



# *DrawingBoard III*

## **USER'S GUIDE**

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If you think you have a defective tablet, call CalComp's Technical Support at 1-800-458-5888 for verification. Before returning a failed unit, you must obtain a Return Merchandise Authorization (RMA) number from Technical Support. The RMA number should be prominently displayed on the outside of the returned package and on the accompanying packing list. CalComp cannot be held responsible for any package returned without an RMA number.

Warranty does not cover: (1) consumable parts (i.e., batteries, pen tips, etc.); (2) tablets with serial numbers that cannot be read; (3) tablets 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 tablet; (3) causes external to the tablet 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 CalComp.

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- 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.

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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.

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# 1 Introduction

DrawingBoard III is a full-featured digitizing tablet used to input graphical information into your computer. The tablet combines sophisticated software and programmable function keys to provide high productivity. DrawingBoard III also eliminates the need for multiple input devices given its ability to be used both as a mouse and a digitizer.

By placing a drawing or sketch on the tablet's surface and tracing or digitizing specific elements of the drawing, you can easily convert graphics into accurate digital information that is input into the computer. This information is then available for manipulation by your software program. When used as a mouse, DrawingBoard III allows you to select software commands from the computer screen or from a template attached to the tablet.

DrawingBoard III can be used for drawing, drafting, mapping, desktop publishing, presentation graphics, and other software applications. It is available in six sizes and comes with both corded and cordless pointing devices.

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## DrawingBoard III compatibility

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This version of the DrawingBoard III includes an RS-232 interface. In addition to its digitizer capabilities, the tablet is hardware compatible with Microsoft mouse and Mouse Systems mouse drivers.

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## System requirements

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### PC

In order to use DrawingBoard III with a PC, you will need the following as a minimum:

- IBM PC-AT or 100% compatible computer
- 640Kb RAM
- 1 serial port
- Hard drive or network server drive

### Sun

In order to use DrawingBoard III on a Sun computer, you will need the following as a minimum:

- Sun Sparcstation
- 1 serial port
- Hard drive or network server drive
- Solaris 1.x or 2.x

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## How to use this manual

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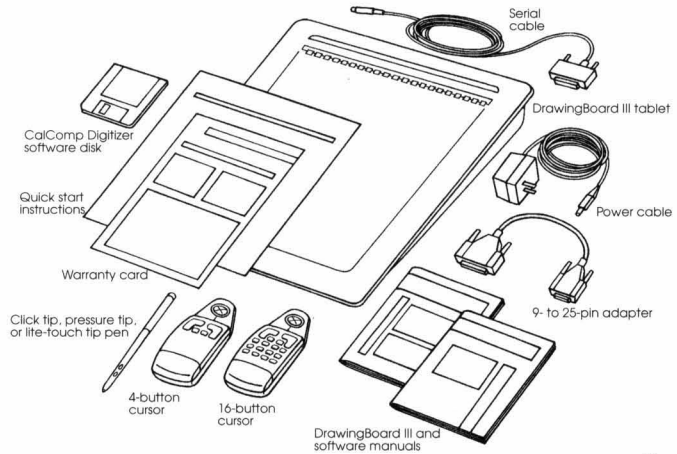
This manual provides you with the information you need to successfully install and operate DrawingBoard III. It is designed so that important elements are easily seen. The left margin is used to highlight categories of information with headings and special notes. Any words printed in *computer type* are commands that you need to type at your keyboard. Words within angle brackets, < >, are names of keys you need to press. For example, <Enter> means to press the Enter key.

# 2 Getting Started

Getting started with the DrawingBoard III is fast and easy. The main steps include:

- Unpacking DrawingBoard III
- Installing the tablet
- Installing the drivers and software
- Verifying installation

Figure 2-1: DrawingBoard III package contents



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## Unpacking DrawingBoard III

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Before you begin installation, verify that you have received everything you ordered. Package contents are listed on the end of the box. In addition to the tablet, you should have received:

- Pointing device (at least one)
- 9- to 25-pin adapter
- Power supply
- This manual
- Software diskette and software manual
- Warranty card and quick start instructions

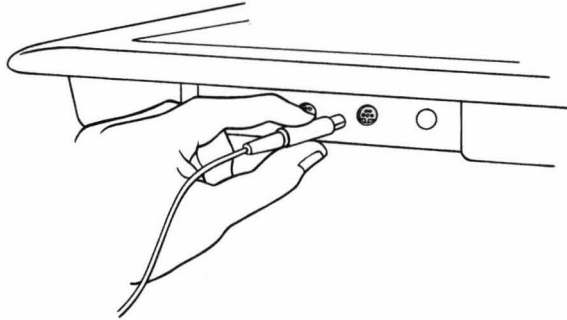
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## Installing the tablet

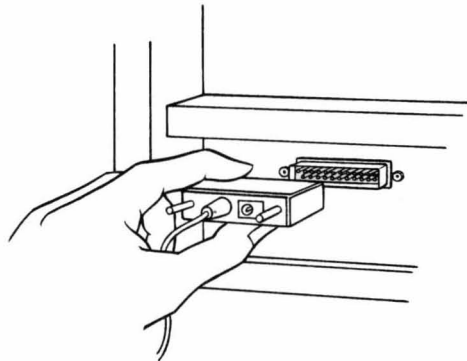
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All cable connections are made at the rear of the tablet. Turn off your computer and make sure the tablet power switch is in the off position.

### Step 1. Connect the serial cable



Connect the round end of the serial cable to the socket labeled I/O on the tablet.

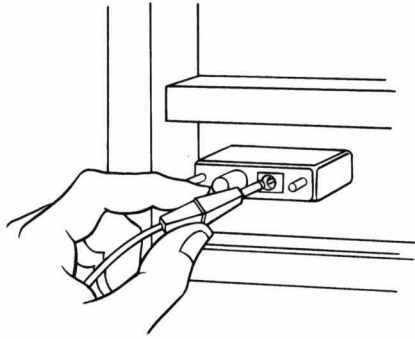


Connect the wide end of the serial cable to the computer's serial communication port. Tighten the thumbscrews.

If the 25-pin serial cable connector does not fit the computer port (i.e., it requires a 9-pin), use the short adapter cable provided. Connect the wide, 25-pin end of the serial cable to the wide end of

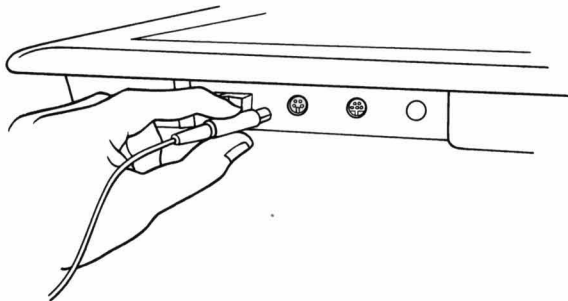
the adapter cable. Connect the small, 9-pin end of the adapter cable to the computer port.

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

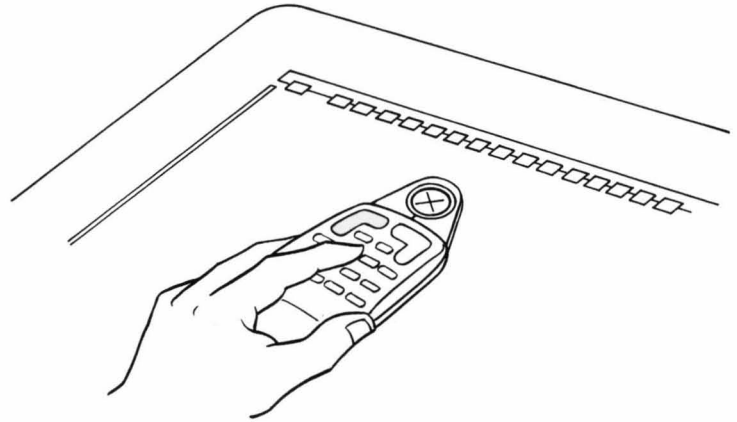


Connect the power cable into the back of the serial cable connector. Connect the power supply end to a power outlet or power strip.

