

GTCO CALCOMP 3400 *DrawingBoard III* *Commands*

ROM DEFAULTS

TYPE	RECALL 1	RECALL 2	RECALL 3	RECALL 4,8	RECALL 5,7	RECALL 6
FORMAT	#23	#30	#0	#7	#23	#20
MODE	RUN	TRACK	POINT	RUN	RUN INC	RUN INC
PARITY BAUD	8 NONE 9600	8 ODD 9600	7 EVEN 9600	8 NONE 9600	8 NONE 9600	8 NONE 9600
RESOLU TION	1000 LPI	500 LPI	200 LPI	1000 LPI	1000 LPI	1000 LPI
DATA RATE	125	100	125	125	40	40

GTCO CalComp DrawingBoard III

MENU BITS	RECALL	1	2	3	4	5	6	8	7	m	MENU BITS	RECALL ->	1	2	3	4	5	6	8	7	m
->										a		->									a
										c											c
M1.7 A[01] MODE 1	bank a	1	1	0	1	1	1	1	1	1	M5.7 B[15] MOUSE 1		0	0	0	0	0	0	0	0	0
M1.6 A[02] MODE 2		1	0	1	1	1	1	1	1	1	M5.6 B[16] MOUSE 2		0	0	0	0	0	0	0	0	0
M1.5 A[03] INC VALUE 1		0	0	0	0	0	0	0	0	0	M5.5 B[17] HIGH/LOW		0	0	0	0	0	0	0	0	0
M1.4 A[04] INC VALUE 2		0	0	0	0	1	1	0	1	1	PROXIMITY		1	1	1	0	1	1	0	1	0
M1.3 A[05] PROMPT		0	0	0	0	0	0	0	0	1	M5.4 B[18] CTS LINE ENABLE		0	0	0	0	X	X	x	X	0
M1.2 A[06] DATA RATE 1		1	1	1	1	1	1	1	1	1	M5.3 C[01] PORTRAIT 0	bank c	0	0	0	0	0	0	0	0	0
M1.1 A[07] DATA RATE 2		1	0	1	1	0	0	1	0	1	M5.2 C[02] CR DISABLE		1	1	1	0	X	X	x	X	0
M1.0 A[08] DATA RATE 3		1	0	1	1	0	0	1	0	1	M5.1 C[03] BEEP ON PENDWN		0	0	0	0	1	1	0	1	1
											M5.0 C[04] DISABLE BEEPER										
M2.7 A[09] RESOLUTION 1		1	1	0	1	1	1	1	1	1	M6.7 C[05] TILT TO PRESSURE		0	0	0	0	0	0	0	0	0
M2.6 A[10] RESOLUTION 2		1	0	0	1	1	1	1	1	1	M6.6 C[06] PORTRAIT 1		0	0	0	0	X	X	x	X	0
M2.5 A[11] RESOLUTION 3		0	0	1	0	0	0	0	0	0	M6.5 C[07] TOP ORIGIN		0	0	0	0	X	X	x	X	0
M2.4 A[12] FORMAT 1		1	1	0	0	1	1	0	1	1	M6.4 C[08] 9500 style cursor		0	0	0	0	X	X	x	X	0
M2.3 A[13] FORMAT 2		0	1	0	0	0	0	0	0	0	M6.3 C[09] (RESERVED)		0	0	0	0	X	X	x	X	0
M2.2 A[14] FORMAT 3		1	1	0	1	1	1	1	1	0	M6.2 C[10] (RESERVED)		0	0	0	0	X	X	x	X	0
M2.1 A[15] FORMAT 4		1	1	0	1	1	0	1	1	1	M6.1 C[11] (RESERVED)		0	0	0	0	X	X	x	X	0
M2.0 A[16] FORMAT 5		1	0	0	1	1	0	1	1	1	M6.0 C[12] (RESERVED)		0	0	0	0	X	x	x	X	0
M3.7 A[17] LF ENABLED		0	1	1	1	0	0	1	0	0	M7.7 C[13] L_COMMANDS		0	0	0	0	0	0	0	0	0
M3.6 A[18] 7 OR 8 DATA		1	1	0	1	1	1	1	1	1	M7.6 C[14] McD spr		0	0	0	0	0	0	0	0	0
M3.5 B[01] BAUD RATE 1		0	0	0	0	0	0	0	0	0	M7.5 C[15] Auto/tek/lectra spr		0	0	0	0	0	0	0	0	0
bank b		0	0	0	0	0	0	0	0	0	M7.4 C[16] jccs		0	0	0	0	0	0	0	0	0
M3.4 B[02] BAUD RATE 2		1	1	1	1	1	1	1	1	0	M7.3 C[17] otsuka		0	0	0	0	0	0	0	0	0
M3.3 B[03] BAUD RATE 3		1	0	0	1	1	1	1	1	1	M7.2 C[18] lectra large format		0	0	0	0	0	0	0	0	0
M3.2 B[04] PARITY 1		0	0	0	0	0	0	0	0	0	M7.1 ?[??] DISABLE FUNCTION		0	0	0	0	X	X	x	X	1
M3.1 B[05] PARITY 2		0	0	1	0	0	0	0	0	0	B		0	0	0	0	X	X	x	X	1
M3.0 B[06] PARITY 3											M7.0 ?[??] CMENU_ACTIVE										
M4.7 B[07] FREQUENCY		0	0	0	0	X	X	x	X	0	recall 1 C7,D7,4C,00,12,00,00										
M4.6 B[08] NO MM OR 2000		0	0	0	0	0	0	0	0	1	recall 2 84,9E,C8,00,12,00,00										
M4.5 B[09] MUST USE ESC		0	0	0	0	0	0	0	0	0	recall 3 47,20,89,00,12,00,00										
9X00		0	0	0	0	1	1	0	1	1	recall 4 C7,C7,CC,00,00,00,00										
M4.4 B[10] PROXIMITY		0	0	0	0	0	1	0	0	0	recall 5 D4,D7,4C,10,11,00,01										
M4.3 B[11] PPEN		0	0	0	0	0	1	0	0	0	recall 6 D4,D4,4C,1F,11,00,01										
M4.2 B[12] HEIGHT		0	0	0	0	0	1	0	0	0	MAC SER DF,D3,44,60,01,00,03										
M4.1 B[13] TILT_DATA		0	0	0	0	0	1	0	0	0											
M4.0 B[14] TILT_CORRECT																					

