



## SUMMAGRID VII™ USER'S GUIDE

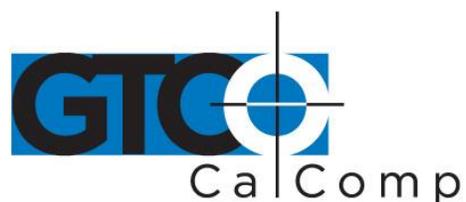


## LARGE FORMAT DIGITIZERS



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## Introduction

Summagrid VII belongs to a class of computer input devices called **graphics tablets**, or **digitizers**. A digitizer is an electronic tablet work surface. The position of a transducer, a handheld cursor or stylus pen, on the work surface of Summagrid VII is converted – digitized – into data for computer processing. Data output from the Summagrid VII digitizer are in the form of an X/Y coordinate pair that pinpoints the precise location of the transducer on the tablet surface. By placing a drawing or sketch on the tablet's surface and tracing over it, graphical information can be easily converted into accurate digital information for entry into the computer. The Summagrid VII large-format digitizer has been designed to provide optimum value at the highest accuracy for CAD/CAM, apparel and construction estimating professionals.

Summagrid VII digitizers utilize the same Advanced Function Technology that has set the world standard for performance since 1975. These high performance tools are engineered with a state-of-the-art positioning grid to ensure reliability, performance and quality, blending advanced technology with affordability to give users the highest precision at the most competitive price. Multiple accuracy versions are available to meet specific system requirements.

The Summagrid VII family of large-format digitizers boasts high resolution, unparalleled accuracy and a wide range of sizes, providing the perfect solution when the work demands precision data input over a large surface area. Summagrid VII offers high-quality performance in a sleek, user-friendly design. An integrated mounting channel allows accessories, such as an accessory tray, to be quickly and easily mounted. Easy-to-use software and simple setup and installation round out the image of a powerful, versatile tool that can be configured to fit the demands of any application environment. The high-productivity Summagrid VII can be used as both a digitizer and a mouse, eliminating the need for multiple devices at your computer.



## Parts Checklist

- ✓ Summagrid VII digitizing tablet
- ✓ Transducer (corded or cordless pen, 4-button or 16-button cursor)
- ✓ Computer interface with 9-pin connector for RS-232 serial connection
- ✓ USB cable
- ✓ Power supply
- ✓ CD with drivers and diagnostics (varies with configuration)
- ✓ User's guide
- ✓ Registration card

## Optional Equipment

- ✓ Mounting brackets
- ✓ Accessory tray
- ✓ Plan holder
- ✓ Two feet
- ✓ Manual lift/manual tilt pedestal.

## What You Will Need to Use Summagrid VII

Summagrid is equipped with both an RS-232 serial interface and a USB interface. It is compatible with most industry-standard PCs. The TabletWorks CD contains drivers provided by GTCO CalComp by Turning Technologies and is the only software described in this manual. TabletWorks supports reduced functionality Wintab and TabCon-compatible applications. If you are not sure which drivers are required, please consult with your application vendor.

### ***PC Requirements***

#### ***For a Serial Installation***

- Microsoft Windows 98, ME, NT 4.0, 2000 or XP
- One available RS-232C serial communication port (Serial signal levels must conform to EIA RS-232C specifications.)
- 10 MB of free disk space
- Application software that directly accepts digitizer input via the computer's RS-232C serial port



### **For a USB Installation**

- Microsoft Windows 98 SE, ME, 2000 or XP
- One available USB port
- 10 MB of free disk space
- Application software that accepts digitizer input via the Wintab API

### **Overview**

The Summagrid VII digitizer consists of:



### **Active Area**

The drawing area – the Active Area – is the portion of the tablet surface designated for digitizing. Its boundaries are marked at each corner by a right-angle crop mark.



### ***Indicator Light***

The power/proximity LED in the upper right corner of the Summagrid VII frame is the Indicator Light. It remains off when the power is on. However, when the transducer is in prox (within the range) of the Active Area, the LED is solid green.

### ***Transducer***

Two types of transducers can be used with the Summagrid VII: pens and cursors. Both are available in corded and cordless versions. The corded transducers get their power from the digitizer. Cordless transducers are powered by batteries. They will go into a battery-saving *Sleep Mode* when no button has been pressed for one to five minutes, depending on the type of transducer being used. To reactivate a sleeping transducer, press one 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 in 4 or 16 button models.

### ***Pens***

Each pen is similar in appearance to a ballpoint pen. The pen transducer has three buttons, two on the side of the barrel and one in the pen tip. Two different types of pens, identified by a colored ring on the pen barrel, are available for use with Summagrid VII. The cordless *Click Tip* pen has a light blue ring and the cordless *Lite Touch Tip* pen, a red ring.

### ***Setup and Installation Overview***

In order to send data from Summagrid VII to a digitizing application, the digitizer must be physically connected to a computer and must be able to transmit data in such a way that the digitizing application recognizes and understands it. Before setting up Summagrid VII, you should determine:

- Requirements of the digitizing software application being used
- Whether the digitizing application requires software drivers to communicate with Summagrid VII
- Hardware communications connection – Serial or USB – you will be using between Summagrid VII and the computer



Once software drivers, if needed, are installed, the hardware is configured. The corded transducer is connected, a power connection, if needed, is established and the digitizer is connected to a computer. Use of the power supply depends on the type of connection to the computer you plan to use and whether or not you are using the high-accuracy corded cursor. A USB connection does not require the use of a power supply. The digitizer gets its power through the USB connection, unless you are using the high-accuracy corded cursor, which requires more power than the USB connection can supply. A serial connection requires the use of a power supply.