## Step 3. Activate the pointing device



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



If you are using a cordless pointing device, place it on the active area of the tablet and press any button to activate the device.

Turn on your computer and tablet. The tablet power switch is located at the rear of the tablet for small format models and on the left side near the bottom of the tablet for large format models. The power light will turn on and glow steadily while the pointing device is within the active area of the tablet. If the pointing device is outside the active area of the tablet, the power light will blink.

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The cordless pointing devices use a "sleep mode" to conserve battery power. The device will go into sleep mode if a button has not been pressed for one to five minutes, depending on the type of device. When the pointing device is in sleep mode, the tablet power light will flash even if the device is within the tablet active area. To reactivate the device, press any of its buttons.

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## Installing the PC drivers and software

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*For information on installing drivers for other platforms, refer to the software manual included in the package contents.*

The CalComp Digitizer software allows you to use DrawingBoard III both as a mouse and a digitizer. It also provides extended tablet capabilities through the utility programs. The Digitizer Software User's Guide contains complete information on the DrawingBoard III drivers and utility programs.

You must install the CalComp Digitizer software if you intend to use DrawingBoard III in one or more of the following situations:

- You are using AutoCAD
- You are using Windows
- You want to use DrawingBoard III as a mouse in DOS applications

Otherwise, refer to Appendix B for instructions on setting up the tablet using the configuration keys on the menu strip.

### Step 1. Insert the disk into the floppy drive

Insert the Digitizer & Mouse drivers disk into the appropriate floppy drive (e.g., A or B).

### Step 2. Begin the installation program

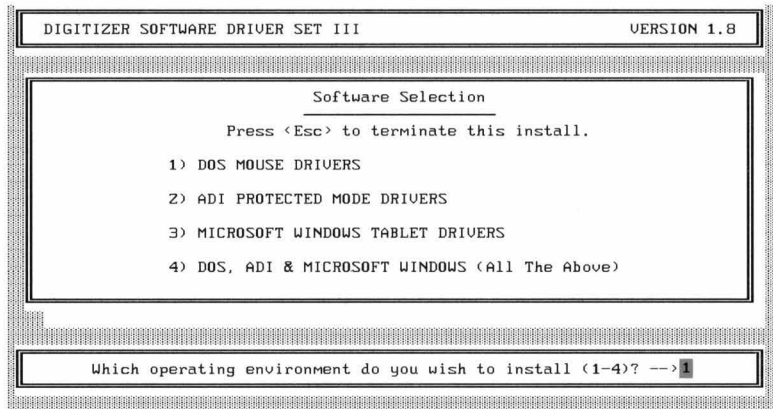
Begin the installation program by entering:

```
A: <Enter>  
INSTALL <Enter>
```

Type B: if you are using the B drive. You can cancel installation at any time during the program. To cancel, press <Esc>.

The preliminary screens ask you if you want to begin installation, the letter of the drive you will be installing to, and the directory name you will be installing to. Default responses appear at the bottom of the screen. If you wish to use the default, press <Enter>. For a different response, type the new information then press <Enter>.

### Step 3. Select your installation options



The installation options appear on the screen. You can choose to install any combination of the following drivers: DOS mouse drivers, ADI protected mode drivers, and Microsoft Windows tablet drivers. To select an option, type the number of the option then press <Enter>. The program will allow you to return to this screen to select additional drivers.

### Step 4. Follow the instructions on the screen

A series of instruction screens appears. The screens vary according to the installation options selected. Some will ask you to enter more information. Follow the instructions on the screen.

### Step 5. Completing the installation

Pay close attention to the final installation screens. They list changes the installation program made to your system files and give detailed instructions on how to complete your installation.

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## Configuring AutoCAD

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Follow the steps below to configure AutoCAD for use with a CalComp tablet. You must have previously installed the CalComp ADI drivers onto your computer (see the "Installing the drivers and software" section on page 2-6).

1. Begin AutoCAD and select Configure AutoCAD. The current configuration appears on the screen. Press <Enter>.
2. Select Configure Digitizer. The program displays the current digitizer selection and asks if you want a different one. Type Y.
3. A list of available digitizer drivers appears. Select the "4.2 Autodesk Device Interface (ADI) by CalComp" selection.
4. When the list of digitizers supported appears on the screen, select the correct digitizer, number of pointing device buttons, and the COM port.
5. The configuration screen appears again. Type 0 to exit then Y to save the changes.

## Configuring AutoCAD for Windows

If you are using AutoCAD for Windows, follow the steps below to configure AutoCAD for use with a CalComp tablet. You must have previously installed the CalComp ADI drivers onto your computer (see the "Installing the drivers and software" section on page 2-6).

1. From Windows, start AutoCAD.
2. Click on Configuration then Digitizer.
3. Select "CalComp Digitizer Series ADI" then Windows Tablet.
4. Specify the switch you will use for toggling between mouse and tablet modes.

To use a button on the pointing device, select YES then press the button you wish to use.

To use the bottom right corner of the tablet, select NO.

## **Using the tablet and a mouse with AutoCAD**

To use the tablet with a mouse, configure AutoCAD for use with a CalComp tablet using one of the methods described above. Answer NO to the mole mode selection.

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## Verifying installation

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Follow the steps below to verify your tablet and software are installed correctly.

### DOS

1. Load the tablet driver, CCMOUSE, by typing:

```
CCMOUSE <Enter>
```

2. If the tablet is installed correctly, the following message appears on your screen:

```
Driver installed, tablet found on COMn
```

where n is the number of the serial port you are using.

3. If the software cannot locate DrawingBoard III, the following message appears on your screen:

```
Driver not installed - CalComp Tablet not found
```

If the above message does appear, make sure the power is on and check the cable connection to your serial port to ensure the connection is tight. For more help, refer to Appendix A, Troubleshooting.

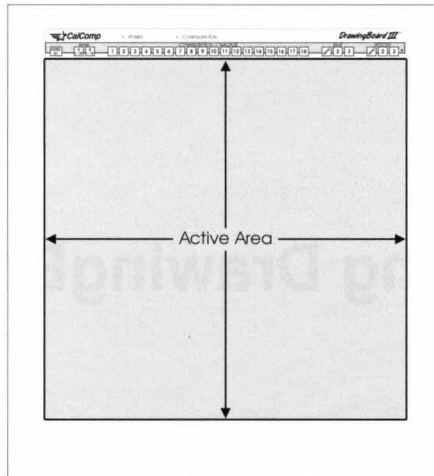
### Windows

1. Place the pointing device within the active area of the tablet then press any button.
2. Move the device around the active area. The screen cursor should respond to the movement of the pointing device.
3. If the screen cursor does not respond, call Technical Support.

# 3 Using DrawingBoard III

The DrawingBoard III tablet consists of three main areas—the active area, the menu strip, and the indicator lights. A wide selection of pointing devices is available with DrawingBoard III. The devices are also described in this chapter.

Figure 3-1: The active area of the DrawingBoard III



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## Active area

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The active area is the rectangular surface area of the tablet located below the menu strip (see Figure 3-1). The active area receives the signals sent by the pointing device and is the area where all digitizing is performed. The small format models have a clear plastic cover over the active area. The plastic cover provides a smooth digitizing surface. It can also be used to hold a template or a drawing to be traced or digitized.

