

# DrawingBoard III Help



# **Table of Contents**

Radio Frequency Energy Notice	2
CE Certification	2
Introduction	4
System requirements & compatibility	4
DrawingBoard III overview	4
Drawing area	5
Menu strip	5
Indicator lights	5
Pointing tools	5
Getting Started	6
Unpacking the tablet	6
Installing the tablet	6
Installing the software	8
Learning the Basics	8
Using the pointing tools	8
Learning basic movements	9
Customizing the Tablet	10
Overview of the menu strip	10
Selecting a pre-programmed setup	10
Selecting a custom setup	11
Tablet Options	12
Recommended setups for common PC software packages	16
Restoring a pre-programmed setup	18
Caring for the Tablet	19
Cleaning the tablet	19
Replacing the pen tip	19
Replacing the pen batteries	20
Replacing the cursor batteries	20
Solving Problems	21
Reducing monitor interference	21
Tablet checklist	22
Computer checklist	22
Software checklist	22
Troubleshooting chart	23
Returning your tablet for repair	24
Specifications	24
Parts and Accessories	26
Glossary	27
Warranty for U.S./Canada	30
About DrawingBoard III Help	31

# **Radio Frequency Energy Notice**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Reorient or coil cables.
- If necessary, consult the dealer or an experienced radio/television technician for additional suggestions.

**Important:** Any cables the user adds to the device must be shielded to be in compliance with the FCC standards. Any unauthorized modification to this device could result in the revocation of the end user's authority to operate this device.

#### Cordless pen or cursor

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

#### Canada

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas bruits radioelectriques depassant les limites applicables aux appareils numeriques de Classe B prescrites dans le reglement sur le brouillage radioelectrique edicte par le Ministere des Communications du Canada.

#### Japan

```
この装置は、第二種情報装置(作定地域又はその階級した地域において例例
されるべき情報装置)で住宅地域での高波等(部別上を目的とした情報処理装置
等電波修書自中規制協議会(VCCI)基準に適合しております。
上かし、本装置をラジオ、テレビジョン受信機に近後してご使用になると、
受信除害の原因となることがあります。
取扱説明書に従って正しいほり扱いをして下さい。
```

# **CE** Certification

Declaration of conformity according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: GTCO CalComp, Inc.

Manufacturer's Address: 14555 N. 82nd Street

Scottsdale, Arizona 85260

U.S.A.

declares, that the product

Product Name: DrawingBoard III

**Model Numbers:** 34120, 34180, 34240, 34360, 34480, 34600, 34365, 34485, 34605

Product Options: All

conforms to the following product specifications:

**Safety:** UL1950, EN 60950:1988+A1+A2

**EMC:** CISPR22:1985/EN 55022:1988-Class B

EN 50082-1:1992

IEC 801-2:1991-4kV CD, 8kV AD, Criterion B

IEC 801-3:1984-3V/m, Criterion A

IEC 801-4:1988-1kV power lines, .5kV data lines, Criterion B

#### **Supplementary Information**

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC.

Scottsdale, Arizona, U.S.A. 6-18-1999 Dana Doubrava

Location Date Engineering Manager

**European Contact** 

GTCO CalComp

World Trade Center

A-1300 Vienna - Airport

Austria

Tel + 43 1 7007 36450

Fax + 43 1 7007 36458

# Introduction

The **DrawingBoard III** is a high performance, low cost digitizer tablet well suited for CAD, mapping, and GIS applications as well as drawing, tracing, and presentation graphics. These top of the line tablets offer the highest resolution and accuracy available on the market today along with easy-to-use software and programmable function keys.

DrawingBoard III combines all the advantages of a mouse and a digitizer to eliminate multiple input devices and provide you with a sleek, simplified desktop. You can choose from a wide range of options to help you create a working environment suited to your application. The tablets are available in a range of sizes with variable accuracy and pointing tool options. Surfaces can be opaque or backlit.

#### Topics discussed in this section:

System requirements and compatibility DrawingBoard IV overview

### System requirements and compatibility

This version of the DrawingBoard III is equipped with an RS-232 serial interface and is compatible with PC's and Sun workstations. Be sure the software CD you received matches the computer platform you are using (i.e., PC or Sun).

The PC software is compatible with Windows (WinTAB compliant), ADI, and Microsoft mouse. After installing the PC software, DrawingBoard III will work with virtually all DOS and Windows applications that support a digitizer or a Microsoft mouse. You must be using DOS 5.0 or later and Windows 95 or later.

The Sun software drivers are X11 compatible. You can use DrawingBoard III with or instead of the Sun mouse. The Sun drivers do not contain macro or tablet-to-screen mapping capabilities.

#### **Personal Computer requirements**

- IBM PC AT, PS/2, or compatible computer
- 640Kb RAM
- 1 serial port
- Hard drive or network server drive
- DOS 5.0 or later, or Microsoft Windows 95 or later

#### Sun workstation requirements

- Sun SPARCstation
- 1 serial port
- Hard drive
- Solaris 1 or 2

# **DrawingBoard III overview**

The DrawingBoard III tablet consists of:

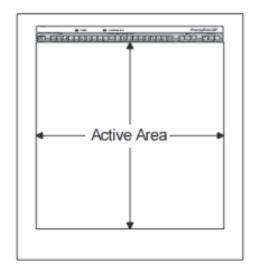
- Drawing area
- Menu strip
- Indicator lights
- Pointing tools

### **Drawing area**

The drawing area is the rectangular surface area on the tablet located below the menu strip (see figure). This is where all your work is performed. The small format tablets (12" x 12", 12" x 18", and 18" x 24") have a clear plastic cover over the drawing area that can be used to secure artwork or templates.

#### Menu strip

The menu strip is the row of keys located at the top of the tablet on small format tablets and in the lower left corner of the tablet on large format tablets. You can use these keys to customize your tablet or to assign macros for greater productivity.



#### **Indicator light**

There are two indicator lights within the menu strip: power and configuration. The **power light** turns on when the power is on. It also indicates whether the pointing tool is within range of the drawing area. The power light glows if the pointing tool is inside the drawing area and blinks if it is outside the drawing area.

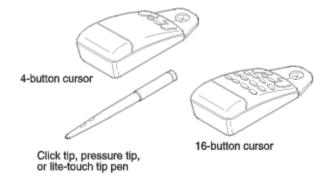
The **configuration light** turns on whenever you select the Config/Exit key. You will also hear a beep. This means the tablet is in configuration mode and you can make changes to the Configuration keys. The light stays on until you select the Config/Exit key again, exiting configuration mode. A double beep sounds.