## **Setting Up Your Summagrid VII**

The instructions below describe how to set up your Summagrid VII.

### ***Preparing the Summagrid VII***

#### ***Mounting on the Stand***

Place Summagrid VII on a table, desk or drafting table. You can also mount Summagrid VII on a stand or pedestal. The tablet's Universal Mounting Brackets attach directly to those stands that have *tilt arms*. Stands with *tilt pads* require right-angle mounting brackets, which are attached to the tilt pads. The tablet's Universal Mounting Brackets are then attached to the right-angle mounting brackets. Center the tablet over the attached Universal Mounting Brackets and screw the Thumbscrews into the T-Nuts in the mounting channel in the tablet's frame.

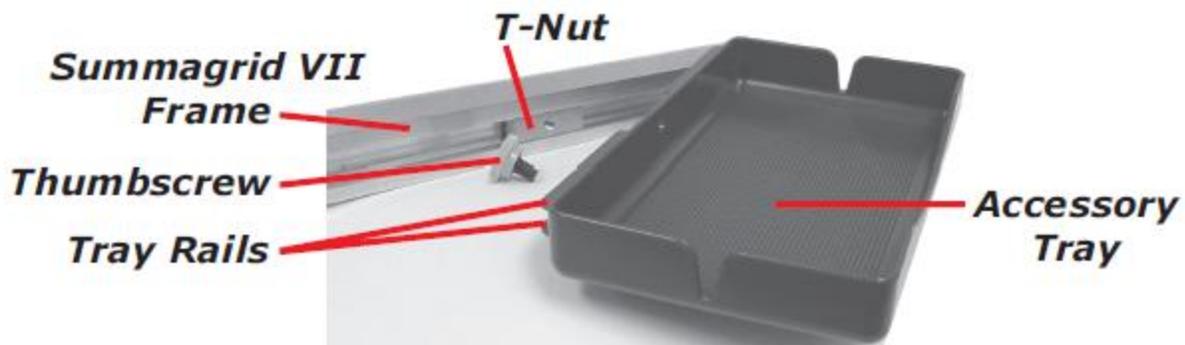
#### ***Attaching the Optional Accessory Tray, Plan Holder or Table Feet***

Additional T-Nuts have been included in the perimeter mounting channels on the Summagrid VII frame. You can position the Plan Holder or Accessory Tray where it is most convenient for you by attaching it to any one of the available T-Nuts. The following instructions and the graphic below detail the installation of the Accessory Tray.



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Simply slide the Tray Rails into the channel and line up the hole in the tray with the hole in the T-Nut. Tighten the Thumb Screw to secure the Accessory Tray.



### **Software Configuration**

Software drivers provide the communication bridge between your digitizing software application and Summagrid VII. You should install only the drivers necessary for the Summagrid VII to work with your application software. If you are not sure which drivers are required, consult with your application vendor.

### **Configuring Non-Wintab Applications**

Many application programs provide configuration information for specific digitizers. If the Summagrid digitizer is not listed, you can use the configuration for the GTCO CalComp by Turning Technologies Digi-Pad Type 5 or Type 5A (T5/T5A), Roll-Up II, CalComp 9100/9500, or Summagraphics Microgrid III or ID Series.

### **Installing the TabletWorks Driver**

Insert the CD into the CD-ROM drive on your computer. The installer will autoloading. If it does not, click on the **Start** button on the Windows Task Bar and select **Run** from the menu. Type X:\setup.exe (**X** represents the CD drive letter). Follow the onscreen prompts to complete the installation.

A TabletWorks icon  will display in the System Tray on the Windows Task Bar. Right click on the icon to display the TabletWorks Menu, which provides access to all the TabletWorks features.

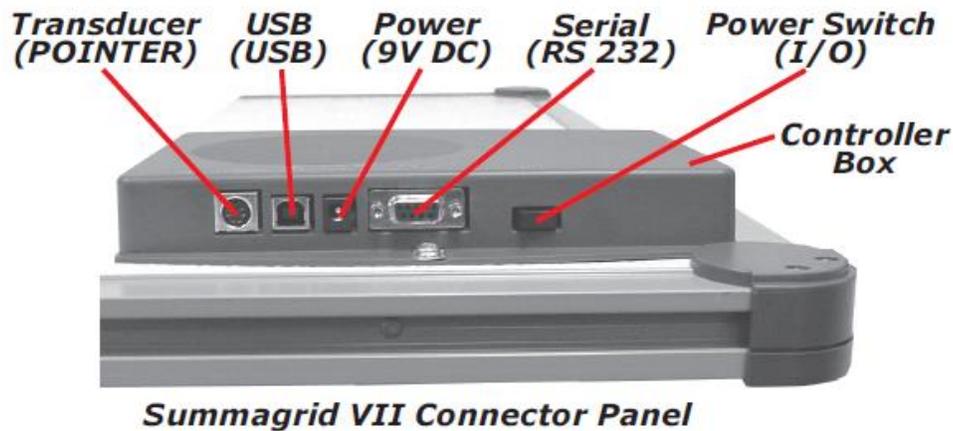


## **Hardware Configuration**

Summagrid VII must be configured so that it can send data in a way the application software will recognize and understand. Different applications have diverse requirements when interacting with a digitizer. Summagrid VII is designed to provide the appropriate serial requirements for a wide variety of graphic, CAD and estimating applications using the Tablet Configuration Utilities. The Tablet Configuration Utilities are used to enter the appropriate code for the software being used.