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## Menu strip

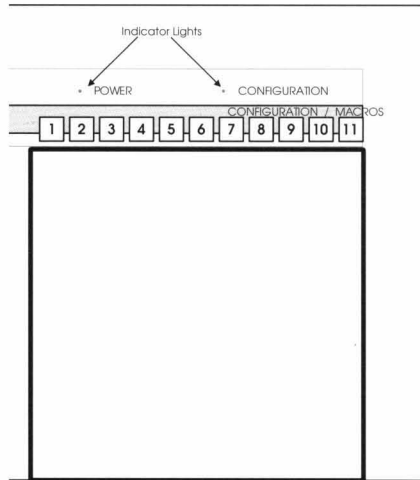
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The menu strip is the row of electronic keys located at the top of the tablet on small format tablets and in the lower left corner of the tablet on large format tablets. It is composed of keys that allow you to:

- Customize the tablet options and
- Execute macros

The menu strip is discussed in detail in Chapter 4.

Figure 3-2: The power and configuration lights



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## Indicator lights

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There are two indicator lights within the menu strip—power and configuration.

The *power light* is used to indicate both the power state and active area. When this light is on, the power is on. Also, if the light glows steadily, the pointing device is within the active area and height range of the tablet. When the power light blinks, the pointing device is outside the active area or height range of the tablet.

The power light also indicates the switch settings for the configuration keys in the menu strip (if the strip has been activated). When the pointing device is placed over a configuration key, the light turns off if the switch is off (i.e., 0), and the light glows steadily if the switch is on (i.e., 1).

The *configuration light* indicates that the menu strip has been activated. When the Config/Exit key is selected, the light turns on and a beep/click sounds. Changes to the configuration keys can be made at this time. The light stays on until the Config/Exit is reselected, exiting the configuration mode. A double beep/click sounds.



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## DrawingBoard III modes

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DrawingBoard III can be used in two modes—absolute and relative.

*Tablet mode is the default mode of the tablet.*

*Tablet mode* is often called absolute mode. It means locations on the tablet are mapped in reference to an origin. If the tablet is in tablet mode and is used in conjunction with a software program that uses a screen cursor, the screen cursor will always move to the same coordinate position on the screen as represented by the cursor or pen location on the tablet. More specifically, when you move the pointing device to the lower left corner of the tablet, the screen cursor moves to the lower left corner of the screen.

*Mouse mode is available through the CalComp Digitizer software.*

*Mouse mode* is the same as relative mode. The movement of the screen cursor reflects the direction and distance that the mouse has moved. However, if the screen cursor is in the upper left corner of the screen and you pick up the pointing device and place it in the upper right corner of the tablet, the screen cursor does not move (assuming the pointing device was moved out of proximity range). Mouse mode allows you to move the screen cursor across the full width of the screen while the mouse stays in a small area on the tablet.

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## Pointing devices

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Once you have installed the tablet, you can use DrawingBoard III by moving the pointing device about the surface of the tablet. The pointing device sends a signal to the tablet. Beneath the tablet surface are conductors that receive the signals. The tablet electronics read the signals and determine (with a very high degree of accuracy) the location of the pointing device, and determine when and which buttons are pressed on the pointing device.

*For information on replacing the pointing device batteries, see Chapter 5, Maintaining DrawingBoard III.*

There are two types of pointing devices available with DrawingBoard III—cursors and pens. The devices are available in both corded and cordless versions. The cordless devices are powered by batteries. A special battery saving feature has been designed into each pointing device. The device will go into a “sleep mode” if a button has not been pressed for one to five minutes, depending on the type of device. To reactivate the device, press any button.

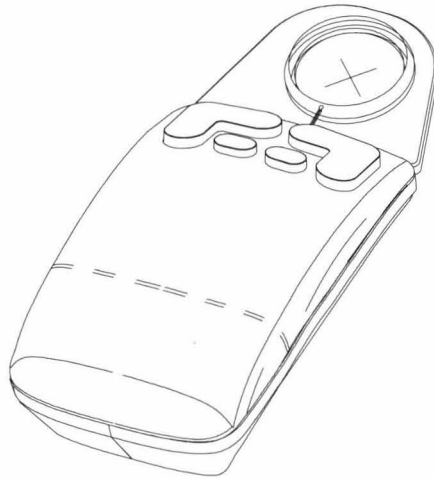
### Cursors

The cursor is similar to a mouse, except that it has an attached lens with crosshairs for highly accurate digitizing. The intersection point of the crosshairs identifies what point will be digitized when using DrawingBoard III as a digitizing tablet, or the corresponding point with the screen cursor when using DrawingBoard III as a mouse. The crosshairs are etched on the bottom of the lens to increase accuracy. For maximum precision, look through the lens from directly over it.

The cursor is used for accurate, detailed digitizing. To use the cursor, you must be sure that it is within the proximity of the active area of the tablet (within 1/2").

Both 4-button and 16-button cursors are available with DrawingBoard III.

Figure 3-3: The 4-button cursor



#### **4-button cursor**

This cursor has four buttons in an in-line layout. Button 0 is used as the pick (or left mouse) button. Buttons 1-3 are defined by the DrawingBoard III drivers or your software program. You can also record macros to the buttons using the CalComp Digitizer software.

Figure 3-4: The 16-button cursor



### **16-button cursor**

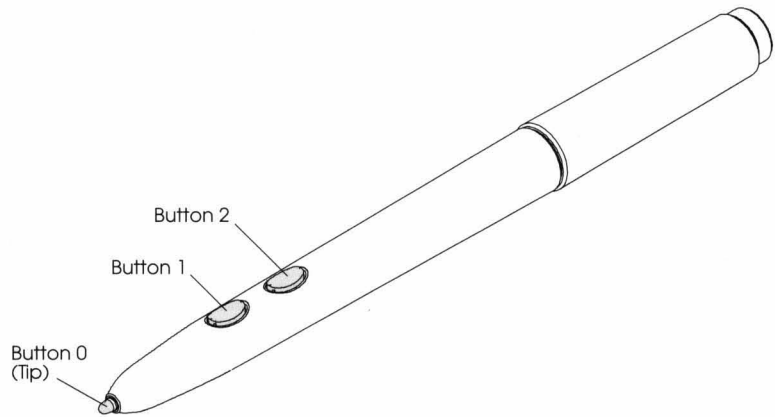
This cursor has 16 buttons numbered in a hexadecimal fashion (i.e., 0-9 and A-F). Button 0 is used as the pick (or left mouse) button and the remaining buttons are defined by the DrawingBoard III drivers or your software program. You can also record macros to the buttons using the CalComp Digitizer software.

## **Pens**

The pen is similar in appearance to a ball-point pen. It can be used for drawing, tracing, and menu selection as well as digitizing. The pen has three buttons—the pen tip and two side buttons on the barrel. The pen tip (Button 0) has a built-in switch that 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 pens available with DrawingBoard III are the click tip pen, the pressure tip pen, and the lite-touch tip pen. The pressure tip and lite-touch tip pens are only available in cordless version.

Figure 3-5: The DrawingBoard III pen



### Click tip

The click tip pen is identified by the light blue ring on the pen barrel. The pen uses a pen tip with a tactile click that acts as the mouse button. The two side buttons are defined by the DrawingBoard III drivers or your software program. You can also record macros to the buttons using the CalComp Digitizer software.

To use the pen, press down until you feel the tip “click”. You must be sure that the pen is within the proximity of the active area of the tablet (within 1/2”).

### Pressure tip

CalComp Advanced Function Technology (AFT) provides pressure sensitive pens that allow you to communicate variable data by changing the pressure applied to the pen tip. To take advantage of this feature, the software program you use must support the AFT data. The software assigns values to the pressure levels and uses this data to vary such parameters as line width and color. AFT also provides pens sensitive to tilt and height.

The pressure tip pen is identified by the black ring on the pen barrel. The pen tip can be used both as a mouse button and a pressure sensitive button.

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.