#### **Pointing tools**

There are two types of pointing tools available with DrawingBoard III: **pens** and **cursors**.

The pointing tools are available in both corded and cordless versions. The cordless pointing tools are powered by batteries.

Each tool goes into a battery-saving "sleep mode" when no button has been pressed for one to five minutes, depending on the type of tool you are using. To reactivate the tool, press any of its buttons.



#### **Cursors**

The cursor is similar in appearance to a mouse, except that it has an attached lens with crosshairs for highly accurate detail work. Cursors are available with 4 or 16 buttons. There is a special 16-button cursor available with high accuracy tablets. This corded cursor has a lens area that can be illuminated.

#### **Pens**

The pen is similar in appearance to a ball-point pen. It has a button built into the tip plus two side buttons on the barrel. There are three types of pens that are identified by a colored ring on the pen barrel:

Click tip: Light blue ringPressure tip: Black ringLite touch tip: Red ring

# **Getting Started**

Getting started with your **DrawingBoard III** tablet is fast and easy.

#### Topics discussed in this section:

Unpacking the tablet

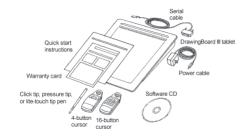
Installing the tablet

Installing the software

# Unpacking the tablet

Before you begin installation, verify that you have received everything you ordered. Package contents are listed on the bar code label attached to the box end. In addition to the DrawingBoard III, you should have received:

- Pointing Tool (at least one)
- Power Supply
- Serial Cable
- TabletWorks CD-ROM
- Registration Card and Quick Start Instructions
- Pen holder (if your pointing tool is a pen)



If any package contents are missing, call GTCO CalComp Customer Assistance at 480-443-2214 in the U.S. or Canada. Outside the U.S. or Canada, please call your local GTCO CalComp office or reseller.

# Installing the tablet

All cable connections are made at the rear of the tablet. Turn off your computer and make sure the tablet power switch is in the off position.

#### 1. Connect the serial cable.

Connect the round end of the serial cable to the socket labeled **I/O** on the tablet. The arrow on the connector should face down.

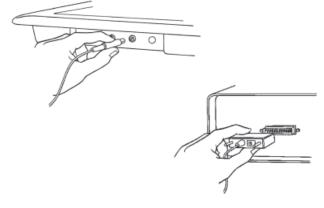
Connect the wide end of the serial cable to the computer's serial communication port. Tighten the thumbscrews. The arrow on the connector should face down.

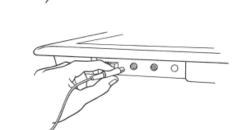
# 2. Connect the power cable to the serial connector.

Connect the power cable into the jack on the back of the serial cable connector. Connect the power supply end to a power outlet or power strip.

#### 3. Connect the corded pointing tool.

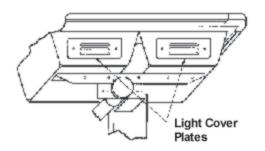
If you are using a corded pointing tool, insert the connector into the socket labeled **POINTER** on the tablet.





#### 4. Install the light bulbs (backlit tablets only)

- Turn the power switches off and remove the light cover plates from the light pan below the tablet surface as shown.
- **b** Slide a bulb through the light pan opening, then insert the prongs into the far socket.
- c Insert the remaining prongs into the near socket.
- **d** Twist the bulb approximately 90° until the prongs seat.
- **e** After all bulbs have been installed, reinstall the light cover plates.
- f Using the long power cord supplied, connect the power plug to a wall outlet then connect the free end to the light pan.



**WARNING:** Do not alter the factory-defined voltage of your tablet. If your voltage requirements change, contact Technical Support at 480-443-2214 in the U.S. and Canada, or your local GTCO CalComp office outside the U.S. and Canada.

#### 5. Turn on your computer and tablet.

The tablet power switch is located at the rear of the tablet on small format models. On large format models, the switch is located either 1) at the rear of the tablet, or 2) on the left side, near the bottom of the tablet. The power light will turn on.

If you are using a cordless pointing tool, turn it on by pressing any button on the tool. The power light will glow steadily if the pointing tool is inside the drawing area of the tablet. If the pointing tool is outside the drawing area, the power light will blink.

#### **Backlit tablets**

The tablet and light pan power up separately. The tablet power switch is found on the lower left side of the tablet. The light pan power switch is located on the light pan below the lower right corner of the tablet.

Backlit tablets are available with a variable intensity option. This option allows you to control the brightness level of the tablet lights through a dimmer switch that is located on the light pan below the lower right corner of the tablet.

**Note:** Variable intensity backlit tablets are for 120V/60Hz operation only.

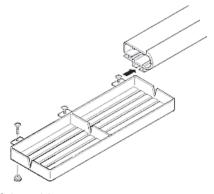
#### 6. Attach the pen holder (optional)

Pens come with a holder that you can mount to your desk, monitor or anywhere that's convenient. Remove the backing to the adhesive strip on the pen holder then firmly press the adhesive strip to any surface.

# 7. Mount the accessory tray (optional for large format)

The large format tablets come with an accessory tray that you can mount at any position around the tablet. To mount the accessory tray:

- **a** Insert the carriage bolts provided into the three tabs on the side of the tray as shown.
- b Loosely attach the black knobs to the bottom of the carriage bolts.
- **c** Slide the bolts into one of the grooves on the underside of the tablet.
- **d** Position the tray then tighten the knobs securely.



# Installing the software

The TabletWorks software included with your DrawingBoard III tablet allows you to use your tablet both as a mouse and a digitizer, and to access all tablet features and capabilities through the TabletWorks control panel. Refer to TabletWorks Help for instructions on installing the software and for customizing your tablet.

#### **Special cases**

Some unique situations may not require the use of the Digitizer Software. These cases are rare, usually in a non-Windows CAD application where the tablet is used solely as a digitizer with no mouse functions. In these situations, you can set up DrawingBoard III manually via the menu strip. Refer to the Customizing the Tablet section for step-by-step instructions.

All mouse applications, including all Windows applications and AutoCAD, must have the Digitizer Software installed to work properly with the tablet.

# **Learning the Basics**

You will find that using your **DrawingBoard III** tablet is as easy, or easier, than using a mouse. The DrawingBoard III pointing tools are more accurate than a mouse giving you greater control over your movements.