X is last value. I.E. It does not change these bits.

OPERATING MODES

RUN - The digitizer outputs coordinate data points continuously.

TRACK - The digitizer outputs coordinate data points when a button is down

LINE - The digitizer outputs coordinate data points when a button is down, plus one when the button is released.

POINT - One point is sent when a button is pressed.

PROMPT - 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 standard modes.

INCREMENT - Puts a movement filter on the data in any mode. The transducer must move N counts before the data can be sent or on a button transition. Then both axis data is updated.

GRID UPDATE - Just like increment mode except only the axis that the increment occurred is updated, the other axis is its old value.

SEND DATA OUT OF PROXIMITY - If this flag is set coordinate data point will be sent when it meets the output conditions in or out of the active area. NOTE cordless units will not respond to button information until cursor is close to tablet.

SEND MARGIN DATA - If this flag is set a 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.

MOUSE MODE - Overrides the tablets baud rate parity and operating mode. It puts the tablet in run inc mode at 1200 baud and outputs relative data at 100 lpi (we can make high res if needed) in ether microsoft or mouse system mouse format. Note on microsoft emulation if cts is toggled the tablet sends a "M" to the host computer.

DELTA MODE - (mm mode only) Send relative data.

FIRMWARE OUTPUT FORMATS

The following codes are used in describing the output formats:

- C Cursor Status. In ASCII formats, indicates a single status character.
- Cn Cursor Status Bit. In binary formats, a bit representing cursor status. The highest-numbered "Cn" is the MSB, "C0" the LSB.
- , ASCII comma.
- CR ASCII carriage return (HEX 0D).
- LF ascii line feed HEX 0A

GTCO CalComp DrawingBoard III

- T0 Tablet status bit 0 or 1 set by command
X Data Digit. In ASCII formats, a numeric character representing coordinate data. The number of X symbols represents the number of allowable digits.
Xn Data Bit. In binary formats, a bit representing coordinate data. The highest-numbered "n" is the MSB.
pn pressure pen data 0-7
pp pressure pen data ascii

ASCII FORMATS

ANY SIZE

- 4 9100 1 T M C XXXXX YYYYY CR [LF]
5 9100 2 XXXXX , YYYYY , T M C CR [LF]
6 9100 3 C P XXXXX YYYYY CR [LF]
7 9100 4 SP XX.XXX , SP YY.YYY , TMC CR [LF] 1000 LPI
SP XXXX.XX , SP YYYYY.YY , TMC CR [LF] 100 LPmm
SP XXXX.X , SP YYYYY.Y , TMC CR [LF] 10 LPmm
SP XXXXX. , SP YYYYY. , TMC CR [LF] OTHER
8 +XX.XXX , +YY.YYY , CACB , T0 CR [LF] 1000 LPI
+XXXX.XX , +YYYY.YY , CACB , T0 CR [LF] 100 LPmm
+XXXX.X , +YYYY.Y , CACB , T0 CR [LF] 10 LPmm
+XXXXX. , +YYYYY. , CACB , T0 CR [LF] OTHER

