SMALL FORMAT STATION COMMANDS
For :
CREATION STATION PRO
DESIGN STATION PRO
DESIGN STATION
CREATION STATION

NOTE:
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Products and Models covered by this document

Creation Station 4x5 RS232	11050
Creation Station Pro 6x9 RS232	11090
Creation Station Pro 12 x12 RS232	11120
Creation Station Pro 12 x18 RS232	11180
Design Station 4x5 RS232	35050
Design Station Pro 12 x12 RS232	35120
Design Station Pro 12 x18 RS232	35180

RS232 unit powers up as:
19200 8 n 1
Format 20 with extended data enabled.
Increment run mode.
Out of proximity data enabled.

OPERATING MODES

RUN MODE - The digitizer outputs coordinate data continuously.

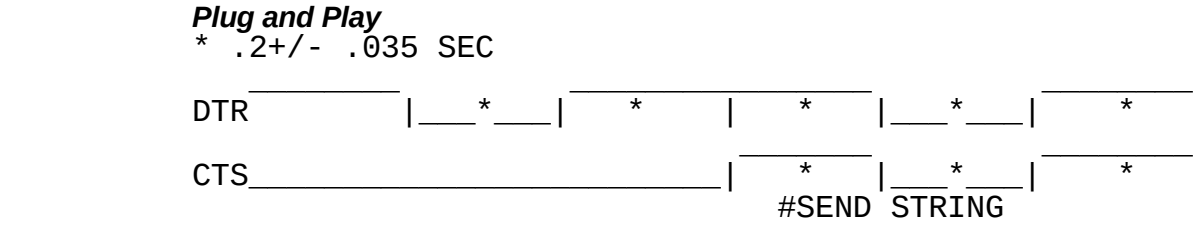
INCREMENT MODE FILTER- puts a movement filter on the data in any mode. The transducer must move N counts before the data can be sent. Then both axis data are updated. If out of proximity data is enabled and in increment mode 1 data point may be sent on leaving proximity. Changes in Button State and pressure will also generate an Increment event.

PROMPT MODE MODIFIER- places the additional restriction on data transmission that the host must transmit a prompt character to the tablet for each data point output. All other rules of normal operation apply. The prompt character is "?". Prompting is a feature, which operates in conjunction with any of the above standard modes.

SEND DATA OUT OF PROXIMITY MODE MODIFIER- If this flag is set coordinate data will be sent when it meets the output conditions in or out of the active area. Cordless units may not respond to button information until cursor is close to tablet. NOTE this command should be sent after the mode commands.

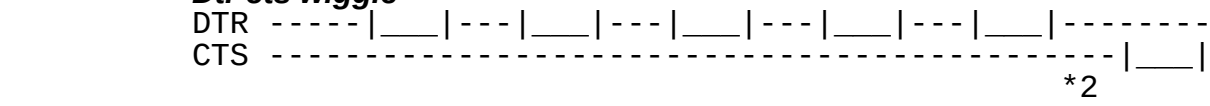
SEND DATA IN MARGIN - if this flag is set coordinate data point will be sent when it meets the output conditions in the active area or when in margins. NOTE margins on some of the tablets are very small and are larger leaving the tablet than coming in to the tablet.

Plug and Play



DTR goes high and then within .165 sec to .235 sec CTS goes high. Then tablet sends the “plug and play” string at 1200 baud 7 data no parity 2 stop bits. The string could be "(^a$CAL0012\\TABLET\\xx X yy tablet cs) cr lf" or similar. See plug and play spec for more information.

Dtr cts wiggle



CTS should be high well before DTR is dropped (1/18). DTR low times should be at lest one timer tick (1/18) long and no longer than 2 ticks. This wiggle does not work 100% like older products. It is the same as sending Esc % C 1 N 8 1 cr and ESC % A 0 cr. And go to effect at *2. CTS should be low for at least 1 timer tick and DTR should be high during this time. At time *3 the tablet will send "T". and for each time CTS is toggled one more T will be sent. To get out of this mode send the tablet esc % VR cr (hard reset) or use the esc %A1 command.