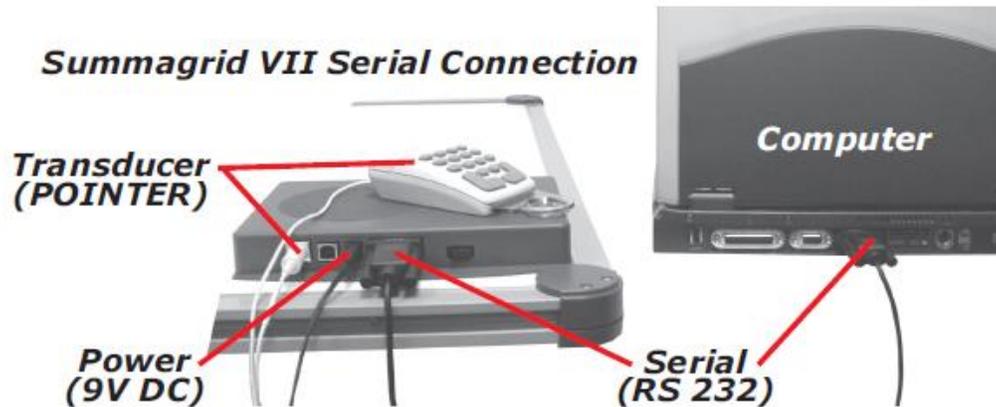
Determine if you have not already, which communication connection you will be using – serial or USB.

1. Connect the corded transducer – cursor or pen – to the appropriate jack on the digitizer's Connector Panel. The connector is keyed and will fit only the correct jack. Do not force it.



### **RS-232 Serial Connection**

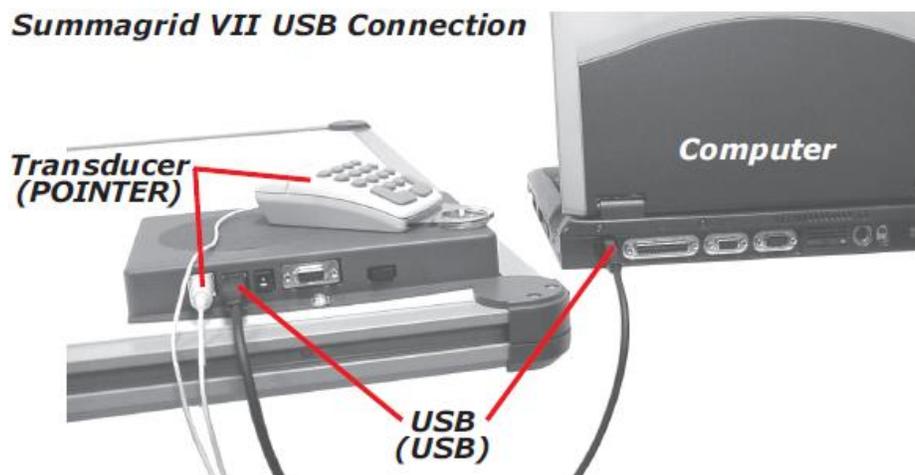
1. Connect the RS-232 serial cable to the serial jack on the Connector Panel. The connector is keyed and will fit only the correct jack. Do not force it. Attach the other end to an RS-232 serial port on your computer.
2. Plug the power supply into an AC outlet. Connect the power supply to the appropriate jack on the Connector Panel. Turn the power switch on. The digitizer will beep once, indicating it has power.



### USB Connection

The Summagrid VII USB port connection is USB 1.1 and 2.0 compatible. When the digitizer is connected to the USB port, Windows will recognize that there is a new device connected. If Windows displays the *Found New Hardware* prompt, follow the onscreen instructions to complete the driver installation.

1. Connect the interface cable to the USB jack on the Summagrid VII Connector Panel. The connector is keyed and will fit only the correct jack. Do not force it.
2. Attach the other end of the USB cable to any one of the USB ports  on your computer or USB hub. Turn the power switch on. The digitizer will beep once, indicating it has power.





**NOTE:** Power is supplied through the USB port. No additional power source is needed for a USB installation, unless a high-accuracy cursor is being used.

### ***Tablet Power On***

The Summagrid VII power switch is located at the rear of the tablet on the Controller Connector Panel. When turned on, Summagrid VII's Indicator Light will begin blinking.

If you are using a cordless transducer, turn it on by pressing any button on the tool. The Indicator Light will glow steadily if the transducer is inside the Active Area of the tablet. If the transducer is outside the Active Area, the Indicator Light will blink.

**NOTE:** This information applies to serial installations only.

### **Introduction to the Tablet Configuration Utilities**

Summagrid VII uses the Tablet Configuration Utilities to set the baud rate, data format and other operating characteristics for an RS-232 interface. The switches set via the Tablet Configuration Utilities are used to relay configuration information between the software application on your computer and Summagrid VII.

The configuration parameters for Summagrid VII are divided into three categories:

- Communication Options
- Output Format Options
- Mode Options

#### ***Communication Options***

- **Baud:** The rate, in bits/second, at which characters are transmitted across the RS-232C serial interface. Choices are: 1200, 2400, 4800, 9600, 19200 or 38400.
- **Data Bits:** Data bits represent the actual data being sent from one device to another. Both devices must be set for the same number of data bits. Choices are: Seven (7) or Eight (8).