33120 OR 33180 WITH RES <510 LPI OR 33240 AND RES <405

- 0 2A XXXX , YYYY , C CR [LF]
1 2C C XXXX YYYY CR [LF]
2 @ C +XXXX +YYYY CR [LF]
3 mA XXXX , YYYY , C CR [LF]
3 DELTA +XXXX , +YYYY , C CR [LF]
9 C XXXX SP YYYY CR [LF]
10 2F C XXXX YYYY CR [LF]
11 XXXX YYYY C CR [LF]
12 2E XXXX , YYYY , C CR [LF]
13 2D C +XXXX +YYYY CR [LF]
14 +XXXX +YYYY C CR [LF]
15 +XXXXX , +YYYYY , CACB , T0 CR [LF]
16 +XXXX.XXX , +YYYY.YYY , CACB , T0 CR [LF]
17 cur * , [-]xxxxx , [-]yyyyy , cc cr [lf]
17 pen # , [-]xxxxx , [-]yyyyy , cc cr [lf] NOTE pen buttons are 0,1,2,4
17 ppen ! , [-]xxxxx , [-]yyyyy , [-]ppp cr [lf]

33120 OR 33180 WITH RES >509 LPI OR 33240 AND RES >404
OR OTHER TABLET SIZE AND RES <1274

- 0 2A XXXXX , YYYYY , C CR [LF]
1 2C C XXXXX YYYYY CR [LF]
2 @ C +XXXXX +YYYYY CR [LF]
3 mA XXXXX , YYYYY , C CR [LF]
3 DELTA +XXXXX , +YYYYY , C CR [LF]

GTCO CalComp DrawingBoard III

```

9 C XXXXX SP YYYYY CR [LF]
10 2F C XXXXX YYYYY CR [LF]
11 XXXXX YYYYY C CR [LF]
12 2E XXXXX ,YYYYY , C CR [LF]
13 2D C +XXXXX +YYYYY CR [LF]
14 +XXXX +YYYY C CR [LF]
15 +XXXXX , +YYYYY ,CACB,T0 CR [LF]
16 +XXXX.XXX , +YYYY.YYY ,CACB,T0 CR [LF]
17 cur *,-]xxxxx , [-]yyyyy , cc cr [lf]
17 pen #,-]xxxxx , [-]yyyyy , cc cr [lf]
17 ppen !,-]xxxxx , [-]yyyyy ,[-]ppp cr [lf]

```

ANY SIZE >24 inches WITH RES > 1274

```

0 2A XXXXXX , YYYYYY ,C CR [LF]
1 2C C XXXXXX YYYYYY CR [LF]
2 @ C +XXXXXX +YYYYY CR [LF]
3 mA XXXXXX , YYYYYY , C CR [LF]
3 DELTA +XXXXXX , +YYYYY , C CR [LF]
4 9100 1 T M C XXXXXX YYYYYY CR [LF]
5 9100 2 XXXXXX , YYYYYY ,T M C CR [LF]
6 9100 3 C P XXXXXX YYYYYY CR [LF]
9 C XXXXXX SP YYYYYY CR [LF]
10 2F C XXXXXX YYYYYY CR [LF]
11 XXXXXX YYYYYY C CR [LF]
12 2E XXXXXX ,YYYYY , C CR [LF]
13 2D C +XXXXXX +YYYYY CR [LF]
14 +XXXXXX +YYYYY C CR [LF]
15 +XXXXXX , +YYYYY ,CACB,T0 CR [LF]
16 +XXXX.XXX , +YYYY.YYY ,CACB,T0 CR [LF]
17 cur *,-]xxxxxX , [-]Yyyyyy , cc cr [lf]
17 pen #,-]xxxxxX , [-]Yyyyyy , cc cr [lf]
17 ppen !,-]xxxxxX , [-]Yyyyyy ,[-]ppp cr [lf]

```

Formats update/enhanced in 70171/70180 (ppppp is pressure data)

```

3 xxxxx,yyyyy,ppppp,c CR [LF] pressure 0 to 127
15 +xxxxxx , +yyyyyy , CACB , T0 CR [LF] OTHER >1270
15 +xxxxxx , +yyyyyy ,+ppppp,CACB,T0 CR [LF] pressure 0 to 255
15 +xxxxxx , +yyyyyy ,+ppppp,CACB,T0 CR [LF] >1270 pressure 0 to 255
16 +XXXX.XXX , +YYYY.YYY ,+ppppp,CACB,T0 CR [LF] (40*25) pressure 0 to 255
8 +XX.XXX , +YY.YYY ,+ppppp, CACB , T0 CR [LF] 1000 LPI pressure 0 to 255
+XXXX.XX , +YYYY.YY ,+ppppp, CACB , T0 CR [LF] 100 LPmm
+XXXX.X , +YYYY.Y ,+ppppp, CACB , T0 CR [LF] 10 LPmm
+XXXXX. , +YYYYY. ,+ppppp, CACB , T0 CR [LF] OTHER

