001	0x30 + 0x30 + 0x30 + 0x31

2.2.2.10 Mass3: Translate Mass3 from 4 digits in Hex into 4 bytes Ascii code, ie.

Mass3 before Translate	After Translate
0x00A1	0x30 + 0x30 + 0x41 + 0x31

2.2.3 Send command to Machine:

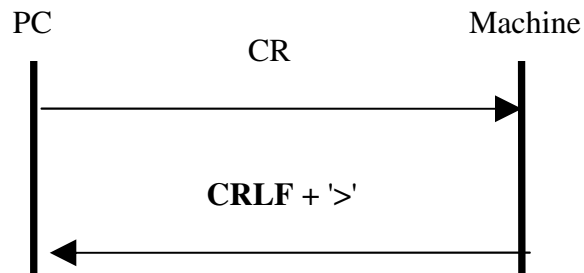
2.2.3.1 Before sending,

2.2.3.1.1 Assemble each Block data to : Package1 + Package2(2.2.1)

2.2.3.1.2 Translate Package1 + Package2 from each 4 digits in Hex into 4 bytes in Ascii code (2.2.2)

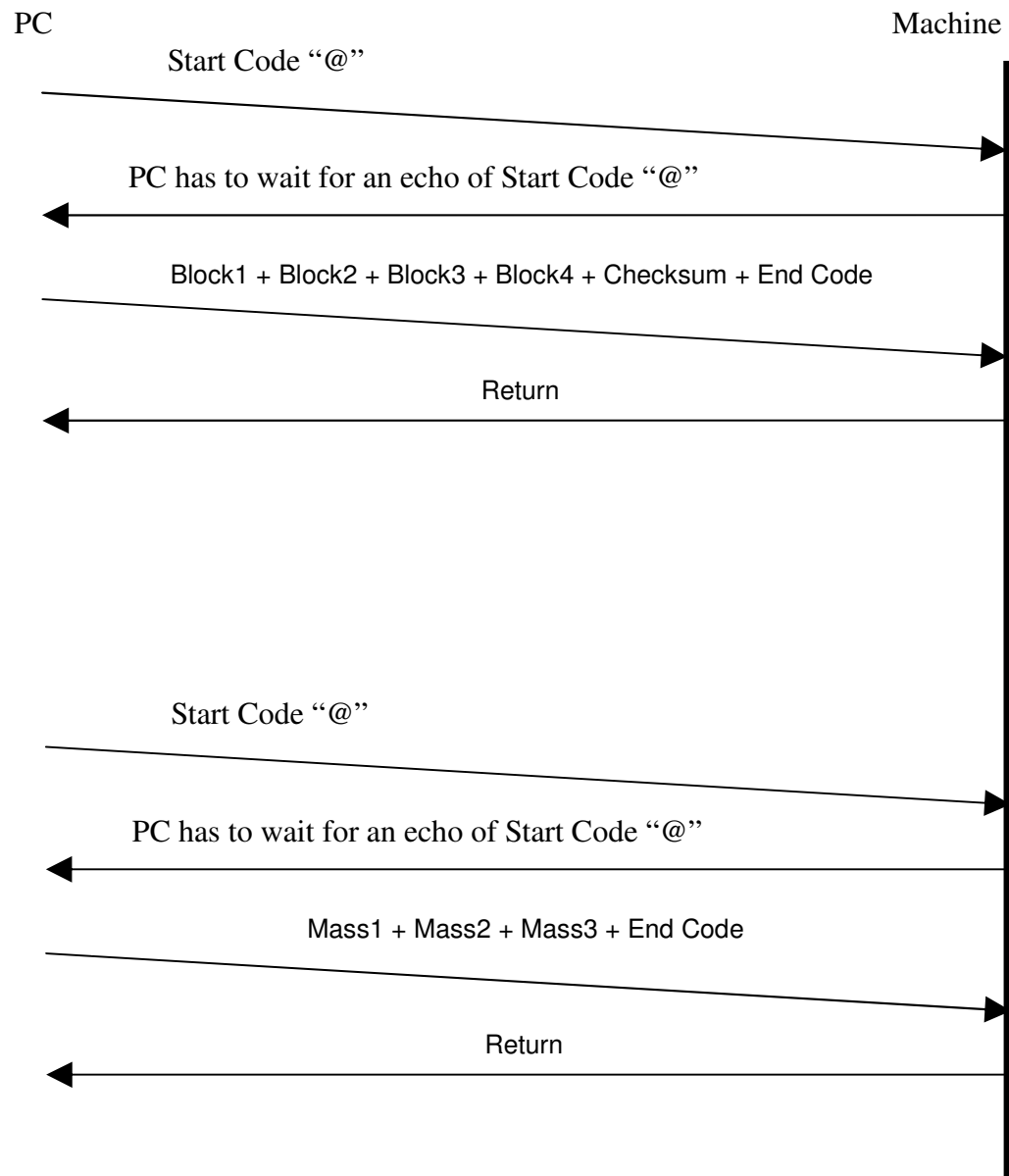
2.2.3.2 Ready to send

2.2.3.2.1 Check if Machine alive or not by "Communication confirm" (2.1)



2.2.3.3 Send Text Overlay command

2.2.3.3.1 Each time of Sending Text Overlay command, It is necessary to follow the procedure as below



2.2.4 Return :

- 2.2.4.1 "Done" in String: Command accepted
- 2.2.4.2 "TimerOut" in String : Receive command byte time out
- 2.2.4.3 "Err 4" in String: Command illegal

2.2.5 Package1 Command

- 2.2.5.1 Format : Start Code + Block1 + Block2 + Block3 + Block4 + Checksum + End Code
- 2.2.5.2 Start Code = 0x40 (symbol "@", fixed value)
- 2.2.5.3 End Code = 0x24 (symbol "\$" , fixed value)
- 2.2.5.4 Checksum = Sum (Sum(Block1), Sum(Block2), Sum(Block3)) and 0xFFFF
- 2.2.5.5 Block1 = 0x0080 (fixed value), number of environment parameters in byte after being translated (refer to 2.2.2), ie. translated before numbers of parameter must be 32 bytes, after being translated, the result become 128 bytes
- 2.2.5.6 Block2 = 0x01
- 2.2.5.7 Block3 = Environment Parameters

2.2.6 Package2 Command

- 2.2.6.1 Format : Start Code + Mass1 + Mass2 + Mass3 + End Code
- 2.2.6.2 Start Code = 0x40 (symbol "@", fixed value)
- 2.2.6.3 Mass1 = 0x0080
- 2.2.6.4 Mass2 = 0x0001 (The numbers of 0x0001 is 33)
- 2.2.6.5 Mass3 = 0x00A1
- 2.2.6.6 End Code = 0x24 (symbol "\$" , fixed value)

3 Limitation:

- 3.1** UART and Ethernet cannot be used at the same time when one of connection type is working
- 3.2** Inappropriate using Text Overlay may cause Machine working slowly or crashed. For example :
 - 3.2.1 Intention to make Machine busy by send too many "Display Character" of Text Overlay
 - 3.2.2 Sending an over range or illegal parameters of Text Overlay command
 - 3.2.3 Turn on Text Overlay when Machine is in a critical condition
 - 3.2.4 An wrong command procedure

- 3.3** For the reason that Text Overlay function is a low end function, if problems are found, it is suggested to avoid machine working improperly by changing AP

control procedure. FW of Machine will not give promise to do any fix or change.