### Topics discussed in this section:

Using the pointing tools

Learning basic movements

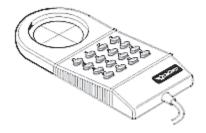
# Using the pointing tools

The pointing tool does not need to be in contact with the tablet surface in order for the tablet to sense its presence. It can be detected up to 1/2" above the drawing area. This allows you to trace through materials placed on the surface, such as a drawing or a book. Also, before using the pointing tool, be sure that sleep mode is turned off by pressing any button on the tool.

#### Using the cursor

When you use the cursor, the intersection point of the crosshairs on the lens identifies the point you are selecting. The crosshairs are etched on the bottom of the lens to increase accuracy. For maximum precision, look through the lens from directly over it.

Button 0 on the cursor is used as the pick (or left mouse) button. All other buttons are defined by the TabletWorks software or through your own software application.



#### High accuracy cursor

To illuminate the lens area of the high accuracy cursor, press and hold any button in the far right column (3, 7, B or F); at the same time, press and hold any button in the far left column (0, 4, 8 or C). The right column button must be held down while pressing the left column button. This same procedure turns the illumination off. The illumination defaults to off when the tablet is first powered on.

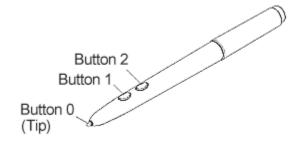
Because you will always need one right column button and one left column button free to control the cursor illumination, you should reserve one button in each column from any macro recording.

**Warning:** The DrawingBoard III high accuracy cursor resembles the cursor for the 9500 series tablet. Although the only difference seems to be the presence of the row of LEDs above the top row of buttons on the 9500 series cursors, **do not interchange these cursors** as damage to both tablet and cursor may result.

#### Using the pen

There are three variations of pens: the click tip, the pressure tip and the lite-touch tip. All the variations are tilt and height sensitive. The pen tip is Button 0 and is used as the pick (or left mouse) button. The lower side button is Button 1 and the upper side button is Button 2.

The functions these buttons provide are defined through the TabletWorks software or through your own software application.



#### Click tip pen

The click tip pen is available in both corded and cordless versions. It is primarily used for tracing and menu picking. To use the pen, press down until you feel the tip *click*.

#### Pressure pen

The pressure pen is only available in the cordless version. With the pressure pen, the pen tip can be used both as a mouse button and a pressure-sensitive button. To take advantage of the pressure feature, the software package you use must recognize pressure sensitivity. The software assigns values to the pressure levels and uses this data to vary such parameters as line width and color.

To use the pen, press down on the tip and release for a mouse pick action. Press down and hold for the pressure action. Pressure increases as you continue pressing down on the tip. To decrease the pressure, ease up on the tip.

### Learning basic movements

The DrawingBoard III pointing tools provide all the basic movements of a mouse. The basic movements are clicking, double-clicking and dragging.

#### Clicking and double-clicking

Clicking is the action of making a selection. You may be selecting a key on the tablet surface or making a selection from the monitor screen. To click, place the pointing tool (or move the screen pointer via the pointing tool) to the item to be selected then tap the pen or press Button 0 on the cursor. A double-click requires you to tap the pen or press the button quickly two times while the tool remains in the same place. You can also double click by pressing the pen or cursor button that has been defined as a *double-click* button (see TabletWorks Help).

#### **Dragging**

Dragging is the action of moving the pointing tool during a selection. To drag, click on an object but instead of releasing the tip or button, hold it down while moving the pointing tool (or corresponding object on the screen) to the desired new location.

# **Customizing the Tablet**

You can customize your **DrawingBoard III** tablet and pointing tool to suit your individual work requirements using TabletWorks. TabletWorks is a Windows program included with the Digitizer Software that helps you use the full capabilities of your tablet. You can map your tablet to the screen area, record your own macros and designate areas on the tablet to switch between open software applications. To learn how to use TabletWorks, please refer to TabletWorks Help.

You can also customize your tablet using the menu strip. However, if you use the Digitizer Software, the software will override the menu strip setup.

#### Topics discussed in this section:

Overview of the menu strip

Selecting a pre-programmed setup

Selecting a custom setup

Recommended setups for common PC software packages

Restoring a pre-programmed setup

### Overview of the menu strip



The menu strip is composed of:

#### Config/Exit key

The Config/Exit key turns configuration mode on and off.

#### 3 Bank keys

There are three Bank keys: A, B and C. Each bank has a different set of tablet options that are available through Configuration key combinations.

#### 18 Configuration keys

The keys numbered 1-18 can be used as both Configuration and Macro keys. When the tablet is in configuration mode, they function as Configuration keys. These keys allow you to set specific tablet options by turning different combinations of Configuration keys on or off.

When configuration mode is off, the keys function as Macro keys. Macros can only be recorded with TabletWorks software (see TabletWorks manual).

#### 3 Save and 3 Restore keys

The Save and Restore keys work hand-in-hand. They are used to save (or recall) a setup to (or from) one of three save areas. There are three pre-programmed setups that come with the tablet. You can use these setups directly or overwrite them with your own. The Default Save key controls the first save area. The setup saved to this area is activated whenever you power up the tablet. We recommend you save the setup you use most often as Default.

# Selecting a pre-programmed setup

There are three pre-programmed setups available with DrawingBoard III:

- GTCO DP5 High Resolution Binary
- Summagraphics MM 1201
- CalComp 2000 ASCII

These setups are used commonly within software applications as required tablet formats. They are stored in Save areas Default, 2, and 3, respectively. Check the manual that came with your software package to see if your application requires one of these pre-programmed setups. The Default setup is available when you power on the tablet.

#### To select one of the other setups:



1 Turn on configuration mode by clicking on the Config/Exit key. The configuration light will turn on and remain on while the tablet is in configuration mode.



2 Click on the desired Restore key.



**3** Click on the Config/Exit key again to exit configuration mode. The new setup is activated.

The following table lists the tablet options used by the pre-programmed setups.

	Default	Save 2	Save 3
Mode	Run	Track	Point
Baud Rate	9600	9600	9600
Data Bits	8	8	7
Parity	None	Odd	Even
Data Rate	125 pps	150 pps	125 pps
Resolution	1000 lpi	500 lpi	200 lpi
Output Format	Format 23	Format 30	Format 0
Emulation	GTCO DP5 High Resolution Binary	Summagraphics MM 1201 Binary	CalComp 2000 ASCII

### Selecting a custom setup

You can setup specific tablet options by turning different combinations of Configuration keys on or off. The available tablet options are listed below.

#### To set up the tablet:



1 Turn on configuration mode by clicking on the Config/Exit key. The configuration light will turn on and remain on while the tablet is in configuration mode.