```

GTCO CalComp DrawingBoard III

BINARY FORMATS

20 format ATF

	7	6	5	4	3	2	1	0	
1	1	C4	C3	C2	C1	C0	X15	X14	PR 0= IN PROX 1= OUT OF PROX TILT 40 TO 3F HEX 00= VERT. PRESSURE 0 TO 127 HEIGHT 0 TO 127
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	
5	0	Y13	Y12	Y11	Y10	Y9	Y8	Y7	
6	0	Y6	Y5	Y4	Y3	Y2	Y1	Y0	
7	0	XT6	XT5	XT4	XT3	XT2	XT1	XT0	
8	0	YT6	YT5	YT4	YT3	YT2	YT1	YT0	
9	0	P6	P5	P4	P3	P2	P1	P0	
10	0	H6	H5	H4	H3	H2	H1	H0	

21 format wacom bin pen/cursor

	7	6	5	4	3	2	1	0	
1	1	PR	C/P	0	0	X16	X15	X14	PR = 1 IF IN PROX 0 IF OUT C/P 0 IF CURSOR 1 IF PEN BD IS BUTTON DOWN
2	0	X13	X12	X11	X10	X9	X8	X7	
3	0	X6	X5	X4	X3	X2	X1	X0	
4	0	0	0	0	0	Y16	Y15	Y14	
5	0	Y13	Y12	Y11	Y10	Y9	Y8	Y7	
6	0	Y6	Y5	Y4	Y3	Y2	Y1	Y0	
7	0	0	BD	C4	C3	C2	C1	C0	

21 format wacom bin pressure pen AND P PEN ENABLED +/-31

	7	6	5	4	3	2	1	0	
1	1	PR	1	1	0	X16	X15	X14	PR = 1 IF IN PROX 0 IF OUT C/P 0 IF CURSOR 1 IF PEN PS IS SIGN BIT OF PRES. PRESSURE -31 TO +31
2	0	X13	X12	X11	X10	X9	X8	X7	
3	0	X6	X5	X4	X3	X2	X1	X0	
4	0	0	0	0	0	Y16	Y15	Y14	
5	0	Y13	Y12	Y11	Y10	Y9	Y8	Y7	
6	0	Y6	Y5	Y4	Y3	Y2	Y1	Y0	
7	0	PS	P5	P4	P3	P2	P1	P0	

22 format

	7	6	5	4	3	2	1	0	
1	P7	P6	P5	P4	P3	P2	P1	P0	PR 0= IN PROX 1= OUT OF PROX
2	1	C4	C3	C2	C1	C0	X15	X14	
3	0	X13	X12	X11	X10	X9	X8	X7	
4	0	X6	X5	X4	X3	X2	X1	X0	
5	0	0	PR	(X17	X16	Y16)	Y15	Y14	
6	0	Y13	Y12	Y11	Y10	Y9	Y8	Y7	
7	0	Y6	Y5	Y4	Y3	Y2	Y1	Y0	

23 format (2G) also 24,27 (note cursor coding is different between 23,24,27)

	7	6	5	4	3	2	1	0	
1	1	C4	C3	C2	C1	C0	X15	X14	

GTCO CalComp DrawingBoard III

2	0	X13	X12	X11	X10	X9	X8	X7	PR 0= IN PROX 1= OUT OF PROX
3	0	X6	X5	X4	X3	X2	X1	X0	
4	0	0	PR	(X17	X16	Y16)	Y15	Y14	
5	0	Y13	Y12	Y11	Y10	Y9	Y8	Y7	
6	0	Y6	Y5	Y4	Y3	Y2	Y1	Y0	

if tilt data is enabled then the format 23 will change to:

	7	6	5	4	3	2	1	0	
1	1	C4	C3	C2	C1	C0	X15	X14	PR 0= IN PROX 1= OUT OF PROX TILT 40 TO 3F HEX 00= VERT.
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	
5	0	Y13	Y12	Y11	Y10	Y9	Y8	Y7	
6	0	Y6	Y5	Y4	Y3	Y2	Y1	Y0	
7	0	XT6	XT5	XT4	XT3	XT2	XT1	XT0	
8	0	YT6	YT5	YT4	YT3	YT2	YT1	YT0	

23 format (2G) From 0 TO 1FH (0 TO 31) ONLY IF PRESSURE PEN DATA IS ENABLED

	7	6	5	4	3	2	1	0	
1	1	P4	P3	P2	P1	P0	X15	X14	PRESSURE 0 TO 31
2	0	X13	X12	X11	X10	X9	X8	X7	
3	0	X6	X5	X4	X3	X2	X1	X0	PR 0= IN PROX 1= OUT OF PROX
4	0	0	PR	(X17	X16	Y16)	Y15	Y14	
5	0	Y13	Y12	Y11	Y10	Y9	Y8	Y7	
6	0	Y6	Y5	Y4	Y3	Y2	Y1	Y0	

26 format

	7	6	5	4	3	2	1	0	
1	1	PR	0	C4	C3	C2	C1	C0	PR 0= IN PROX 1= OUT OF PROX
2	0	X6	X5	X4	X3	X2	X1	X0	
3	0	X13	X12	X11	X10	X9	X8	X7	
4	0	Y6	Y5	Y4	Y3	Y2	Y1	Y0	
5	0	Y13	Y12	Y11	Y10	Y9	Y8	Y7	