*The black dot is not active if the configuration light is on.*

You can use the pressure tip pen as a click tip pen with any program that does not recognize pressure sensitivity. The pen tip will exhibit no tactile click, however it will engage when pressed down lightly. You can vary the point where the tip engages by using the black dot on the menu strip next to the Restore 3 key. Place the pen on the dot then press down on the tip until you reach the point where you would like the "click" to engage. The new setting will be active until the tablet is powered off.

### **Lite-touch tip**

The lite-touch tip pen is identified by the red ring on the pen barrel. The pen tip is called lite-touch because it exhibits no tactile click or travel when it is pressed, much like an actual writing pen. Use this pen the same as you would a writing pen, by touching the tip to the tablet.

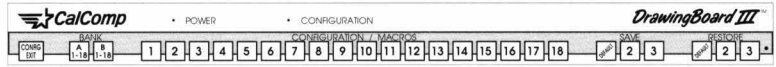
**Notes:**

# 4 Using the Menu Strip

The menu strip is the row of electronic keys located near the top of the tablet on small format tablets and in the lower left corner of the tablet on large format tablets. The menu strip can be used to configure DrawingBoard III for your software program, set up alternate configurations, customize a configuration, or execute macros.



Figure 4-1: The DrawingBoard III menu strip



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## Menu key definitions

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The menu strip is composed of:

- Config/Exit key
- 2 bank keys
- 18 configuration/macro keys
- 3 save keys
- 3 restore keys

To activate a key on the menu strip, position the pointing device (i.e., pen tip or cursor crosshairs) over the key, then press any button on the pointing device. This method will be referred to as “click” from now on.

### Config/Exit key

The Config/Exit key activates configuration mode for the menu strip. Configuration mode allows keys 1-18 to be used as configuration keys (as opposed to macro keys). You must click on Config/Exit before you can change the configuration key settings. After you click on the Config/Exit key, the configuration light on the menu strip turns on and you will hear a beep/click. The tablet remains in configuration mode until you click the Config/Exit key again to turn it off. You will hear a double beep/click.

### Configuration/Macro keys

The keys numbered 1-18 on the menu strip can be used as both configuration and macro keys. When accessed directly, the numbered keys play back a previously recorded macro. Macros can only be recorded with the Digitizer Software (see the Digitizer Software User’s Guide for more information).

The configuration keys can only be accessed if the menu strip is in configuration mode (i.e., Config/Exit key is activated). Each key can only have two settings—on or off. The key setting is determined by positioning the pointing device over the key. If the power light glows steadily, the key is on (a 1 value). If the power light

*DrawingBoard III can also be configured using the CalComp Digitizer software (see the Digitizer Software User’s Guide).*

turns off, the key is off (a 0 value). The keys are combined in groups of on and off settings that define various tablet options.

For example, keys 1 and 2 are combined to define the tablet operating mode. Four mode options are available: line (00), point (01), track (10), and run (11). If you wanted to use point mode, then you would set key 1 to 0 (off) and key 2 to 1 (on), making up the 01 value required for point mode. Appendix B contains a listing of configuration key combinations and the tablet options they define.

## Bank keys

There are two bank keys (A and B) that you can access when the configuration mode is active. The bank keys allow for a greater number of tablet options because all 18 configuration keys can be used with each bank, expanding the number of available keys to 36.

You must click on a bank key before you can change the setting of a configuration key. If the menu strip is in configuration mode, you can determine which bank you are in by positioning the pointing device over one of the bank keys. The power light in the menu strip glows steadily if the bank is active and turns off if the bank is inactive.

## Save/Restore keys

The save keys work hand in hand with the restore keys. The save keys write to the three memory banks provided with Drawing-Board III, and the restore keys activate the configurations saved to the memory banks. These memory banks have preset factory configurations assigned to them. The factory configurations provide you with the three most commonly used tablet configurations. However, you may need to use a different configuration. If so, you can set up the configuration using the configuration keys then save the settings to one of the memory banks by using the save keys. The new configuration overwrites the one in the memory bank. If you reconfigure the tablet and do not save the new configuration, it will be lost when you power off the tablet.

The save keys can only be accessed when the Config/Exit key is active.

## Default keys

The Default keys control the first memory bank. The configuration saved to this bank is activated with each power up or when you click on the Default restore key while in configuration mode. We recommend you save the program settings you use most often as Default. The preset factory configuration for the Default key is GTCO DP5 High Resolution Binary.

## Save/Restore 2 keys

These keys save and restore the second memory bank. The configuration saved to this bank is activated when you click on the Restore 2 key while in configuration mode. The preset factory configuration for Save 2 is Summagraphics MM 1201 Binary.

## Save/Restore 3 keys

These keys control the third memory bank. The configuration saved to this bank is activated when you click on the Restore 3 key while in configuration mode. The preset factory configuration for Save 3 is CalComp 2000 ASCII.

## Saving a custom configuration

The following steps summarize how to set up a custom configuration from the menu strip and save it to a memory bank.

1. Click on the Config/Exit key. The configuration light turns on and you hear a beep/click.
2. Click on one of the bank keys (i.e., A or B).
3. Determine the configuration key settings for the selected bank by positioning the pointing device over each of the configuration keys you want to examine for that bank. The power light turns off if the configuration key has a 0 value and glows steadily if the key has a 1 value. Click on the key to change the setting, if needed.
4. Repeat steps 2 and 3 for the remaining bank as required.
5. Once you have completed the settings for the configuration keys, click on one of the save keys to save the settings to a memory bank. *This step may be omitted, but the settings will only*

*Appendix B lists the configuration key settings for popular software programs. You will also find a table of configuration key combinations and the tablet options they define.*

*be temporary for the current session and will be lost when the tablet is powered off.*

6. Click on the Config/Exit key. The configuration light turns off and you will hear a double beep/click.

### **Restoring a custom configuration**

The restore keys activate the three memory banks of the tablet. To activate a memory bank with a restore key:

1. Click on the Config/Exit key. The configuration light turns on and you will hear a beep/click.
2. Click on the appropriate restore key. The tablet will be set to the new setting.
3. Click on the Config/Exit key. The configuration light turns off and you will hear a double beep/click.

**Notes:**

# 5 Maintaining DrawingBoard III

Follow these precautions at all times to avoid damage to the tablet:

- 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 digitizing.
- Do not mount any monitor or keyboard extension arms to large format tablets.

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## Cleaning the tablet

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To clean the tablet's surface, use mild soap and water. Use a soft, non-abrasive cloth to clean dust from the tablet surface. Hardened dirt may be removed with a cloth dampened in soapy water. 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.

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Abrasive cleaners, acrylic or lacquer paint thinners, and cleansers with an acetone or solvent base, such as MDC or EDC, should not be used on the tablet surface. They will damage the tablet case.

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## Replacing pointing device batteries

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The cursors require two AAA batteries. The pens require two 1.55 volt, size 393 hearing aid batteries. The pens are designed to operate on two or four batteries. You can use all four batteries at one time for longer battery life or you can choose to use two of the batteries and keep the remaining two as spares. The spare batteries can either be removed or stored in the battery casing with the polarities reversed (+ to - and - to +). Reversing any battery creates an open circuit and deactivates the battery pair (i.e., batteries 1 and 2 or 3 and 4 as shown in Figure 5-2).