- **Stop Bits:** Each character has one or two stop bits, which tell the receiving device that a character is complete. The number of stop bits usually does not matter. Setting for two stop bits instead of one may overcome a mismatch in parity or data bits. Choices are: One (1) or Two (2).
- **Parity:** One bit can be allocated for parity (parity is a simple error-detecting scheme). Both devices (sending and receiving) must be set for the same parity – either odd parity or even parity – or they must be set for no parity. Choices are: None (N), Even (E) or Odd (O).

### **Output Format Options**

- **GTCO:** Selects GTCO-compatible formats. See *Advanced Programing Information* in the Summagrid VII Online Help for greater detail on GTCO format structure. Choices are: Binary high resolution, Binary low resolution, ASCII with spaces or ASCII without spaces.
- **CalComp:** Selects CalComp-compatible formats. Choices are: Binary high resolution, Binary low resolution, 9100 ASCII 1, 9100 ASCII 2, 9100 ASCII 3 or 9100 ASCII 4.
- **Summa:** Selects Summagraphics-compatible formats. Choices are: Binary, UIOF, Binary MM, ASCII UIOF or ASCII MM.

ASCII formats can be modified by including or excluding a button code, decimal point, carriage return or line feed, depending on whether GTCO, CalComp or Summa formats have been selected.

- **Button:** Defines whether the cursor button (C) value is included in the ASCII output report. This option is available only with GTCO formats. See the Format List, where **T** = Tablet ID, **M** = Mode (Point, Stream), **C** = Cursor Button and **P** = Pen Up/Down.
- **Line Feed:** Defines whether the Line Feed character (hex 0A) is included in the ASCII output report as a terminator. This option is available in GTCO, CalComp and Summagraphics formats. See the Format List, where **T** = Tablet ID, **M** = Mode (Point, Stream), **C** = Cursor and **P** = Pen Up/Down.



### **Mode Options**

- **Mode:** Defines how output reports are sent from the digitizer. Choices are: Prompt, Point, Switch Stream or Stream.
- **Resolution:** The smallest reported value returned by the digitizer. Choices are: 100 lpi, 200 lpi, 1000 lpi, 2000 lpm, 4 lpm, 10 lpm, 40 lpm or 80 lpm.

### **Using the Tablet Configuration Utilities**

Use the Tablet Configuration Utilities to configure the output format of the Summagrid VII.

#### **To Configure the Summagrid VII using the Tablet Configuration Utilities:**

1. Make sure Summagrid VII is plugged into a Serial Port, powered on and all the tablet drivers have been uninstalled or disabled.
2. Install the Tablet Configuration Utilities from the *Select Utility Software to Install* section on the TabletWorks CD or download them from [www.gtcocalcomp.com](http://www.gtcocalcomp.com).
3. After the installation is completed, run the Tablet Configuration Utilities from the Programs list under *GTCO CalComp by Turning Technologies TCU*.
4. The Tablet Configuration Utilities will begin searching for Wintab drivers and available Serial Ports. When the search is finished, select the COM Port where the tablet is connected or select *Search All Serial Ports* from the **File** menu.
  - a. If the tablet is found, information about the tablet will display under **Device Info** near the bottom of the screen.
  - b. If the tablet is not found, a message will appear under **Device Info** near the bottom of the screen.
    - i. If Wintab files were found, it is possible that the TabletWorks Driver has the Serial Port open.
    - ii. If the Serial Port is open by another application, it will not be displayed under **System Info**. Close any application or uninstall any driver that is using the Serial Port and select *Refresh System Info* from the **File** dropdown list at the top of the screen. Click on the Serial Port icon under **System Info** to search that Serial Port.

**NOTE:** The Tablet Configuration Utilities can use the TabletWorks driver to test the tablet, but it must be communicating directly with the tablet, via the Serial Port, in order to configure it.



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5. Once the Summagrid VI has been found on a Serial Port, select *Advanced Configuration* from the **Options** dropdown list at the top of the screen.
  - a. If Advanced Configuration is not an option, make sure *Wintab Compatible Driver* is not listed under **Device Info**.
6. After making your selections, choose one of the following from the **File** menu at the top of the screen.
  - a. **Save Temporary Settings** will configure the tablet as shown until the tablet is powered off, reset or another switch setting is selected.
    - i. After saving temporary settings, select **File/Exit** to test with other applications. This will leave the tablet configured to the temporary settings selected and close the Serial Port, enabling other applications to communicate with the tablet.
  - b. **Save Power-Up Settings** will configure the tablet as shown. Every time the tablet is powered off and back on or reset, it will restore these settings.
7. When you have finished, select *Exit* or *Close* from the **File** menu.
  - a. *Exit* will close the Tablet Configuration Utilities.
  - b. *Close* will exit the Advanced Configuration Screen and return to the **Tablet Configuration Utilities** window. Temporary settings will be lost and the tablet's power-up settings will be restored.



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### **Setting the Tablet Switch Settings**

The Tablet Configuration Utilities provide an easy, interactive way to set the tablet switches using the matrix in the upper right corner of the **Summagrid VII Advanced Configuration** screen. Locate each function setting required by your software application in the table below and check the switch or switches indicated to set that function. For example, if your software application required a baud rate of 2400, you would check the **A1** and **A2** Switches. An **X** will appear to show the switch is on.