28 format (2B) also 25 (cursor coding different between 28 and 25)

	7	6	5	4	3	2	1	0	
1	0	1	C3	C2	C1	C0	C4	PR	PR 0= IN PROX 1= OUT OF PROX on format 28 no c4 bit
2	0	0	X5	X4	X3	X2	X1	X0	
3	0	0	X11	X10	X9	X8	X7	X6	
4	0	0	Y5	Y4	Y3	Y2	Y1	Y0	
5	0	0	Y11	Y10	Y9	Y8	Y7	Y6	

30 format

	7	6	5	4	3	2	1	0	
1	1	PR	T0	X14*	Y14*	C2	C1	C0	PR 0= IN PROX 1= OUT OF PROX X14* AND Y14* are set high(1) for + and low (0) for OR X14,Y14 NOT
2	0	X6	X5	X4	X3	X2	X1	X0	
3	0	X13	X12	X11	X10	X9	X8	X7	
4	0	Y6	Y5	Y4	Y3	Y2	Y1	Y0	
5	0	Y13	Y12	Y11	Y10	Y9	Y8	Y7	

GTCO CalComp DrawingBoard III

6	0	p6	p5	p4	p3	p2	p1	p0	if pressure enabled 0 to 127 on 70171, 70180
---	---	----	----	----	----	----	----	----	--

30 format DELTA

	7	6	5	4	3	2	1	0	
1	1	PR	T0	X14*	Y14*	C2	C1	C0	PR 0= IN PROX 1= OUT OF PROX X14* AND Y14* are set high(1) for + and low (0) for OR X14,Y14 NOT
2	0	X6	X5	X4	X3	X2	X1	X0	
3	0	Y6	Y5	Y4	Y3	Y2	Y1	Y0	

CAN ONLY GET TO DELTA FORMAT USING MM COMMANDS

31 format

	7	6	5	4	3	2	1	0	
1	0	1	0	0	T2	T1	T0	PR	PR 0= IN PROX 1= OUT OF PROX t2,1,0=100 or 000(lectra)
tg2	0	0	0	C4	C3	C2	C1	C0	
3	0	0	X5	X4	X3	X2	X1	X0	
4	0	0	X11	X10	X9	X8	X7	X6	
5	0	0	0	X16	X15	X14	X13	X12	
6	0	0	Y5	Y4	Y3	Y2	Y1	Y0	
7	0	0	Y11	Y10	Y9	Y8	Y7	Y6	
8	0	0	0	Y16	Y15	Y14	Y13	Y12	
9	0	0	P5	P4	P3	P2	P1	P0	IF PRESSURE ENABLED 0 to 255 on 70171, 70180
10	0	0	P11	P10	P9	P8	P7	P6	
11	0	0	0	P16	P15	P14	P13	P12	

MICROSOFT MOUSE FORMAT ^m 2m

	7	6	5	4	3	2	1	0	
1	1	1	L	R	Y7	Y6	X7	X6	L IS LEFT BUTTON R IS RIGHT BUTTON
2	1	0	X5	X4	X3	X2	X1	X0	
3	1	0	Y5	Y4	Y3	Y2	Y1	Y0	

MOUSE SYSTEM MOUSE FORMAT ^M 2M

	7	6	5	4	3	2	1	0	
1	1	0	0	0	0	L	M	R	L IS LEFT BUTTON R IS RIGHT BUTTON M MIDDLE BUTTON
2	X7	X6	X5	X4	X3	X2	X1	X0	
3	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0	
4	X7	X6	X5	X4	X3	X2	X1	X0	
5	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0	

CURSOR CODING

pen	0,2,9, 11,10	20,22, 23,24, 25,27, 28,21	26,31	1 RUN	3, 29, 30	4,5, 6,7	17	8, 15, 16	12, 14	M	m
up	0	00000	00000	8 9	0	U	00	00	SP	7	0
tip(0)	1	00001	00001	0 1	1	0	01	01	0	3L	2L
sw1	2	00010	00010	2 3	2	1	02	02	1	5M	3LR

GTCO CalComp DrawingBoard III

sw2	4	00100	00011	4 5	3	2	04	03	2	6R	1R
0+1	3	00011	00001	0 1	3	0	03	01	0	1LM	3LR
0+2	5	00101	00101	0 1	3	4	05	05	4	2LR	3LR
1+2	6	00110	00110	2 3	3	5	06	06	5	4MR	3LR
0+1+2	7	00111	00001	0 1	3	0	07	01	0	0LMR	3LR