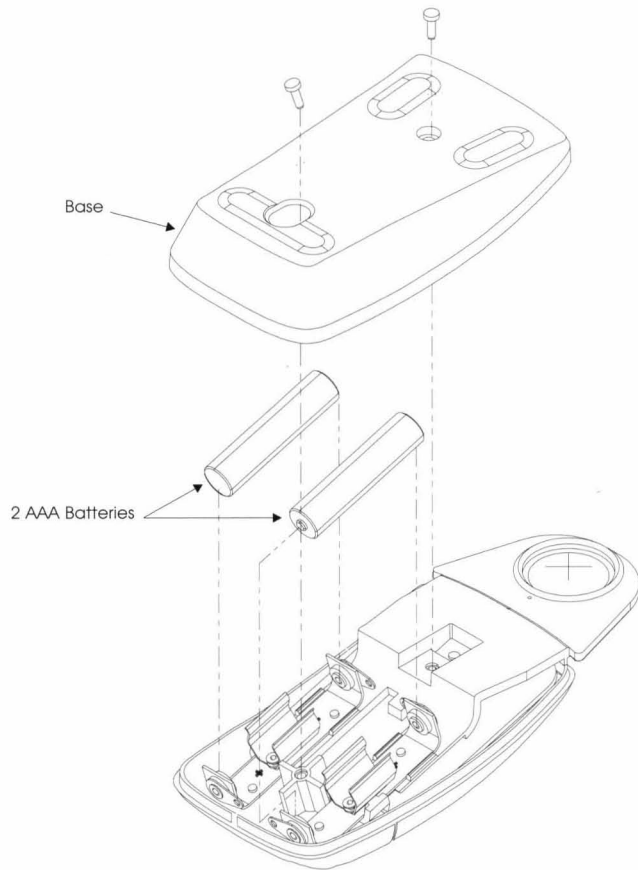
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Do not use ZINC AIR batteries as replacement batteries. They will corrode the electronics of the pen.

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Figure 5-1: Replacing the batteries in the cursor

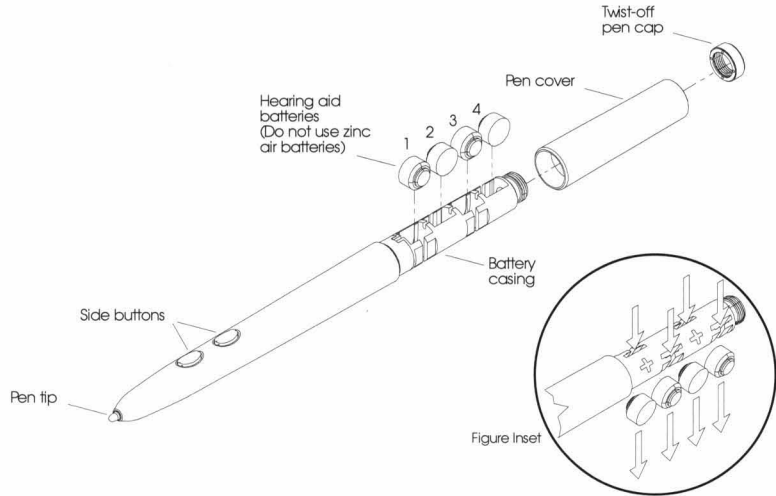


## Cursors

Follow the steps below to replace the batteries for the Drawing-Board III cursor (see Figure 5-1).

1. 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. 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.

Figure 5-2: Replacing the batteries in the pen



## Pens

Follow the steps below to replace the batteries for the click tip, pressure tip, or lite-touch tip pens (see Figure 5-2).

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 pushing a thin, pointed object through the open slot on the bottom of the battery casing (see figure inset).
3. If you wish to use four batteries, position the batteries as they are shown in Figure 5-2.

If you wish to use two batteries, you must position the batteries in slots 1 and 2 or in slots 3 and 4 (see Figure 5-2) then remove or reverse the remaining battery pair.

4. Replace the pen cover then screw the pen cap onto the pen.

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## Returning for repair

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If you think you have a defective tablet, call CalComp's Technical Support at (800)458-5888. Technical Support will verify that your tablet is defective and will help you obtain a Return Merchandise Authorization (RMA) number from Customer Assistance. All returned packages must have an RMA number. The RMA number should be prominently displayed on the outside of the returned package and on the accompanying packing list. CalComp cannot be held responsible for any package returned without an RMA number.

## Repacking 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 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

# A Troubleshooting

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## How to get help

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

1. Reread the manual to verify you have performed the correct steps.
2. Read this appendix to check if a solution to your problem is provided. Review the checklists as well as the troubleshooting chart. Keep in mind that the problem may be your computer, your display, or your software instead of the tablet.
3. If you still have a problem, call CalComp Technical Support at (800)458-5888 (in the U.S. or Canada) or fax us at (602)948-5508. Outside the U.S. or Canada, contact your local 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 serial number\*

\*Serial number, part number, and date of manufacture are found underneath the tablet.

- DrawingBoard III part number\*
  - Date of manufacture\*
  - Type of pointing device you are using
4. Be at your computer when you call.

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## CalComp's bulletin board

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CalComp's bulletin board covers helpful hints, technical notes, and new product information. You can access the bulletin board with your modem by calling (714)236-3045. To access the bulletin board, set your modem with the following parameters:

- 1200 baud or higher
- 8 data bits
- 1 stop bit
- No parity

\* Serial number, part number, and date of manufacture are found underneath the tablet.

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## Tablet check list

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- Is the tablet power supply plugged into the serial connector and into a live outlet?

Is the tablet power switch on?

- Is the power light glowing when the cursor is in the active area? Does it blink when the cursor is out of the active area? If not, try another cursor or pen.

If you are using a cordless cursor or pen, the power light will blink if the pointing device has gone into sleep mode. Press any button on the pointing device to activate it. If the power light continues to blink and the pointing device is in the active area, change the battery in the pointing device.

- 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 in the correct serial port specified in your software package.

- Are the tablet's configuration parameters set for values the software expects?

- Are any of the connector cables or receptacles damaged? Check for bent pins, cut insulation, and loose wires.

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## Computer check list

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- 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 it require you to install a security device or enter a security code before it runs?
- 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.

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## Software check list

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### Does the tablet work with some software?

If your tablet currently works with some software packages, you know that the tablet, serial port, and computer work.

- 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 same, but the communications protocol, resolution, operating mode, and data rate may be different. Check your software's requirements.
- Call the software manufacturer. Perhaps the software package has a problem with another component of your system. Does the software require you to install a security device before it will work?

### 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 configuration.

- 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 or remove the software security device?
- If you are using a PC, did the new software alter your AUTO-EXEC.BAT file?
- Have you updated the software or its drivers?
- 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.

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
Frozen display screen crosshairs	Cordless pointing device is in "sleep" mode.	Press any button to activate the device.
	Tablet plugged into the wrong port in the back of the computer.	Check that the serial cable is connected to the serial port on the computer.
	Tablet not powered correctly.	Check that the power cable is installed correctly.
	Battery low in cordless pointing device.	Replace battery in pointing device.
Screen crosshairs appear to shake or jitter	Tablet is set too close to the screen monitor.	Move the tablet farther away from the screen.
	Tablet's frequency setting may conflict with the display.	If you have a corded pointing device, change the tablet's frequency (see Appendix B, Configuration key definitions). If you have a cordless pointing device, call Technical Support.
Keyboard will not respond	Operating parameters are set incorrectly.	Remove pen or cursor from active area, exit software, and recheck the tablet settings.
Tablet does not respond	Cable is connected to the wrong serial port of the computer.	Move cable to correct serial port.
	Menu strip is in configuration mode.	If the configuration light is on, click on Config/Exit key in the menu strip to turn off.
Unable to use the entire tablet surface	Incorrect format selected.	Check your selections in the menu strip.
	Incorrect resolution selected.	Check the resolution setting for the tablet.

# B Tablet configurations

This appendix describes how to set up DrawingBoard III to work with software packages that do not use a digitizer or mouse driver. The configuration keys in the menu strip can be used to set various tablet options for DrawingBoard III. The following sections describe the available ways to set up DrawingBoard III:

- **Preset configurations** You can use one of three preset factory configurations. DrawingBoard III provides three of the most commonly used tablet configurations through the restore keys on the menu strip—GTCO, Summagraphics, and Cal-Comp 2000.
- **Common software program setup** This table lists the configuration key setup required for common software programs. There is one table for PC programs and one for Sun programs. Find the program you are using then set up the configuration keys on the menu strip according to the table. Refer to Chapter 4 to learn how to activate the configuration keys.
- **Configuration key definitions** This table lists the configuration key settings required to enable various tablet options. This table is provided to accommodate those needing a custom tablet configuration. That is, if your software program does not use a digitizer or mouse driver, one of the common preset configurations, and is not listed in the software program table, then use this table to set the options required by your software.