2 Click on the Bank key where you need to work (A, B, or C). You can determine which bank you are in by placing the pointing tool over one of the Bank keys. The power light is on if the bank is active.



- 3 Determine whether the Configuration keys are on or off by placing the pointing tool over each key. If the key is on, the power light is on; if the key is off, the power light is off. Click on the key to toggle the setting, if necessary.
- 4 Repeat steps 2 and 3 for the remaining banks as required.



5 After you have completed your setup, you can save it by clicking on one of the Save keys.

**Caution:** Clicking on a Save key will overwrite the pre-programmed setup. This step may be omitted if the setup is temporary for the current session, but the setup will be lost when the tablet is powered off. Only save your setup when you will need it for repeated work sessions.

If you overwrite a pre-programmed setup, see Restoring a pre-programmed in this section for information on restoring the original settings.



6 Exit configuration mode by clicking on the Config/Exit key. The configuration light will turn off.

### **Tablet options**

The following sections show the various tablet options available through Configuration keys on the menu strip. Follow the procedure above, using the keys shown for the option. The circles represent the power light on the tablet:

= Power Light ON	O = Power Light OFF	
Defining operating mode	CONFIG A 1 2 Line	
Setting up increment mode	None	
Turning on prompt mode	COMPTO 1.28 5 On ● Off ○	
Setting up data rate for CalCo	1 pps	
Setting up data rate for Summ	agraphics MM ASCII format	7 pps
Setting up data rate for Summ	agraphics MM binary format	7 pps

#### **Setting up resolution**

CONFIG A 1-18 9 10 11

200 lpi ○ ○ ● 254 lpi (10 lpmm) ○ ● ○

400 lpi ○ ● ●

1270 lpi (50 lpmm) • • •

**2540 lpi** (100 lpmm)  $\bigcirc$   $\bigcirc$ 

Resolutions up to 10,000 lpi are available on the large format, high accuracy tablets for applications that support it.

#### **Setting up format**

CONFIG A 12 13 14 15 16
-------------------------

			_			
0-CalComp 2000	Α	0	0	0	0	0

1-CalComp Wedge

4- CalComp 9100-1 ○ ○ ● ○ ○

7- CalComp 9100-4 ○ ○ ● ●

8- Summa MM 1105 A O O O

11-GTCO MD7 ASCII O • O • •

12-Hitachi ASCII

13-HiPad ASCII

14- Hitachi ASCII Sign ○ ● ● ● ○

21-Wacom Binary • O • O •

22- CalComp Fmt 22 • • • • •

25-GTCO Lo Res Bin • • • • •

26- Kurta Serial 1 #3

27- Hitachi Hi Res • • ○ • •

28-CalComp 2000 Bin • • • ○

29-Summa MM 1201 B3 • • • • •

30-Summa MM 1201 B • • • • •

31-MicroGrid II Binary 

● ● ●

### **Adding line feed**



None

0

Add •

Setting up data/stop bits	3	CONFIG A 1-18	
		7 •	
		8 •	
Setting up baud rate	CONFIG EXIT 1	B 1 2 3	
0 1	19200		
	9600	○ ○ ●	
	4800	$\circ \bullet \circ$	
	2400	0 • •	
	1200 600	•	
	300	• • 0	
	150	• • •	
Setting up parity	CONFIG B EXIT 1-18	4[5]6]	
ooting up painty	None		
		0 • 0	
	Even	00	
	Odd	000	
Setting corded frequenc	:y	CONFIG B 7	
		Low O	
		High •	
Using Summagraphics N	MM or Ca	IlComp 2000 commands	CONFIG B B 8
0 0 1		•	Use commands ○
			Do not use
Using ESC for 9X00 com	nmands	CONFIG B 1-18 9	
		Do not use ESC ○	
		Must use ESC ●	
Sending data out of prox	kimity	CONFIG B 1-18 10	
		No data out of prox ○	
		Send data	
Turning on pressure per	n data	CONFIG B 1-18	
		Off O	
		On •	
Turning on pen height d	ata	CONFIG B 1-18 12	
and an hour noight w		Off O	
		OII O	

On

Turning on pen tilt data	Off On  CONFIGURE  13  Off On
Turning on pen tilt correction	Off On
Changing tablet to mouse mod	No mouse  Mouse Systems  Microsoft
Setting proximity  High Low	
Setting up CTS line enable	© (EXT)   1-16   18   18   Off
0° 90 18	
Removing CR on ASCII format	CR ONO CR
Controlling pen sound	No sound Sound with pen down
Controlling tablet speaker	Tablet speaker off
Changing tilt data to pressure	Leave as tilt  Change to pressure

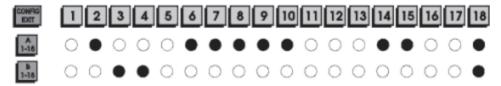
# Recommended setups for common PC software packages

The following sections show the Configuration key setups for some common PC software packages. Set up the Configuration keys as shown below (see Selecting a Custom Setup). The circles represent the power light on the tablet. Bank C does not vary for these packages so it is not included in the description.

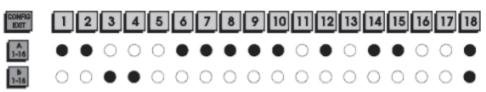
= Power Light ON	O = Power Light OFF
------------------	---------------------

#### **Setting up for ARCINFO**

Using CalComp 9100 format:

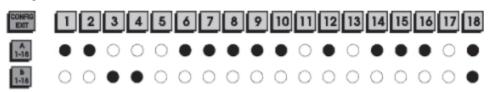


Using GTCO DigiPad format:

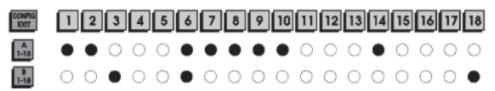


### **Setting up for AutoCAD (DOS only)**

Using ADI format:

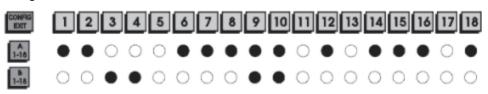


Using CalComp 9100 format:



#### **Setting up for CADKey**

Using GTCO DP5 format:

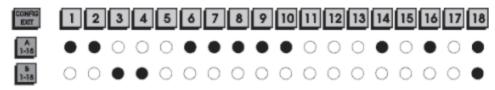


1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16

• 0 0 0 0 0 0 0 0 0 0 0 0 0 •

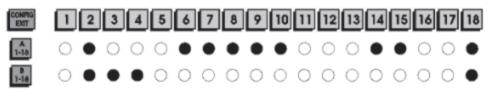
### **Setting up for MicroStation (DOS only)**