4 BUTTON CURSOR	0, 2,9,11 ,10	20,22, 23,24, 25,27, 28	21,26, 31	1 RUN	3, 29, 30	4,5, 6,7	8, 15, 16, 17	12, 14	M	m
up	0	00000	00000	8 9	0	U	00	SP	7	0
0	1	00001	00001	0 1	1	0	01	0	3L	2L
1	2	00010	00010	2 3	2	1	02	1	5M	3RL
2	4	00100	00011	4 5	3	2	03	2	6R	1R
3	8	01000	00100	6 7	4	3	04	3	6R	1R
0+1	3	00011	00001	0 1	3	0	01	0	LM	3LR
0+2	5	00101	00101	0 1	3	4	05	4	LR	3LR
1+2	6	00110	00110	2 3	3	5	06	5	MR	3LR
0+1+2	7	00111	00001	0 1	3	0	01	0	LMR	3LR
0+3	9	01001	00001	0 1	5	0	01	0	LR	3RL
1+3	:	01010	00010	2 3	6	1	02	1	MR	3RL
0+1+3	;	01011	00001	0 1	7	0	01	0	LMR	3LR
2+3	<	01100	00011	4 5	7	2	03	2	R	1R
0+2+3	=	01101	00001	0 1	7	0	01	0	LR	3LR
1+2+3	>	01110	00010	2 3	7	1	02	1	MR	3LR
0+1+2+3	?	01111	00001	0 1	7	0	01	0	LMR	3LR

16/25 BUTTON CURSOR	0,2,9, 11,10	20,22, 23,25	21,26, 31,24, 27,28	1 RUN	3, 29, 30	4, 5, 6, 7	8, 15, 16, 17	12, 14	M	m
up	0	00000	00000	8 9	0	U	00	sp	7	0
0	1	10000	00001	0 1	1	0	01	0	3L	2L
1	2	10001	00010	2 3	2	1	02	1	5M	2L
2	3	10010	00011	4 5	3	2	03	2	6R	1R
3	4	10011	00100	6 7	4	3	04	3	6R	1R
4	5	10100	00101	0 1	5	4	05	4	3L	2L
5	6	10101	00110	2 3	6	5	06	5	5M	2L
6	7	10110	00111	4 5	7	6	07	6	6R	1R
7	8	10111	01000	6 7	0	7	08	7	6R	1R
8	9	11000	01001	0 1	1	8	09	8	3L	2L
9	:	11001	01010	2 3	2	9	10	9	5M	2L
A	;	11010	01011	4 5	3	A	11	#	6R	1R
B	<	11011	01100	6 7	4	B	12	*	6R	1R
C	=	11100	01101	0 1	5	C	13	0	3L	2L
D	>	11101	01110	2 3	6	D	14	1	5M	2L
E	?	11110	01111	4 5	7	E	15	2	6R	1R
F	@	11111	10000	6 7	0	F	16	3	6R	1R
G	A	00001	10001	0 1	1	G	17	0	3 L	2L
H	B	00010	10010	2 3	2	H	18	1	5 M	3RL

GTCO CalComp DrawingBoard III

I	C	00011	10011	4 5	3	I	19	2	1 LM	3LR
J	D	00100	10100	6 7	3	J	20	3	6 R	1R
K	E	00101	10101	0 1	3	K	21	4	2 LR	3LR
L	F	00110	10110	2 3	3	L	22	5	4MR	3LR
M	G	00111	10111	4 5	3	M	23	6	LMR	3LR
N	H	01000	11000	6 7	4	N	24	7	6 R	1R
O	I	01001	11001	0 1	5	O	25	8	LR	3RL

format 13

mode U0123456789ABCDEF
RUN 34DTd4DTd4DTd4DTd
TRACK 1AQa1AQa1AQa1AQa
POINT 2BRb2BRb2BRb2BRb
1st pen down 0@P`0@P`0@P`0@P`

COMMANDS (rs232)

One byte command for all modes

NOTE these one byte commands can not be inhibited by the one byte command enable menu bit.

DC1 (X ON) start transmission after a x off

DC3 (X OFF) stop transmission on the next character

BEL (CNTL G) BEEP OR BEL MAKE THE TABLET BEEP if beeper is installed

? is the default prompt character

2000 COMMANDS (2x00)

Tablet can respond to 2x00 commands in the 2000/9100 subsets.

NOTE use these commands ONLY WHEN IN 2000 MODE/FORMATS. Can be inhibited by the one byte enable menu bit

@ Track mode 1 pps
A track mode 5 pps
B track mode 10 pps
C track mode 20 pps
D track mode 40 pps
E track mode 75 pps
F track mode 100 pps
G track mode 125 pps
H run mode 1 pps
I run mode 5 pps
J run mode 10 pps
K run mode 20 pps
L run mode 40 pps
M run mode 75 pps
N run mode 100 pps
O run mode 125 pps
P point mode
Q point prompt mode
R run prompt mode