<b>Function</b>	<b>Setting</b>	<b>Switch Selection</b>
<b>Baud Rate</b>	19200	None
	4800	A1
	9600	A2
	2400	A1 and A2
	1200	A3
<b>Parity</b>	Odd	A5
	Even	A4 and A5
	None	None
<b>Stop Bit</b>	1	None
	2	A6
<b>Data Bits</b>	7	None
	8	A7
<b>UIOF Formats</b>	Binary	None
	ASCII Counts	A8 and B1
	ASCII Units (no decimal)	A8
	ASCII Units (decimal)	A8 and B2
<b>GTCO Formats</b>	Binary 23	B6 and B8
	Binary 28	B8
	ASCII 9 (no CR)	A8 and B8
	ASCII 9 (with CR)	A8, B1 and B8
	ASCII 10 (no CR)	A8, B2 and B8
	ASCII 10 (with CR)	A8, B1, B2 and B8



Function	Setting	Switch Selection
<b>CalComp</b>	Binary 23	B6 and B7
	Binary 28	B7
	ASCII 4	A8 and B7
	ASCII 5	A8, B1 and B7
	ASCII 6	A8, B2 and B7
	ASCII 7	A8, B1, B2 and B7
<b>MM</b>	Binary	B7 and B8
	ASCII	A8, B7 and B8
<b>CR</b>	—	None
<b>CR LF</b>	—	B3
<b>Resolution</b>	100 lpi	None
	200 lpi	B5
	1000 lpi	B6
	2000 lpi	B5 and B6
	4 lpmm	B4
	10 lpmm	B4 and B5
	40 lpmm	B4 and B6
	80 lpmm	B4, B5 and B6
<b>Operating Mode</b>	Prompt	None
	Point	C1
	Track	C2
	Run	C1 and C2
<b>Echo</b>	Off	None
	On	C3
<b>Proximity</b>	In	None
	Out	C4
<b>Click</b>	Off	None
	On	C5

Select either the *Save Temporary Settings* or the *Save Power-Up Settings* option from the **File** menu after you have set all the functions.



## Learning the Basics

You will find that the Summagrid VII tablet is easier to use than a mouse. The Summagrid VII transducers are more accurate than a mouse, giving you greater control over your movements.

### ***Using the Transducer***

The transducer 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 ½" above the Active Area. When the transducer is in the zone above the surface of the digitizer, it is referred to as being *in prox*. The Indicator Light will go from a blinking green light to a solid green light when the transducer is in prox of, or touching, the tablet's surface. The in prox zone allows you to trace through materials placed on the digitizer's surface, such as drawing or a book. Before using the transducer, be sure that *Sleep Mode* is turned off by pressing a button, or in the case of the pen, touching the tip of the tablet's surface.

### ***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 a position directly over it.

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

### ***Using the Pen***

There are two variations of pens: the click tip and the lite touch tip. On both pens, 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 click pen, press down until you feel the tip click.



### ***Lite Touch Pen***

The lite touch pen is available only in the cordless version. It is similar to the click tip pen, except that it calls for, as the name implies, a lighter touch, without the click.

### ***Learning Basic Movements***

The Summagrid VII transducers provide all the basic movements of a mouse, including clicking, double-clicking and dragging.

### ***Clicking and Double-Clicking***

Clicking is the action of making a selection. To click, place the transducer or move the screen pointer using the transducer, to the item to be selected. Tap the pen or press Button 0 on the cursor. A *double-click* requires you to quickly tap the pen or press the button 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 transducer during a selection. To drag, click on an object, but instead of lifting the pen tip or releasing the cursor button, hold it down while moving the transducer, or corresponding object on the screen, to the desired new location.

### ***Caring for the Tablet and Transducer***

Follow these precautions at all times to avoid damaging your Summagrid VII:

- Avoid discharging static electricity to the tablet.
- Do not place heavy objects on the tablet surface.
- Do not use sharp objects; such as compasses or knives, on the tablet surface.
- Do not use the tablet surface for any purpose other than drawing, tracing or digitizing.
- Do not drill holes on any part of the digitizer or controller.

### ***Cleaning the Tablet***

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



**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.**

### ***Cleaning the Cursor***

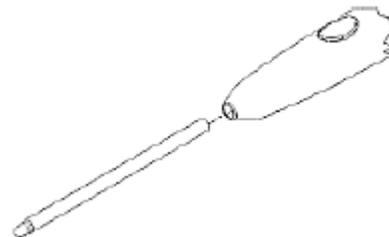
To clean the cursor body, use a mild cleanser. Do not spray the cleanser directly on the cursor – instead, dampen a soft cloth with a mixture of water and the cleanser. Clean the cursor reticles with alcohol.



**Excessive cleaning can dissolve the filled black crosshair on a reticle.**

### ***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 Cordless Pen Batteries**

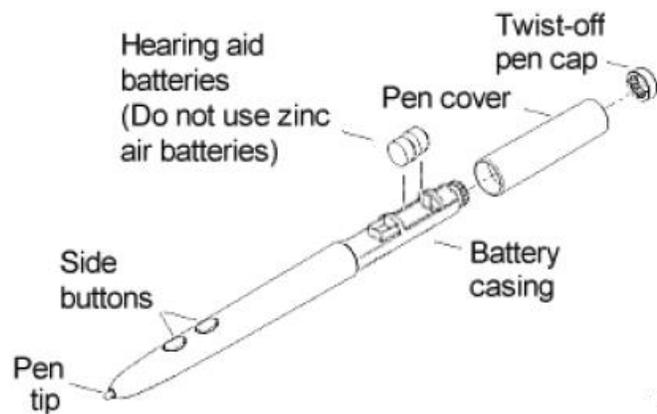
The pen requires two 393 silver oxide batteries. The average battery life is 200 hours.