Using CalComp 9100 format:

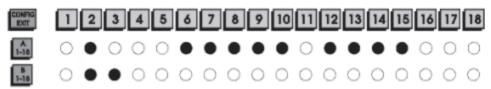


#### Setting up for Timberline

Using CalComp 9100 format:

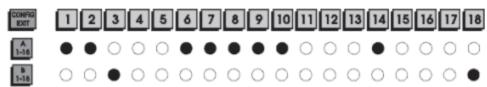


Using Summagraphics MM 1201 binary format:



#### **Setting up for VersaCAD**

Using CalComp 9100 format:

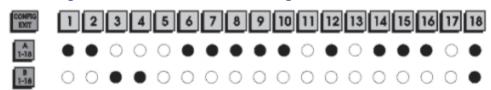


# Restoring a pre-programmed setup

When you save a custom setup to one of the save areas, the pre-programmed setup will be overwritten. To restore the original setup, set the Configuration keys as shown below, using the procedure on the following page. The circles represent the power light on the tablet. Bank C does not vary for these applications so it is not included in the description.



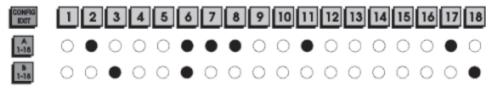
#### Restoring Save Default — GTCO DP5 High Resolution



#### Restoring Save 2 — Summagraphics MM 1201 binary



### Restoring Save Default — GTCO DP5 High Resolution



# **Caring for the Tablet**

Follow these precautions at all times to avoid damaging your DrawingBoard III:

- Avoid discharging static electricity to the tablet.
- Do not place heavy objects on the tablet surface.
- Do not use sharp objects, like compasses or knives, on the tablet surface.
- Do not use the tablet surface for any purpose other than drawing, tracing or digitizing.

#### **Topics discussed in this section:**

Cleaning the tablet

Replacing the pen tip

Replacing the pen batteries

Replacing the cursor batteries

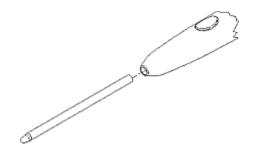
# Cleaning the tablet

To clean the tablet's surface, use a soft, non-abrasive cloth. Hardened dirt may be removed with a slightly dampened cloth. Do not clean pencil lines with a soft cleanser or pencil eraser. This may create an undesirable shiny spot on the tablet's surface that cannot be removed.

**Warning:** Do not use abrasive cleaners, acrylic or lacquer paint thinners, or cleansers with an acetone or solvent base, such as MDC or EDC, on the tablet surface. They will damage the tablet case.

# Replacing the pen tip

To replace the pen tip, grasp the tip and pull straight out (see figure). Insert the new tip and press until it clicks into place.



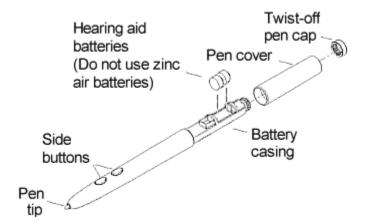
### Replacing the pen batteries

The pens require two 393 silver oxide batteries. The average battery life is 750 to 1,000 hours.

Warning: Do not use ZINC AIR batteries as replacement batteries. They will corrode the electronics of the pen.

#### To replace the batteries:

- 1 Unscrew the pen cap. Hold the pen from the bottom and gently slide off the pen cover to expose the batteries.
- 2 Remove the old batteries by turning the pen over and gently tapping it, letting the batteries fall into your other hand.
- 3 Insert the new batteries as they are shown in figure above ("+" towards pen tip).
- 4 Replace the pen cover then screw the pen cap onto the pen.



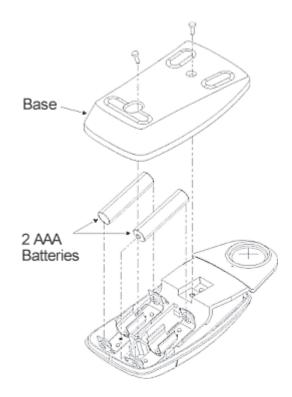
**Note:** When you replace the pen batteries, the pen will reset to the default frequency. If you changed the frequency of the pen before replacing the batteries, you will need to do so again after replacing the batteries (see the Reducing Monitor Interference section in Solving Problems).

### Replacing the cursor batteries

The cursor requires two AAA batteries. The average battery life for the cursor batteries is 4,000 hours.

#### To replace the batteries:

- Place the cursor face down in the palm of your hand. Use a Phillips screwdriver to remove the two screws located on the bottom of the cursor (see figure). Remove the cursor base.
- 2 Remove the old batteries from the battery casings.
- 3 Place the new batteries in the casings, matching the polarity of each battery with the markings on the connector strips (match + to +).
- 4 Reposition the cursor base. Replace the screws with the Phillips screwdriver.



**Note:** When you replace the cursor batteries, the cursor will reset to the default frequency. If you changed the frequency of the cursor before replacing the batteries, you will need to do so again after replacing the batteries (see the Reducing Monitor Interference section in Solving Problems).

# **Solving Problems**

We want your experience with your **DrawingBoard III** tablet to be a successful one. If you have a problem, please follow the steps below.

- 1 Reread DrawingBoard III Help to verify you have performed the correct steps.
- 2 Read the topics below to check for a solution to your problem. Review the checklists as well as the trouble-shooting chart. Keep in mind that the problem may be your computer, your display or your software, instead of the tablet.

#### Topics discussed in this section:

Reducing monitor interference (changing the frequency of pointing tools)

Tablet checklist

Computer checklist

Software checklist

Troubleshooting chart

Returning your tablet for repair

- 3 If you still have a problem, call GTCO CalComp Technical Support at 480-443-2214 (in the U.S. or Canada), or fax us at 480-948-5508. Outside the U.S. or Canada, contact your local GTCO CalComp office or dealer. Please have the following information available before you call:
- Description of the problem
- Name and version of software package you are using
- Type of computer you are using
- DrawingBoard III model number and serial number (see bottom of tablet)
- Type of pointing tool you are using
- 4 Be at your computer when you call.

# **Reducing monitor interference**

If you are experiencing monitor interference with your tablet, you can reduce the interference by changing the frequency your tool uses. Pointing tools with the following FCC ID numbers support two frequencies: ECPPPP, ECPPLTP, ECPPCURSOR4, ECPPCURSOR16, and ESPPCURSORII. Pointing tools with FCC ID numbers other than those listed must have frequencies changed at GTCO CalComp.