GTCO CalComp DrawingBoard III

S halt or stop mode
T track prompt mode

MM AND 2000 COMMANDS

NOTE these commands work in BOTH MM AND 2000 MODE/FORMATS.
NOTE DO NOT WRITE DRIVERS USING THESE TO BE 2X00 AND 9X00 COMPATIBLE.
NOTE these commands can be inhibited by the one byte enable menu bit

a send configuration (size)
b set origin to upper left
c set origin to lower left
d 100 lpi
e 200 lpi
f 10 lpmm
g 400 lpi
h 500 lpi
i 20 lpmm
j 1000 lpi
k 1270 lpi(2x00 mode only)
l 1 lpi
n 2 lpi
o 50 lpmm (1270 lpi)
p 4 lpi
q 40 lpmm
r x x y y set new res
 xx/XSIZE=lpi and yy/YSIZE=lpi use only on size < 24 inch
max res is 1000 lpi
t do self test
w send self test results
 (t 0 0 0 pr d c a)
x send check sum .#xxxx cr lf

MM commands

NOTE use these commands ONLY WHEN IN mm MODE/FORMATS. Can be inhibited by the one byte enable menu bit

nul RESET (ONLY IN MM FORMATS)
0 TABLET BIT TO 0
1 TABLET BIT TO 1
@ RUN MODE
A TRACK
B POINT MODE
D REMOTE MODE (PROMPT)
E SET DELTA MODE
F CLEAR DELTA MODE
G h AXIS UPDATE
I h INC MODE

bin ASCII

GTCO CalComp DrawingBoard III

Q 140 100 DATA RATE
R 75 50
S 25 20
T 7 7
k data wrap(echo) characters till null is received.

Note the Nul reconfigures the tablet and does not reset it. This was done for timing. also the "x" only does the rom check on a rom error.

MM commands added on 70171, 70180

s 2000 lpi
u 80 lpmm
v 100 lpmm
za ascii (#3)
zb bin (#30)
z8 8 none
z9 8 odd
zp0 no pressure data
zp1 pressure data
zu microgrid emulation
a -size + pressure set to max if enabled on summa formats (3,8,15,16,30,31)

FORMAT COMMANDS

NOTE usable in mm or 2000 modes/formats.

NOTE DO NOT WRITE DRIVERS USING THESE TO BE 2X00 AND 9X00 COMPATIBLE.

NOTE use these commands can be inhibited by the one byte enable menu bit

Format commands that can be used from either mode, but can change the current format mode (2000 or mm). After format change then send the operating mode you want. (Ie. run, Track point etc).

mA MM ASCII FORMAT 9600 8 ODD 1 MM COMMANDS (11.7 BY 11.7)
mB MM BINARY FORMAT 9600 8 ODD 1 MM COMMANDS (11.7 BY 11.7)
2A 2000 ASCII 9600 7 EVEN 1 2000 COMMANDS
2B 2000 BINARY 9600 7 EVEN 1 2000 COMMANDS
2C WEDGE FORMAT 9600 7 EVEN 1 2000 COMMANDS
2D HI TABLET (BAUD RATE IS 4800)
2E HITACHI ASCII
2F GTCO ASCII
2G GTCO BIN (PARITY/DATA IS 8 NONE)
2M MOUSE SYSTEMS MOUSE EMULATION (1200 BAUD 8 NONE)
2m MICROSOFT MOUSE 1200 8 NONE
2I REMOVE LINE FEED OFF ASCII FORMATS

NOTE format and communication commands will change current soft switch settings but does not save the change in the nvram.

9100/2500 COMMANDS

GTCO CalComp DrawingBoard III

ESC % A [0/1] CR DISABLE/ENABLE DATA OUT OF PORT A
ESC % B [0/1] CR DISABLE/ENABLE DATA OUT OF PORT B
NOTE ON 3400 AS 2300 THE I/O PORT IS BOTH A AND B

ESC % C n1 h1 n2 n3 CR SET COMMUNICATION PARAMETERS
 n3 = 1 STOP BITS 1
 n2 = DATA BITS 7 OR 8
 h1= PARITY N,E,O,M,S(NONE, EVEN, ODD, MARK, SPACE)
 BAUD RATE n1 =0 TO 7
 0=19200 1=9600 2=4800 3=2400 4=1200 5=600 6=300 7= 150
 ** CHANGES MENU BITS **

ESC % H CR HALT MODE
ESC % I CR INC TRACK MODE
ESC % I R CR INC RUN MODE
ESC % I T CR INC TRACK MODE
ESC % I U CR INC LINE MODE

ESC % J R n,0 CR SET RESOLUTION (N=1 TO 2540 LPI)
ESC % J M n,0 CR SET RES (N=1 TO 100)
ESC % J L L CR SET ORIGIN TO LOWER LEFT
ESC % J L R CR SET ORIGIN TO LOWER RIGHT
ESC % J U L CR SET ORIGIN TO UPPER LEFT
ESC % J U R CR SET ORIGIN TO UPPER RIGHT
ESC % J C CR SET ORIGIN TO CENTER
ESC % J O CR DPOINT SET ORIGIN TO NEXT POINT
ESC % J P [0|1|2|3|4|5|6|7] SET PORTRAIT MODE