**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 the figure above (+ towards pen tip).
4. Replace the pen cover and 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 **Troubleshooting**).

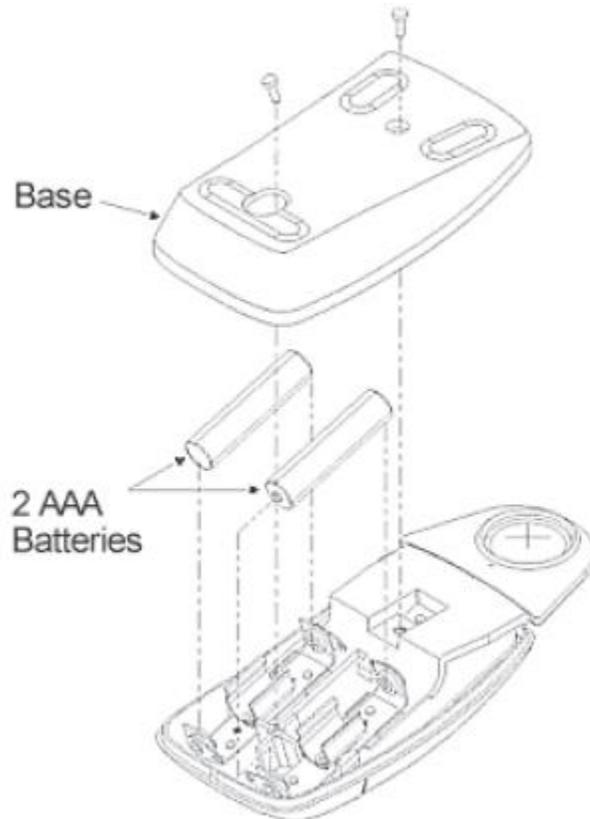


### **Replacing the Cordless Cursor Batteries**

The cordless cursor requires two AAA batteries. The average battery life for the cursor batteries is 2,000 hours.

#### **To replace the batteries:**

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 (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 cordless 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 **Troubleshooting**).



## Troubleshooting

GTCO CalComp by Turning Technologies wants your experience with Summagrid VII to be a successful one. If you ever encounter a problem, please follow the steps below:

1. Reread this manual 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 Troubleshooting Chart. Keep in mind that the problem could be your computer, your display or your software, instead of the digitizer.
3. If your system still does not work, call GTCO CalComp by Turning Technologies Technical Support at 1-866-746-3015 (in the U.S. or Canada) or email us at [gtco.support@gtcocalcomp.com](mailto:gtco.support@gtcocalcomp.com). Outside the U.S. or Canada, contact your local GTCO CalComp by Turning Technologies office or dealer. Please have the following information available when you call:
  - Description of the problem
  - Name and version of software package being used
  - Type of computer you are using
  - Summagrid VII model and serial number (see bottom of digitizer)
  - Type of transducer 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 transducer uses. This can be done only for transducers that support changing the frequency.

Transducers with the following FCC ID numbers support two frequencies: ECPPPP, ECPPP2, ECPPPLTP, ECPPCURSOR4, ECPPCURSOR16 and ESPPCURSORII. Transducers with FCC ID numbers other than those listed must have their frequency changed by GTCO CalComp by Turning Technologies.

### ***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 Indicator 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 Indicator 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 Transducer***

You must use the Menu Strip to change the frequency of the corded transducers (see the **Setting corded frequency** option in the *Tablet Options* section).

### ***Tablet Checklist***

- Is the tablet power supply (used only with the serial connection to the computer) plugged into the digitizer and into a live outlet?
- Is the tablet power switch on?
- Does the Indicator Light glow steadily when the transducer is in prox inside the Active Area? Does the Indicator LED go out when the transducer is outside the Active Area?
- The Indicator Light will be off if the transducer has gone into Sleep Mode. Press any button on the transducer to activate it. If the transducer is in the Active Area and the Indicator Light remains off, change the transducer's battery.
- Are all cable connections seated properly?
- Is the communications cable (either USB or serial) connected to both the digitizer and the computer? Check that the cable is connected to the serial port specified in your software package.
- Is the transducer cable connected to the digitizer?
- 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.



### ***Computer Checklist***

- Is the computer plugged into a live outlet? Did you turn on the computer?
- Does the computer work with any of your software? Try one of your other programs. If the computer has a diagnostic diskette, use it.
- Is your software package installed correctly?
- If your communications connection is USB, does the USB port work? If serial, 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 see if it still works.
- Have there been any recent electrical storms in your area that may have damaged your equipment?

### ***Software Checklist***

#### ***Does the tablet work with some software?***

If your tablet currently works with some software packages, you know that the tablet, USB or 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.

#### ***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 set up.

- Check all the connectors. Is the tablet still plugged into the same port? If yes, reset the tablet by unplugging and re-plugging 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?



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- 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 Super L VI problems, their causes and their solutions.

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
<b>Frozen screen pointer</b>	Transducer is in Sleep Mode.	Press any button on the transducer.
	Tablet plugged into the wrong serial port on the computer.	Is the serial port being used correctly identified in your software application?
	Tablet not powered correctly.	Check that the power cable is installed correctly.
	Batteries low in transducer.	Replace the batteries in the transducer.
	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>i.e.</i> , 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.



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**Screen pointer appears 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.

Alternate the transducer's frequency. (See the *Reducing Monitor Interference* section.)