#### Changing the frequency of the cordless cursor

- 1 Place the cursor on the tablet surface.
- 2 Press Buttons 1 and 2 simultaneously and hold for approximately three seconds.
- 3 The cursor turns itself off. You will know the cursor is off when the power light on the tablet begins blinking.
- 4 The cursor turns on again at the new frequency. You will know the cursor is on when the power light glows steadily.

To return to the default frequency, repeat the above process. When you replace the cursor batteries, the cursor is automatically reset to the default frequency.

#### Changing the frequency of the cordless pen

Press both side buttons and the tip simultaneously and hold for approximately three seconds.

To return to the default frequency, repeat the above process. When you replace the pen batteries, the pen resets to the default frequency.

#### Changing the frequency of a corded pointing tool

You must use the menu strip to change the frequency of the corded pointing tools (see *Setting corded frequency* in the Selecting a Custom Setup section).

Ta	ablet checklist
	Is the tablet power supply plugged into the serial connector and into a live outlet?
	Is the tablet power switch on?
	Does the power light glow steadily when the pointing tool is inside the drawing area? Does it blink when the pointing tool is outside the drawing area?
	The power light will blink if the pointing tool has gone into sleep mode. Press any button on the tool to activate it. If the power light continues to blink and the pointing tool is in the drawing area, change the pointing tool's battery.
	Are all cable connections tight?
	Power cable to serial connector?
	Pointer cable to tablet?
	Serial cable to tablet?
	Serial cable to computer? Check that the cable is connected to the serial port specified in your software package.
	Is the tablet set up according to the software recommendations?
	Are any of the connector cables or receptacles damaged? Check for bent pins, cut insulation, and loose wires.
C	omputer checklist
	Is the computer plugged into a live outlet? Did you turn on the computer?
	Does the computer work with any software? Try one of your other programs. If the computer has a diagnostic diskette, use it.
	Is your software package installed correctly?
	Does the serial port work? The only way to test the port without special equipment is to reinstall something that has worked in the past and test if it still works.
	Have there been any recent electrical storms in your area that may have damaged your equipment?
So	oftware checklist
Do	pes the tablet work with some software?
If y wo	vour tablet currently works with some software packages, you know that the tablet, serial port, and computer ork.
	Even if the software package you are trying to install and the software that is working both support the same tablets, it does not always mean that you can use the same tablet settings. The output format may be the

- 22 -

same, but the communications protocol, resolution, operating mode, and data rate may be different. Check

□ Call the software manufacturer. Perhaps the software package has a problem with another component of

your software's requirements.

your system.

### Did the software work in the past?

If the software package worked with the tablet in the past, then the problem lies with the new setup.

- □ Check all the connectors. Is the tablet still plugged into the same port? If yes, reset the tablet by unplugging and replugging the power supply and restart the software.
- Did you reset or power down the computer?
- During reset and power on the computer can send meaningless characters out the serial port and this can disable the tablet. Reset the tablet again.
- Have you installed any new software or hardware? Remove it from your system and see if the problem goes away.
- Did you move any cables?
- If you are using a PC, did the new software alter your AUTOEXEC.BAT file?
- Have you updated the software or its drivers?
- Are you loading another mouse driver?
- Did you reinstall the software, perhaps after a problem with your hard drive? Double check your installation procedure and the driver you selected.
- Reinstall the software from its master diskettes. The program files may have been corrupted.

### **Troubleshooting chart**

The following table lists common DrawingBoard III problems, their causes and their solutions.

Problem	Cause	Solution
Frozen screen	Pointing tool is in "sleep" mode.	Press any button on the tool.
pointer	Menu strip is in configuration mode.	If the configuration light is on, click on the Config/Exit key on the menu strip.
	Tablet plugged into the wrong serial port on the computer.	Check that the serial port used is correctly identified in your software application.
	Tablet not powered correctly.	Check that the power cable is installed correctly.
	Batteries low in pointing tool.	Replace the batteries in the pointing tool.
	Software application set up incorrectly.	Check that the tablet is identified in your software application.
	Another device is connected to a COM port that shares the same IRQ as the tablet COM port (i.e., your tablet is connected to COM1 IRQ4 and your modem is connected to COM3 IRQ4).	Move one of the devices to another COM port. Contact your system manufacturer for assistance in relocating the device.
Screen pointer appears to shake	Tablet is set too close to the screen monitor.	Move the tablet farther away from the screen.
or jitter	Tablet's frequency setting may conflict with the display.	Alternate the pointing tool's frequency. (See the Reducing monitor frequency section earlier in this chapter.)
Unable to use the	Incorrect format selected.	Check your selections in the menu strip.
entire tablet surface	Software application set up incorrectly.	Check that the tablet is identified in your software application.

### Returning your tablet for repair

If you think you have a defective tablet, first see all topics in this section (above) and visit our Web site at <a href="https://www.gtcocalcomp.com/calcompproducts/a\_station/default.htm">www.gtcocalcomp.com/calcompproducts/a\_station/default.htm</a> for the latest support information.

If you are still unable to properly operate your digitizer system, call Technical Support at 480-443-2214 or e-mail us at <a href="mailto:calcomp.support@gtcocalcomp.com">calcomp.support@gtcocalcomp.com</a>. Technical Support will assist you in determining if your tablet is defective, and will help you obtain a Return Merchandise Authorization (RMA) number. <a href="mailto:lmportant:">Important:</a> Please do not return your product without first discussing the problem with, and receiving an RMA from, a GTCO CalComp Technical Support Specialist.

#### Repackaging for shipment

Whenever you ship electronic equipment, try to ship it in its original packing materials. Because packing materials are static-charged, you should ship the cursor or any extra electronics boards inside approved anti-static plastic bags. If you are shipping the tablet or accessories to a GTCO CalComp Service Center for repair, attach a tag to the equipment with the following information:

- Model number
- Serial number
- Maintenance contract number (if applicable)
- Return Merchandise Authorization number
- Detailed description of the problem

# **Specifications**

The following tables list **DrawingBoard III** technical specifications:

#### Topics discussed in this section:

Communications specifications

Design specifications

Electrical specifications

Regulatory specifications

Environmental specifications

Physical specifications

# **Communications specifications**

The **DrawingBoard III** tablet uses asynchronous serial RS-232C transmission with RS-232C/CCITT V.24 signals. The host end of the cable is standard.