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## Using the preset configurations

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There are three factory preset digitizer configurations available with DrawingBoard III:

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

These are stored in tablet memory banks Default, 2, and 3, respectively. The preset configurations are available for DrawingBoard III through the restore keys on the menu strip. Check the manual for your software program to see if it requires one of these preset formats.

### Activating a preset configuration

The Default configuration is available when the tablet is initially powered on. To activate one of the other preset configurations:

1. Click on the Config/Exit key. The configuration light turns on and you will hear a beep/click.
2. Click on the desired restore key.
3. Click on the Config/Exit key again. The configuration light turns off and you will hear a double beep/click.

### Preset configuration settings

The following table lists the tablet settings used by the preset configurations.

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

## Recommended settings for common PC software programs

The following table lists the recommended configuration key settings for common PC software programs used with Drawing-Board III.

Application (format)	Bank	Key Settings (1-18)					
<b>Default—GTCO DP5 High Resolution</b> (factory default)	A	110	001	111	101	011	101
	B	001	100	000	100	000	001
<b>Save 2—Summagraphics MM 1201 Binary</b> (factory default)	A	100	001	001	001	111	011
	B	001	000	000	000	000	001
<b>Save 3—CalComp 2000 ASCII</b> (factory default)	A	010	001	110	010	000	010
	B	001	001	000	000	000	001
<b>ANVIL 5000</b> (CalComp 9100-2)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>ANVIL 5000</b> (CalComp 9100-3 using a 4-button cursor)	A	100	000	011	001	111	001
	B	001	000	000	000	000	001
<b>ANVIL 5000</b> (CalComp 9100-1)	A	110	000	110	011	110	001
	B	001	001	000	000	000	001
<b>ARCINFO</b> (CalComp 9100)	A	010	001	111	100	011	001
	B	001	100	000	000	000	001
<b>ARCINFO</b> (GTCO Digi-Pad using a 16-button cursor)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>Atlas Draw</b> (CalComp 9100)	A	110	001	111	100	010	000
	B	001	001	000	000	000	001
<b>AutoCAD</b> (ADI)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>AutoCAD</b> (GTCO Digi-Pad 5/5a using a 16-button cursor)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>AutoCAD</b> (Numonics 2200)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>AutoCAD</b> (CalComp 9100)	A	110	001	111	100	010	000
	B	001	001	000	000	000	001
<b>AutoCAD</b> (Summagraphics MM 1201 using a 4-button cursor and a 12" tablet)	A	100	000	011	001	111	001
	B	001	000	000	000	000	001

Application (format)	Bank	Key Settings (1-18)					
<b>C&amp;G Survey</b> (CalComp 9100)	A	110	001	111	100	010	000
	B	001	001	000	000	000	000
<b>C&amp;G Survey</b> (GTCO DP5 High Resolution)	A	110	011	111	101	011	101
	B	001	100	000	000	000	001
<b>CableCAD</b> (CalComp 2000 ASCII)	A	111	001	001	100	000	010
	B	001	000	000	000	000	001
<b>CableCAD</b> (CalComp 9100)	A	110	001	111	100	011	001
	B	001	100	000	000	000	001
<b>CADKEY</b> (GTCO DP5 High Resolution using a 16-button cursor)	A	110	001	111	101	011	101
	B	001	100	001	100	000	000
<b>CADKEY</b> (Summagraphics MM 1201 using a 4-button cursor)	A	100	000	011	001	111	001
	B	001	000	000	000	000	001
<b>CADVANCE</b> (CalComp 9100)	A	110	001	111	100	011	001
	B	001	100	000	000	000	001
<b>CADVANCE</b> (GTCO DP5 High Resolution)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>CasCAD II</b> (Summagraphics Bitpad 2)	A	110	001	110	011	111	101
	B	001	000	000	000	000	000
<b>CIVILSOFT</b> (CalComp 9100)	A	110	001	111	100	010	000
	B	001	001	000	000	000	001
<b>CIVILSOFT</b> (GTCO Digi-Pad 5/5a using a 16-button cursor)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>COGO-PC</b> (CalComp 9100)	A	110	001	111	100	010	000
	B	001	001	000	000	000	001
<b>DesignCAD</b> (Summagraphics MM 1201 using a 4-button cursor)	A	100	000	011	001	111	001
	B	001	000	000	000	000	001
<b>DesignCAD 2D</b> (GTCO DP5 High Resolution using a 16-button cursor)	A	110	001	111	101	011	101
	B	001	100	000	000	000	000
<b>DesignCAD 3D</b> (GTCO DP5 High Resolution using a 16-button cursor)	A	110	001	111	101	011	101
	B	001	100	000	000	000	000
<b>DiGiCAD</b> (CalComp 9100)	A	110	001	111	100	010	000
	B	001	001	000	000	000	001

<b>Application (format)</b>	<b>Bank</b>	<b>Key Settings (1-18)</b>					
<b>DIGITIZE</b> (CalComp 9100)	A	010	001	111	100	010	000
	B	001	000	000	000	000	001
<b>Dr. Halo III</b> (Summagraphics MM 1201 using a 4-button cursor)	A	100	000	011	001	111	001
	B	001	000	000	000	000	001
<b>Dr. Halo III</b> (GTCO Large Pad using a 16-button cursor)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>Drafix CAD</b> (Numonics 2200)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>Drafix CAD</b> (SummaSketch MM using a 4-button cursor)	A	100	000	011	001	111	001
	B	001	000	000	000	000	001
<b>DRAWBASE</b> (CalComp 2500)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>EasyCAD 2</b> (CalComp 9100)	A	110	101	111	100	010	010
	B	001	001	000	000	000	000
<b>EasyDIJ</b> (CalComp 9100)	A	110	001	111	100	010	010
	B	001	001	000	000	000	001
<b>FastCAD</b> (CalComp 9100)	A	110	101	111	100	010	000
	B	001	001	000	000	000	000
<b>Freelance</b> (Summagraphics MM 1201 using a 4-button cursor)	A	110	001	001	001	111	011
	B	001	000	000	000	000	001
<b>GeneriCAD</b> (CalComp 9100)	A	110	001	111	100	011	000
	B	001	001	000	000	000	001
<b>GeneriCAD</b> (GTCO Digi-Pad using a 16-button cursor)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>GeneriCAD</b> (Summagraphics MM 1201 using a 4-button cursor)	A	100	000	011	001	111	001
	B	001	000	000	000	000	001
<b>Lumena</b> (WACOM ASCII)	A	110	001	101	001	000	101
	B	001	100	011	010	000	001
<b>Lumena</b> (CalComp 2000 Binary)	A	110	001	110	001	110	001
	B	001	100	000	010	000	001
<b>MapInfo</b> (CalComp 9100)	A	010	001	111	100	011	011
	B	001	100	000	000	000	001