FORMATS

20 format AFT

	7 6 5 4 3 2 1 0	
1	1 C4 C3 C2 C1 C0 X15 X14	PR 0= in proximity 1= out of proximity
2	0 X13 X12 X11 X10 X9 X8 X7	Sdf= 0 byte 10 is height data
3	0 X6 X5 X4 X3 X2 X1 X0	Sdf = 1 byte 10 is special data
4	0 sdf PR (X17 X16 Y16)Y15 Y14	TILT 40 TO 3F HEX 00= VERT.
5	0 Y13 Y12 Y11Y10 Y9 Y8 Y7	
6	0 Y6 Y5 Y4 Y3 Y2 Y1 Y0	PRESSURE 0 TO 127
7	0 XT6 XT5 XT4 XT3 XT2 XT1 XT0	HEIGHT 0 TO 127 OR SPECIAL DATA
8	0 YT6 YT5 YT4 YT3 YT2 YT1 YT0	IT CAN FLAG TRANSDUCER TYPE AND
9	0 P6 P5 P4 P3 P2 P1 P0	PRESSURE LSB's
10	0 H6 H5 H4 H3 H2 H1 H0	
	0 0 0 0 0 0 p-1 p-2 extra pressure	
	0 0 0 1 T3 t2 t1 t0 transducer type	
	0 0 1 x reserved	
	0 1 x x reserved	

Transducer types

0	pressure pen	4	unknown type
1,2,6 and 8-15	reserved	5	click tip pen
3	16 button cursor	7	5 button mouse

23 format

	7 6 5 4 3 2 1 0	
1	1 C4 C3 C2 C1 C0 X15 X14	
2	0 X13 X12 X11 X10 X9 X8 X7	
3	0 X6 X5 X4 X3 X2 X1 X0	
4	0 0 PR (X17 X16 Y16)Y15 Y14	PR 0= IN proximity 1= OUT OF proximity
5	0 Y13 Y12 Y11Y10 Y9 Y8 Y7	
6	0 Y6 Y5 Y4 Y3 Y2 Y1 Y0	

CURSOR CODING

PEN &4 button cursor	20,23	5 BUTTON MOUSE	20,23
Up	00000	LEFT(L)	XXXX1
TIP 0	0XXX1	RIGHT (R)	XXX1X
SW1 1	0XX1X	FRONT	XX1XX
SW2 2	0X1XX	BACK	X1XXX
SWI3 3	01XXX	SIDE	1XXXX
16 BUTTON CURSOR			
Up	00000	8	11000
0	10000	9	11001
1	10001	A	11010
2	10010	B	11011
3	10011	C	11100
4	10100	D	11101
5	10101	E	11110
6	10110	F	11111
7	10111		

COMMANDS

DC1 (X ON) start transmission after a x off. (SAME AS ESC % A 1)
DC3 (X OFF) stop transmission on the next PACKET SAME AS (ESC % A 0)
? is the prompt character.

9X00 COMMANDS
Note commands should not be sent back to back. Should have about .002 sec delay between commands (2 char at 9600). Also do not send new commands after (V p or VS) till they respond back.

ESC % A 0 cr	disable data out of RS232 port
ESC % A 1 cr	enable data out of RS232 port
ESC % C 0 N 8 1 cr	set communication parameters 19200 8 NONE
ESC % C 1 N 8 1 cr	set communication parameters 9600 8 NONE
ESC % I R cr	inc run mode
ESC % R cr	run mode
ESC % Q cr	clear prompt mode
ESC % Q ? cr	set prompt mode and prompt character MUST BE"?"
ESC % J R 1000,0 cr	set resolution 1000 Linse per inch
ESC % J M 100,0 cr	set res To 100 lines per mm
ESC % N 0 CR	enable marign data
ESC % N 1 cr	disable margin data
ESC % Z 0 cr	send data out of proximity
ESC % Z 1 cr	do not send data out of proximity
ESC % V R cr	reset tablet
ESC % V R 5 cr	close to old VR5 commands equivalent to Z0,^23,IR,Qcr,JR1000,VB0,C1N81
ESC % V S cr	send tablet size in current format
ESC % ^ 23 cr	set format to gtco bin
ESC % ^ 20 cr	set format to 20 cal bin with atf
ESC % V B 1 CR	special data enabled on format 20
ESC % V B 0 CR	special data disabled on format 20
ESC % W n CR	data rate n= points pre sec . will round down to even divisors of 200. Ie. 200,100,66,50,40,33,....5,4,3,2,1
ESC % _ _ V CR	Version, rev and date “90xxxx rr mm/yy cr lf”
ESC % _ _ p CR	Product id or model number “11xxx” or “35xxx”