# **Design specifications**

Feature Description

Resolution Up to 12,700 lpi (500 lpmm)

Accuracy ± .010" standard accuracy

(Models 34120, 34180, 34240, 34360, 34480 and 34600)

± .005" high accuracy (optional)

(Models 34360-H1, 34480-H1 and 34600-H1)

± .002" high accuracy (optional)

(Models 34360-H2, 34480-H2 and 34600-H2)

Proximity >.5" (12 mm)

Jitter ± 1 lsb
Repeatability .001"

Maximum >200 pps (corded)
Data Rate >170 pps (cordless)

# **Electrical specifications**

Feature Description

Power Source Wall mount power supply with a 2.1mm monoplug DC

connector and positive outside diameter

Input Voltage 12 to 17 VDC

Current Draw 400 ma

# **Regulatory specifications**

Feature Description

Safety UL1950, EN60950

Electromagnetic/Immunity FCC Class B, DOC Class B, VCCI Class II, EN50082-1, EN55022

# **Environmental specifications**

Feature Description

Operating Temperature 50° to 104°F (10° to 40°C)
Storage Temperature -40° to 158°F (-40° to 70°C)
Humidity Range 0% to 95%, non-condensing

Operating Altitude Up to 15,000 ft. (4,572m) above sea level Storage Altitude Up to 50,000 ft. (15,244m) above sea level

# Physical specifications

Model	Active Area	Footprint	Weight	Shipping Wt (Avg)
DB4-2024	20 in x 24 in	29 in x 34 in	23 lb	30 lb
	(508 mm x 610 mm)	(737 mm x 864 mm)	(10.5 kg)	(13.6 kg)
DB4-2436	24 in x 36 in	32.5 in x 46 in	25 lb	45 lb
	(610 mm x 914 mm)	(826 mm x 1168 mm)	(11.4 kg)	(20.4 kg)
DB4-3648	36 in x 48 in	44.5 in x 60 in	40 lb	71 lb
	(914 mm x 1219 mm)	(1130 mm x 1524 mm)	(18.2 kg)	(32.2 kg)
DB4-4460	44 in x 60 in	52.5 in x 69 in	69 lb	93 lb
	(1117 mm x 1524 mm)	(1333 mm x 1753 mm)	(31.3 kg)	(42.1kg)

# **Parts and Accessories**

The following table lists the **DrawingBoard III** systems and parts available for purchase. To order any of the items listed below, please contact GTCO CalComp at 1-800-458-5888 (Toll Free), or 480-443-2480, fax to 480-443-2284, email to calcomp.sales@gtcocalcomp.com, or visit us on-line at www.gtcocalcomp.com.

Tablets	Model	Description
	34120	12 x 12" active area
	34180	12 x 18" active area
	34240	18 x 24" active area
	34360	24 x 36" active area
	34480	36 x 48" active area
	34600	44 x 60" active area

Models 34360, 34480, and 34600 available with high accuracy, backlit and variable intensity options

#### Pointing Tools Description

4-button cursor, corded

4-button cursor, cordless

16-button cursor, corded

16-button cursor, cordless

16-button, high accuracy

Two-side button/click tip pen, corded

Two-side button/click tip pen, cordless

Two-side button/pressure tip pen, cordless

#### **Accessories Description**

Accessory tray for 34360, 34480, 34600

Power supply, 100/110V

Power supply, 220/240V

I/O cable with 9-pin connector

9- to 25-pin adapter

Magnifier lens for high accuracy cursor

Replacement overlay (12" x 12")

Replacement overlay (12" x 18")

Replacement overlay (18" x 24")

Six hearing aid type batteries for pens

Replacement tips for pen (3 pack)

# Glossary

#### **Accuracy**

The similarity of a distance measured by the tablet with the actual distance. When we specify that the accuracy of a tablet is  $\pm$  .010 inches, we mean that every point in the drawing area is within .010 inches of where it should be.

#### **ASCII**

Abbreviation for American Standard Code for Information Interchange.

#### **Baud rate**

The rate of speed that data flows between a host computer and the digitizer. It is the number of bits transmitted per second. The lower the baud rate, the slower the speed.

#### Bit

The basic unit of information in the binary system—either 0 or 1.

#### **Button**

A switch on the cursor or pen used to input data.

#### Byte

A group of eight bits that acts as a single unit of information.

#### Coordinate pair

A pair of numbers representing a unique point on the digitizer surface, usually the distance across and up from the tablet origin.

#### CR

The ASCII carriage return character usually added to the end of the X,Y coordinate pairs sent by the tablet (ASCII formats).

#### Cursor

1) A pointing tool used to select specific points on the tablet surface. 2) A symbol displayed on the screen marking where the next action will take effect or where the next character typed from the keyboard will appear.

#### **Data bits**

Each transmission contains 7 or 8 data bits.

#### **Data rate**

The number of coordinate pairs (X,Y) the tablet sends to the computer per second.

#### Default

A value, action or setting that a computer system assumes unless the user gives an explicit instruction to the contrary.

#### **Drawing area**

The area on the tablet surface intended for digitizing.

#### **Format**

The form in which data is sent from the tablet. The DrawingBoard III tablet can output 32 different formats.

#### **Frequency**

The number of waves that pass a fixed point in one second.

#### Height

See Proximity.

#### Increment modes

This mode is used with other operating modes. Data points are sent only if the pointing tool has moved the required increment distance in either the X or Y direction and has satisfied the requirements of the operating mode. These increment distances are set separately for each axis.

#### **Jitter**

A repeatability error of short duration caused by electrical noise.

#### Key

A portion of the tablet surface available to the user for tablet setup.

#### Line feed

Optional character added to the end of an output format that causes the printer to move to the next line, or causes a line to be added on the display screen.

#### Line mode

The tablet sends coordinate data points continuously, while the pen tip or a cursor button is depressed, and one additional point when the pen tip or cursor button is released.

#### LPI

Abbreviation for line per inch. English unit of measurement for resolution measuring the number of separate, distinguishable locations that may be found within the distance of one inch.

#### **LPmm**

Abbreviation for lines per millimeter. Metric unit of measurement for resolution measuring the number of separate, distinguishable locations that may be found within the distance of one millimeter.

#### Mouse mode

An operating mode that emulates Microsoft and Mouse Systems mouse drivers. Data constantly transmits when the cursor or pen is on the drawing area of the tablet.

#### Operating mode

The conditions that must be met before the tablet sends information to the computer.

#### **Output format**

The system of characters used by the DrawingBoard IV tablet for outputting data.

#### **Parity**

A type of error detection where a bit is inserted into every character the digitizer transmits. The status of the parity bit confirms that the data was not altered during transmission.