**Unable to use the entire tablet surface**

Incorrect format selected.

Check your configurations settings.

Software application set up incorrectly.

Check that the tablet is identified in your software application.

***Returning your Tablet for Repair***

If you believe you have a defective tablet, first see all topics in this section (above) and visit our website at [www.gtcocalcomp.com](http://www.gtcocalcomp.com) for the latest support information.

If you're still unable to properly operate your digitizer system, please call Technical Support at 1.866.746.3015 or email us at [gtco.support@gtcocalcomp.com](mailto:gtco.support@gtcocalcomp.com).

Technical Support will assist you in determining if your tablet is defective and will help you obtain a Return Merchandise Authorization (RMA) number. **Important:** Please do not return your product without first discussing the issue with, and receiving an RMA from, a GTCO CalComp by Turning Technologies 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 antistatic plastic bags.

If you are shipping the tablet or accessories to a GTCO CalComp by Turning Technologies 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



## Parts and Accessories

The following table lists the Summagrid VII systems and parts available for purchase. To order any of the items listed below, please contact GTCO CalComp by Turning Technologies at 1.866.746.3015 (Toll Free), fax to 480.998.1751, visit us online at [www.gtcocalcomp.com](http://www.gtcocalcomp.com), or email to [gco.sales@gtcocalcomp.com](mailto:gco.sales@gtcocalcomp.com).

	Model	Description
<b>Tablets</b>	SG7-2436	24 x 36" Active Area
	SG7-3648	36 x 48" Active Area
	SG7-4460	44 x 60" Active Area
<b>Transducers</b>	4-button cursor, corded	
	4-button cursor, cordless	
	16-button cursor, corded	
	16-button cursor, cordless	
	Two-side button/click tip pen, cordless	
	Two-side button/click tip pen, corded	
	Two-side button/lite touch pen, cordless	
<b>Accessories</b>	Accessory tray	
	Plan holder	
	Power supply, 100/110V wall mount	
	Power supply, 220/240V wall mount EU	
	Power supply, 220/240V wall mount UK	
	Power supply, 220/240V floor unit with line cords	
	Power supply, 100/110V wall mount JP	
	I/O cable with 9-pin connectors	
	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 Active Area is within .010 inches of where it should be.

### ASCII

Abbreviation for *American Standard Code for Information Interchange*.

### Baud Rate

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

Basic unit of information in the binary system – either 0 or 1.

### Button

Switch on the cursor or pen used to input data.

### Byte

Group of eight bits that acts as a single unit of information.

### Coordinate Pair

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.) Transducer used to select specific points on the tablet surface.
- 2.) 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**

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**

Area on the tablet surface intended for digitizing. Referred to as the *Active Area*.

**Format**

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

**Frequency**

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 transducer 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**

Repeatability error of short duration caused by electrical noise.

**Key**

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 *lines 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**

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**

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

**Parity**

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.

**Point Mode**

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

**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**

Greatest distance above the Active Area that the transducer 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**

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.

**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.

**Stream 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 *Run* by some manufacturers.

**Switch Stream Mode**

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

**Transducer**

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

**X Direction**

Horizontal direction across the face of the tablet.

**Y Direction**

Vertical distance up and down the face of the tablet.



## Regulatory Statements and Warranty

### ***Radio and Television Interference***

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits of 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 the 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 the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Reorient or coil cables.
- Consult the dealer or an experienced Radio/TV technician for help.

**NOTE:** 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.

### ***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 numérique n'émet pas bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.*



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## Declaration of Conformity

The "CE" mark on this device indicates compliance under the EMC 89/336/EEC Directive.

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

**Manufacturer's Name:** GTCO CalComp, Inc.

**Manufacturer's Address:** 7125 Riverwood Drive  
Columbia, MD 21046  
U.S.A.

declares, that the product

**Product Name:** Summagrid VII

**Model Numbers:** SG7-2436, SG7-3648, SG7-4460

**Product Options:** All

conforms to the following product specifications:

**Safety:**

**EMC:** EMC Directive 89/336/EEC and amendment 92/31/EEC

**Emissions Testing:**

EN 60590-1  
EN 55022: 1998 Class B  
EN 61000-3-2 Harmonics &  
EN 61000-3-3 Flicker

**Immunity Testing:**

EN 55024: 1998 including:  
EN 61000-4-2; ESD  
EN 61000-4-3; Radiated Immunity  
EN 61000-4-4; EFT/B  
EN 61000-4-5; Surges  
EN 61000-4-6; Conducted Immunity  
EN 61000-4-8; Magnetic Immunity

## 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.

Location

5-30-2004

Date

Dana Doubrava

Engineering Manager



**Japan**



この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。  
取扱説明書に従って正しい取り扱いをして下さい。

**Bescheinigung des Herstellers/Importeurs**

Hiermit wird bescheinigt, dass der/die/das

Summagrid VII

(Geraet, Typ, Bezeichnung)

im Uebereinstimmung mit den Bestimmungen der

Vfg 1046/1984

(Amtsblattverfuegung)

Funk-Entstort ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Geraetes angezeigt und die Berechtigung zur Ueberpruefung der Serie auf Einhaltung der Bestimmungen eingeräumt.

GTCO CalComp by Turning Technologies, Inc.