ESC % L CR SET/CLEAR LINE FEED ON DATA** CHANGES MENU BITS **
ESC % L 0 CR DISABLE LINE FEED ON DATA
ESC % L 1 CR ENABLE LINE FEED ON DATA

ESC % N [0/1] CR SEND DATA IN MARGINS
ESC % P CR POINT MODE
ESC % Q CR CLEAR PROMPT MODE
ESC % Q H CR SET PROMPT MODE AND PROMPT CHARACTER= H
ESC % R CR RUN MODE
ESC % T CR TRACK MODE
ESC % U CR LINE MODE
ESC % V E CR SET UP DEFAULT SETTINGS IN ALL 4 RECALLS ** CHANGES MENU BITS **
ESC % V F CR MAKE CURRENT SWITCH SETTINGS ACTIVE CLEARS SOFTWARE SETUP
 AND CLEARS PORT DISABLE ** CHANGES MENU BITS **
ESC % V F n CR SAVE CURRENT SWITCH SETTINGS IN UPB N= 1 TO 3
ESC % V F 4 CR SAVE CURRENT SWITCH SETTINGS IN UPB 4
 RESERVED FOR CALCOMP AND DEVELOPERS
ESC % V R CR RESET TABLET ** CHANGES MENU BITS **
ESC % V R n CR RECALL BANK N AND MAKE SETTING ACTIVE N= 1 TO 3
ESC % V R 4 CR RECALL BANK 4 RESERVED FOR CALCOMP AND DEVELOPERS
ESC % V R 5 CR RECALLS CALCOMP SOFTWARE SETTING

GTCO CalComp DrawingBoard III

ESC % V R 6 CR RECALLS FORMAT 20 AFT ON

ESC % V R 7 CR RESERVED

ESC % V R 8 CR RESERVED

ESC % V S CR SEND TABLET SIZE

ESC % V V n CR SET EXTRA DATA MODES. N= 00110XXXB ** CHANGES MENU BITS **

"1" * TILT CORRECT

"2" * TILT DATA

"4" * HEIGHT DATA

ESC % V A [0/1] PRESSURE PEN DATA 0=OFF 1=ON ** CHANGES MENU BITS **

ESC % V A [2/3] TILT TO PRESSURE PEN DATA 2=OFF 3=ON** CHANGES MENU BITS **

ESC % V A V n SET PRESSURE PEN LEVEL N = 0 TO 255

ESC % V 0 LED 2 OFF

ESC % V 1 LED 2 ON

ESC % V 8 DISABLE BEEPER ** CHANGES MENU BITS **

ESC % V 9 ENABLE BEEPER ** CHANGES MENU BITS **

ESC % V 4 DISABLE BEEPER CLICK ON PEN DOWN ** CHANGES MENU BITS **

ESC % V 5 ENABLE BEEPER CLICK ON PEN DOWN ** CHANGES MENU BITS **

ESC % V m [0/1] CR SET/CLEAR ENABLE MENU ** CHANGES MENU BITS **

ESC % V f [0/1] CR SET/CLEAR ENABLE FUNCTION BLOCKS ** CHANGES MENU BITS **

ESC % V d n CR SET SCANNING RATE

(70171, 70180 ONLY N = 0,1,2,4,8,16= 1.6,3.2,.8,.4,.2 msec. DYNAMIC)

(70180 n=32 = 6.4 msec scan non back light only)

ESC % W n CR SET DATA RATE (N=1 TO 125)

ESC % X n CR SET INC VALUE (N=0 TO 64000)

ESC % Y n CR SET INC VALUE (N= 0 TO 64000)

ESC % Z [0/1] CR SEND DATA OUT OF PROXIMITY

ESC % Z 2/3 CR 3= SET LOW PROXIMITY 2= SET HIGH PROXIMITY ** CHANGES MENU BITS

ESC % ^ N CR SET FORMAT NUMBER (N=0 TO 31 , "M", "m")** CHANGES MENU BITS **

0= 2000 ASCII

1=WEDGE

2=

3= MM ASCII

4= 9100 #1

5= 9100 #2

6= 9100 #3

7= 9100 #4

8=

9= GTCO ASCII

10=

11=

12=

13=HI

14= HITACHI ASCII

15=

16=

17= WACOM ASCII

18=

19=

20= CAL BIN WITH EVERY

21=WACOM BIN

22

23= G

BIN 24=

25

26

27

28

29 MM BIN DELTA

30 MM BIN

31

M=MOUSE(MOUSE SYSTEMS)

m=MOUSE(MICROSOFT)

DIAGNOSTIC COMMANDS

GTCO CalComp DrawingBoard III

ESC % __ V CR VERSION REV AND PART NUMBERS
70xxxA 16XXX CR LF

ESC % __ p CR SHOW PRODUCT
CALCOMP 3400 or CALCOMP 3300