Application (format)	Bank	Key Settings (1-18)					
<b>MapInfo</b> (CalComp 2000 Binary)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>Measure Master</b> (GTCO DP5 ASCII)	A	010	001	111	100	100	111
	B	001	000	000	000	000	001
<b>Medusa</b> (Hitachi ASCII)	A	010	001	100	010	110	000
	B	001	000	000	100	000	001
<b>Medusa</b> (Hitachi ASCII Sign)	A	010	001	100	010	111	000
	B	001	000	000	000	000	001
<b>MicroCADAM</b> (Summagraphics MM 1201 using a 4-button cursor)	A	110	000	010	101	111	001
	B	001	000	000	000	000	001
<b>MicroStation</b> (CalComp 9100)	A	110	001	111	100	010	101
	B	001	100	000	000	000	001
<b>Mirage</b> (Summagraphics MM ASCII)	A	100	000	001	000	001	111
	B	001	000	000	000	000	000
<b>PacSOFT</b> (CalComp 9100)	A	010	001	111	100	011	000
	B	001	000	000	000	000	001
<b>Paydirt</b> (CalComp 9100 #3, custom)	A	010	001	111	100	011	000
	B	001	001	000	000	000	001
<b>PC Paintbrush IV Plus</b> (GTCO SketchMaster using a 4-button cursor)	A	100	000	011	001	111	001
	B	001	000	000	000	000	001
<b>Personal Designer</b> (Kurta)	A	110	001	000	011	110	000
	B	001	001	000	000	000	001
<b>Personal Machinist</b> (Kurta)	A	110	001	110	011	110	001
	B	001	100	000	000	000	001
<b>Point Line CADD</b> (CalComp 9100)	A	110	001	101	100	010	000
	B	001	001	000	000	000	000
<b>Sigma-Scan</b> (CalComp 9100)	A	110	001	111	100	010	000
	B	001	001	000	000	000	001
<b>SmartCAM</b> (Kurta Series III)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>Targa Plus Tips</b> (Summagraphics MM 1201 Binary)	A	100	001	001	001	000	011
	B	001	000	000	000	000	001

<b>Application (format)</b>	<b>Bank</b>	<b>Key Settings (1-18)</b>					
<b>Timberline</b> (CalComp 9100)	A	010	001	111	100	011	001
	B	011	100	000	000	000	001
<b>Timberline</b> (Summagraphics MM 1201 Binary)	A	010	001	111	101	111	000
	B	011	000	000	000	000	000
<b>Ventura Publisher</b> (Mouse Systems Mouse)	A	000	001	000	000	000	000
	B	000	000	000	000	000	100
<b>VersaCAD</b> (CalComp 9100)	A	110	001	111	100	010	000
	B	001	000	000	000	000	001



## Recommended settings for common Sun software programs

The following table lists the recommended configuration key settings for common Sun software programs used with Drawing-Board III.

Application (format)	Bank	Key Settings (1-18)					
<b>Default–GTCO DP5 High Resolution</b> (factory default)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>Save 2–Summagraphics MM 1201 Binary</b> (factory default)	A	100	001	001	001	111	011
	B	001	000	000	000	000	001
<b>Save 3–CalComp 2000 ASCII</b> (factory default)	A	010	001	110	010	000	010
	B	001	001	000	000	000	001
<b>ARCINFO</b> (CalComp 9100)	A	010	001	111	100	011	001
	B	001	100	000	000	000	001
<b>AutoCAD</b> (ADI)	A	110	001	111	101	011	101
	B	001	100	000	000	000	001
<b>AutoCAD</b> (CalComp 9100)	A	110	001	111	100	010	000
	B	001	001	000	000	000	001
<b>AutoCAD</b> (Summagraphics MM 1201 using a 4-button cursor and a 12" tablet)	A	100	000	011	001	111	001
	B	001	000	000	000	000	001

## Configuration key definitions

The following tables list the configuration key settings required for the DrawingBoard III tablet options. All options are defined in the glossary.

### Bank A key definitions

0=Off 1=On X=Irrelevant

<b>Operating Mode</b>	<b>Key 1</b>	<b>Key 2</b>			
Line	0	0			
Point	0	1			
Track	1	0			
Run	1	1			
<b>Increment Mode</b>	<b>Key 3</b>	<b>Key 4</b>			
None	0	0			
1	0	1			
5	1	0			
10	1	1			
<b>Prompt Mode</b>	<b>Key 5</b>				
On	1				
Off	0				
<b>Data Rate—CalComp 2000</b>	<b>Key 6</b>	<b>Key 7</b>	<b>Key 8</b>		
1 pps	0	0	0		
5 pps	0	0	1		
10 pps	0	1	0		
20 pps	0	1	1		
40 pps	1	0	0		
75 pps	1	0	1		
100 pps	1	1	0		
125 pps	1	1	1		

<b>Data Rate–Summagraphics MM ASCII</b>	<b>Key 6</b>	<b>Key 7</b>	<b>Key 8</b>		
7 pps	X	1	1		
20 pps	X	1	0		
50 pps	X	0	1		
100 pps	X	0	0		
<b>Data Rate–Summagraphics MM binary</b>	<b>Key 6</b>	<b>Key 7</b>	<b>Key 8</b>		
7 pps	X	1	1		
25 pps	X	1	0		
75 pps	X	0	1		
150 pps	X	0	0		
<b>Resolution</b>	<b>Key 9</b>	<b>Key 10</b>	<b>Key 11</b>		
200 lpi	0	0	1		
254 lpi	0	1	0		
400 lpi	0	1	1		
500 lpi	1	0	0		
508 lpi	1	0	1		
1000 lpi	1	1	0		
1270 lpi	1	1	1		
2540 lpi	0	0	0		
<b>Format (number, name)</b>	<b>Key 12</b>	<b>Key 13</b>	<b>Key 14</b>	<b>Key 15</b>	<b>Key 16</b>
0 CC 2000-A	0	0	0	0	0
1 CC Wedge	0	0	0	0	1
2 CC 2000 Spc	0	0	0	1	0
3 MM 1201-A	0	0	0	1	1
4 CC 9100-1	0	0	1	0	0
5 CC 9100-2	0	0	1	0	1
6 CC 9100-3	0	0	1	1	0
7 CC 9100-4	0	0	1	1	1
8 MM 1105-A	0	1	0	0	0
9 GTCO DP5-A	0	1	0	0	1
10 Kurta IS ONE #4	0	1	0	1	0
11 GTCO MD7-A	0	1	0	1	1
12 Hitachi-A	0	1	1	0	0

<b>Format (number, name)</b>	<b>Key 12</b>	<b>Key 13</b>	<b>Key 14</b>	<b>Key 15</b>	<b>Key 16</b>
13 HiPad-A	0	1	1	0	1
14 Hitachi-A Sign	0	1	1	1	0
15 MM 1105-A	0	1	1	1	1
16 MM 1105-A!	1	0	0	0	0
17 Wacom-A	1	0	0	0	1
18 Reserved	1	0	0	1	0
19 Mac Serial	1	0	0	1	1
20 CalComp AFT	1	0	1	0	0
21 Wacom-B	1	0	1	0	1
22 CC Format 22	1	0	1	1	0
23 CC HiRes	1	0	1	1	1
24 Kurta Ser.1#2	1	1	0	0	0
25 GTCO LoRes-B	1	1	0	0	1
26 Kurta Ser.1#3	1	1	0	1	0
27 Hitachi HiRes	1	1	0	1	1
28 CC 2000-B	1	1	1	0	0
29 MM 1201-B3	1	1	1	0	1
30 MM 1201-B	1	1	1	1	0
31 MicroGrid II-B	1	1	1	1	1
<b>Line Feed</b>	<b>Key 17</b>				
None	0				
Add	1				
<b>Data Bits</b>	<b>Key 18</b>				
7	0				
8	1				

## Bank B key definitions

0=Off 1=On X=Irrelevant

<b>Baud Rate</b>	<b>Key 1</b>	<b>Key 2</b>	<b>Key 3</b>
19200	0	0	0
9600	0	0	1
4800	0	1	0
2400	0	1	1
1200	1	0	0
600	1	0	1
300	1	1	0
150	1	1	1
<b>Parity</b>	<b>Key 4</b>	<b>Key 5</b>	<b>Key 6</b>
None	1	X	X
Mark	0	1	1
Space	0	1	0
Even	0	0	1
Odd	0	0	0
<b>Pen Drive Frequency</b>	<b>Key 7</b>		
Low	0		
High	1		
<b>MM or 2000 Commands</b>	<b>Key 8</b>		
Use commands	0		
Do not use commands	1		
<b>Use ESC on 9x00 Commands</b>	<b>Key 9</b>		
Do not use ESC	0		
Must use ESC	1		
<b>Pen Click</b>	<b>Key 10</b>		
No click	0		
Click on pen down	1		
<b>Pressure Pen Data</b>	<b>Key 11</b>		
Off	0		
On	1		