(Name des Herstellers/Importeurs)

Dieses Geraet wurde einzeln sowohl als auch in einer Anlage, die einen normalen Anwendungsfall nachbildet, auf die Einhaltung der Funkentstoerbestimmungen geprueft. Es ist jedoch moeglich, dass die Funkentstoerbestimmungen unter ungunstigen Umstaenden bei anderen Geraetekombinationen nicht eingehalten werden. Fuer die Einhaltung der Funk-entstoerbestimmungen seiner gesamten Anlage, in der dieses Geraet betrieben wird, ist der Betreiber verantwortlich.



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Einhaltung mit betreffenden Bestimmungen kommt darauf an, dass geschirmte Ausfuehrungen gebraucht werden. Fuer die beschaffung richtiger Ausfuehrungen ist der Betreiber verantwortlich.



### **Limited Warranty for Summagrid VII**

GTCO CalComp by Turning Technologies, Inc. warrants these products to be free from defects in material and workmanship under the following terms. Complete and return the enclosed warranty registration card to ensure that your products are covered with this warranty.

#### **Coverage**

Parts and labor are warranted for one (1) year from the date of the first consumer purchase for the digitizer tablet, controller, transducers and tablet accessories. Power supply and cables are also warranted for one (1) year. This warranty applies to the **original consumer purchaser only**. This warranty does not apply to any product purchased outside the United States or Canada. For warranty information outside the United States or Canada, contact your local dealer or distributor.

Warranty is only valid if original consumer's purchase or lease date is less than or equal to six months from the original GTCO CalComp by Turning Technologies sale date. This information will be captured by the system serial number and confirmed by the reseller's purchase order.

A nominal Warranty Handling Fee will be charged after the first 90 days of use and calculated from the date of original consumer purchase. This payment may be made by Visa, MasterCard or American Express. A copy of the sales receipt or invoice will be required for warranty verification.

#### **Conditions**

Except as specified below, this warranty covers all defects in material or workmanship in the products. The following are not covered by the warranty:

1. Any product on which the serial number has been defaced, modified or removed (if applicable).
2. Damage, deterioration or malfunction resulting from:
  - a. Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature, unauthorized modification for any purpose, unauthorized product modification, or failure to follow instructions supplied with the product.
  - b. Repair or attempted repair by anyone not authorized by GTCO CalComp by Turning Technologies.
  - c. Any damage in shipment of the product (claims must be presented to the carrier).
  - d. Any other cause which does not relate to a manufacturing defect.
3. Any product not sold or leased to a consumer within six months of GTCO CALCOMP BY TURNING TECHNOLOGIES original sale date.

GTCO CalComp by Turning Technologies will pay all labor and material expenses for covered items, but will not pay for the following:

1. Removal or installation charges.
2. Costs for initial technical adjustments (set up), including adjustment of user controls.



3. Certain shipping charges. (Payment of shipping charges is discussed in the next section of this warranty.)
4. Packaging costs. (Customers should keep their boxes.)

### **Warranty Service Procedures**

1. To obtain service on your GTCO CalComp by Turning Technologies product, contact the Technical Support Department to receive a Return Material Authorization Number (RMA#) and shipping instructions by calling: 1-866-746-3015.
2. Ship the product to GTCO CalComp by Turning Technologies with the RMA# marked clearly on the outside of the box. Without a clearly marked RMA# on the shipping box, GTCO CalComp by Turning Technologies reserves the right to refuse the shipment.
3. Although you must pay any shipping charges to ship the product to GTCO CalComp by Turning Technologies for warranty service, GTCO CalComp by Turning Technologies will pay the return shipping charges for ground shipment. Other shipping options are available at an additional fee.
4. Whenever warranty service is required, the original dated sales invoice (or a copy) must be presented as proof of warranty coverage and should be included in shipment of the product. Please also include your name, address, telephone number, fax number, email address and a description of the problem.
5. If GTCO CalComp by Turning Technologies determines that the unit is not defective within the terms of the warranty, the consumer shall pay the cost of all freight charges, as well as any repair charges.

### **Technical Support**

Web-based Technical Support is available free of charge at: [www.gtcocalcomp.com](http://www.gtcocalcomp.com), where current driver releases, as well as comprehensive technical support, troubleshooting, Technical Bulletins and FAQs can be found.

Telephone Technical Support is available free of charge to the original consumer for a period of 90 days from the date of purchase of the product. Please contact our Technical Support Department at: 1-866-746-3015 or fax your request to: 480.998.1751.

### **Disclaimer of Unstated Warranties**

The warranty printed above is the only warranty applicable to this purchase. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. Assuming the warranty above stated is otherwise applicable, it is expressly understood and agreed that GTCO CalComp by Turning Technologies sole liability whether in contract, tort, under any warranty, in negligence or other shall be for the repair or replacement of the defective parts and under no circumstances shall GTCO CalComp by Turning Technologies be liable for special, indirect or consequential damages. The price stated and paid for the equipment is a consideration in limiting GTCO CalComp by Turning Technologies liability.



**Notice**

Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state, or province to province.

To obtain service on your GTCO CalComp by Turning Technologies product, call our Technical Support Department at: 1-866-746-3015 or fax us at (480) 998-1751. We can also be contacted through our website at [www.gtccalcomp.com](http://www.gtccalcomp.com) (in US); at [EUOffice@gtccalcomp.com](mailto:EUOffice@gtccalcomp.com) (in Germany); at [infos@calcomp.fr](mailto:infos@calcomp.fr) (in France).

**Important!**

All products returned to GTCO CalComp by Turning Technologies for service must have prior approval in the form of a Return Merchandise Authorization Number (RMA#), which can be obtained by calling the Technical Support Department.



**Corporate Headquarters**

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