#### Pen tilt correction

An option that allows for tilt correction in the pressure pen.

#### Pen tilt data

An option that allows output of tilt data in the pressure pen.

#### Point mode

The digitizer transmits one coordinate data point when a cursor button or the pen tip is depressed.

#### **Pointing tool**

The tool used to digitize; it may be either a cursor or pen.

#### Pressure pen data

Data output from the pressure pen.

#### **Prompt mode**

The digitizer transmits one coordinate pair each time the computer sends a prompt character to the unit. Prompting can operate with any mode except Mouse mode.

#### **Proximity**

The greatest distance above the drawing area that the pointing tool can be raised and still be sensed by the tablet.

#### **RAM**

Abbreviation for Random Access Memory, a specific type of memory used by the computer.

#### Resolution

The distance increment that the tablet outputs in lines/inch or lines/mm.

#### **ROM**

Abbreviation for Read Only Memory, a specific type of memory used by the computer.

#### Run mode

The digitizer transmits coordinate data points continuously, regardless of the status of the cursor buttons or the pen tip. This mode is also called *Stream* by some manufacturers.

#### **Serial transmission**

Data transmission protocol where each bit of the data character is sent one at a time over a single circuit. This system saves on transmission circuitry, but is usually slower than parallel transmission.

#### Stop bits

One or two stop bits are transmitted with each data byte. They mark a completed transmission.

#### Track mode

The digitizer transmits coordinate data points continuously, but only while the cursor button or pen tip is depressed. This mode is also called *Switch Stream* by some manufacturers.

#### X direction

The horizontal direction across the face of the tablet.

#### Y direction

The vertical distance up and down the face of the tablet.

# Warranty for the United States and Canada

GTCO CalComp warrants to the original end user (as evidenced by a copy of the receipt and registration card that has been returned to GTCO CalComp within thirty (30) days of purchase date) that the product will be free from defects in materials and workmanship for a period of twelve (12) months from the date of purchase by the end user. GTCO CalComp, in its sole discretion, may either repair or replace the defective product. Cursors, pens, options, cables, power supplies, upgrade and accessory items are also covered by a twelve (12) month warranty.

All warranty service will be performed at the GTCO CalComp digitizer factory. The purchaser is <u>encouraged</u> to visit the Company's web site (**www.gtcocalcomp.com**) where current driver releases as well as comprehensive technical support, troubleshooting and FAQs can be found. The purchaser is <u>required</u> to call GTCO CalComp's Technical Support and Service Department at (480) 443-2214 for CalComp and Summagraphics brand products and (410) 312-9221 for GTCO and Science Accessories brand products to receive a Returned Material Authorization (RMA) number <u>prior</u> to returning any product thought to be defective. Purchaser is responsible for freight charges to the GTCO CalComp factory under this warranty.

A nominal warranty processing and handling fee will be charged after the first 90 days of use, calculated from the date of purchase by the original owner. This payment must be made by Credit Card prior to issuance of the RMA.

This warranty only applies to equipment purchased in the United States and Canada. For equipment purchased outside of the United States and Canada contact your local dealer or distributor.

This warranty does not cover: (1) consumable parts (i.e., batteries, pen tips, etc.); (2) products with serial numbers that cannot be read; (3) products which have been operated with incompatible consumable parts or accessories. Warranty will not cover damage resulting from: (1) abnormal conditions including but not limited to accidents, fire, water, etc.; (2) neglect or misuse of the product; (3) causes external to the product including but not limited to failure or fluctuation of electrical power, air conditioning, humidity control, etc.; (4) maintenance, repairs, alterations, or modifications performed by any person or entity other than GTCO CalComp.

THE FOREGOING EXPRESS WARRANTIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. GTCO CALCOMP SHALL IN NO EVENT BE LIABLE TO BUYER OR ANY THIRD PARTY FOR ANY CONSEQUENTIAL, INDIRECT, SPECIAL OR INCIDENTAL DAMAGES. IN NO EVENT SHALL GTCO CALCOMP'S LIABILITY EXCEED THE ORIGINAL PURCHASE PRICE OF THE PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. GTCO CALCOMP SHALL NOT BE LIABLE BECAUSE THE PRODUCTS OR ANY DEFECTS THEREIN CAUSED ANY DAMAGE TO OR FAILURE OF OTHER EQUIPMENT TO WHICH THE PRODUCTS ARE CONNECTED.

GTCO CALCOMP DISCLAIMS ANY LIABILITY FOR FAILURE OF THE PRODUCT TO CONFORM TO ANY AND ALL SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO DRAWINGS, MODELS AND SAMPLES OF THE PRODUCT THAT WERE USED IN CONNECTION WITH THE SALE OF THE PRODUCT.

SOME STATES DO NOT ALLOW FOR THE EXCLUSION OR LIMITATION OF CERTAIN LIABILITIES, SO THE ABOVE LIMITATION MAY NOT APPLY. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER LEGAL RIGHTS WHICH VARY FROM STATE TO STATE. FURTHERMORE, THIS WARRANTY MAY VARY IN OTHER COUNTRIES WHERE THE PRODUCT IS SOLD OR DISTRIBUTED.

# **About DrawingBoard III Help**

#### Part Number 902521 Rev. C

© 2003 GTCO CalComp, Inc. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of GTCO CalComp, Inc.

DrawingBoard III and CalComp Advanced Function Technology (AFT) are trademarks and CalComp is a registered trademark of GTCO CalComp, Inc. ARCINFO is a trademark of ESRI. AutoCAD is a trademark of Autodesk, Inc. CADKEY is a registered trademark of CADKEY, Inc. DesignCAD 2-D or 3-D is a trademark of Viagrafix. GeneriCAD is a trademark of Autodesk, Inc. GTCO and MD7 are trademarks and DigiPad is a registered trademark of GTCO CalComp, Inc. Hitachi is a trademark of Hitachi America, LTD. Houston Instruments and HI Pad are trademarks of AMETEK, Inc. IBM is a registered trademark of International Business Machines Corp. Kurta is a registered trademark of Kurta Corp. Macintosh is a trademark of Apple Computer, Inc. MAPINFO is a trademark of Mapping Information Systems Corp. Microsoft and Microsoft Windows are registered trademarks of Microsoft Corp. MicroStation is a trademark of Bentley Systems, Inc. Mouse Systems mouse is a trademark of Mouse Systems Corp. SummaSketch and Summagraphics is a trademark or registered trademark of GTCO CalComp, Inc. Timberline is a trademark of Timberline Software Corp. VersaCAD is a trademark of VersaCAD Corp.