<b>Height Data</b>	<b>Key 12</b>		
Off	0		
On	1		
<b>Pen Tilt Data</b>	<b>Key 13</b>		
Off	0		
On	1		
<b>Pen Tilt Correction</b>	<b>Key 14</b>		
Off	0		
On	1		
<b>Mouse Emulation</b>	<b>Key 15</b>	<b>Key 16</b>	
No mouse	0	0	
Mouse Systems	1	0	
Microsoft	1	1	
<b>High/Low Proximity</b>	<b>Key 17</b>		
High	0		
Low	1		
<b>CTS Line Enable</b>	<b>Key 18</b>		
Off	0		
On	1		

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## Customized configurations

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Enter the 0/1 settings for customized tablet configurations in the blocks below for your reference.

Default	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Bank A																		
Bank B																		

Save 2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Bank A																		
Bank B																		

Save 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Bank A																		
Bank B																		

# C Specifications

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## Communications specifications

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

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## Design specifications

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Feature	Description
Resolution	Variable up to 2,540 lpi, 100 lpmm
Accuracy	$\pm .010$ " (.254 mm)
Sensing Height	$> .5$ " (12 mm)
Jitter	$\pm 1$ lsb
Repeatability	.001"
Maximum Data Rate	200 pps ( $\pm 1$ jitter)
Frequency	57,600 Hz 61,440 Hz

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## Electrical specifications

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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	200 ma



## Regulatory specifications

Feature	Description
Safety	UL1950, EN60950
Electromagnetic	FCC Class B, DOC Class B, VCCI Class II, VDE 0871 Class B

## Environmental specifications

Feature	Description
Operating Temperature	50° to 104°F (10° to 40°C)
Storage Temperature	-67° to 167°F (-55° to 75°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	Height (Front)	Height (Back)	Outside Dimension	Weight
<b>34120</b>	12 x 12" (305 x 305mm)	0.9" (23.4mm)	1.7" (39mm)	14.6 x 15.9" (378.5 x 406mm)	4.1 lbs (1.5 kg)
<b>34180</b>	12 x 18" (305 x 457mm)	0.9" (23.4mm)	1.7" (39mm)	15.9 x 20.7" (406 x 531mm)	9.5 lbs (3.6 kg)
<b>34240</b>	18 x 24" (457 x 610mm)	0.7" (19.3mm)	2.6" (66mm)	26.9 x 25.0" (683 x 560mm)	15.5 lbs (5.8 kg)
<b>34360</b>	24 x 36" (610 x 914mm)	0.8" (21.6mm)		38.3 x 47" (971.5 x 1194mm)	31 lbs (14.1 kg)
<b>34480</b>	36 x 48" (914 x 1219mm)	0.8" (21.6mm)		50.3 x 59" (1276 x 1499mm)	52 lbs (23.6 kg)
<b>34600</b>	44 x 60" (1118 x 1524mm)	0.8" (21.6mm)		58.3 x 71" (1479 x 1803mm)	69 lbs (31.4 kg)

# D Accessories

The following table lists the DrawingBoard III parts and order numbers. To order any of the items listed, contact your CalComp reseller or call (800)458-5888 and ask for Customer Assistance.

<b>Tablets</b>	<b>Model</b>	<b>Description</b>
	34120	12 x 12" active area
	34180	18 x 12" active area
	34240	24 x 18" active area
	34360	36 x 24" active area
	34480	48 x 36" active area
	34600	60 x 44" active area
<b>Pointing Devices</b>	<b>Model</b>	<b>Description</b>
	34T111	4-button cursor, corded
	34T211	4-button cursor, cordless
	34T112	16-button cursor, corded
	34T212	16-button cursor, cordless
	34T122	Two-side button/click tip pen, corded
	34T222	Two-side button/click tip pen, cordless
	34T224	Two-side button/pressure tip pen, cordless
	34T226	Two-side button/lite-touch tip pen, cordless

<b>Accessories</b>	<b>Model</b>	<b>Description</b>
	34P1	Power supply, 100/110V
	34P2	Power supply, 220/240V
	34I311	I/O cable
	34I313	9-pin adapter cable
	34I411	User's Guide

# E 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 active area is within .010 inches of where it should be.

## **Active area**

The area on the tablet surface intended for digitizing.

## **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.

## **Beep**

The tablet beep is an audible noise used to communicate specified events to the user. If an error is detected on power up, there will be a beep regardless if this option is enabled or disabled.

## **Bit**

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

**Button**

A portion of the tablet surface available to the user for tablet configuration. Also a switch on the cursor or pen used to input data.

**Button (or pen) click**

An option that allows the user to enable/disable the audible click when the cursor or pen is pressed.

**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 device 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.

### **Default settings**

Preset software/firmware parameters that activate at power up until changed by the user.

### **Delta mode**

The data output represents the change in the cursor's position since sending the last point, rather than the absolute position of the cursor on the tablet. Delta is unique to the Summagraphics MM 1201 format.

### **ESC commands**

The 9x00 command set precedes each command with ESC.

### **Echo**

Incoming characters that are repeated to the sender.

### **Format**

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

### **Frequency**

The rate at which signals are repeated. DrawingBoard III has a high frequency of 61.44 KHz and a low frequency of 57.6 KHz.

### **Grid Update mode**

Grid Update is similar to Increment mode. However, new data points transmit only for the axis that has satisfied the required increment distance. The other axis sends the last value that fulfilled the distance requirements. Grid Update is unique to the Summagraphics MM 1201 format.

### **Halt mode**

The tablet accepts commands but transmits no data until a new mode is selected.

**Handshake**

An option that allows you to enable/disable the CTS/RTS line enable.

**Height**

See Proximity.

**Highlight**

To make something visually distinct. Highlighting is accomplished by inverting the display.

**Increment mode**

This mode is used with other operating modes. Data points are sent only if the cursor 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.

**Keystroke**

A key or key combination that you assign to a macro. When pressed, it triggers the playback of the macro.

**LED**

Abbreviation for light-emitting diode. The power and configuration lights on the tablet are LED's.

**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.

**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.

**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.

**Macro**

1. A user-defined command that tells an application to carry out a series of commands when you type the macro. 2. A recorded sequence of characters and commands, identified by a name and possibly triggered by a keystroke.

**Margin**

Area surrounding the active area on the tablet. The digitizer does not transmit accurate coordinate pairs if the pen or cursor is placed in this region.

**Margin data**

Data sent from the margin area of the tablet.

**Menu active**

An option that allows the user to enable/disable the menu strip. When disabled, the Config/Exit button on the menu strip cannot be accessed.



**Mouse mode**

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

**One byte commands**

An option that allows the user to enable/disable the use of the CalComp 2000 or Summagraphics MM commands sets.

**Operating mode**

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

**Origin**

The point on the tablet which is designated as point (0,0), relative to a grid of conductors positioned in the horizontal (X) and vertical (Y) directions.

**Output format**

The system of characters used by DrawingBoard III for outputting data.

**Parameters**

The special modes and settings used by DrawingBoard III such as baud rate, parity, etc. These modes may be entered and changed by the user at any time.

**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 device**

The device 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 active area that the pointing device 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**

1 or 2 stop bits transmit with each data byte. They mark a completed transmission.

**Stream mode**

See Run Mode.

**Switch Stream mode**

See Track Mode.

**Toggle**

Switch the current state between two available states.

**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.

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