SUMMAGRID VI™ PRINTABLE HELP FILES

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Introduction

Summagrid VI is a high performance, low cost digitizer designed for CAD, mapping and GIS applications as well as drawing, tracing and presentation graphics. The tablets are available in a range of sizes with variable pointing tool options.

System Requirements and Compatibility

Summagrid VI is equipped with an RS-232 serial interface and is compatible with today's leading PC's. The included TabletWorks software provides a WinTab-compliant driver that is suitable with Microsoft Windows®. After installing the PC software, Summagrid VI will work with all Windows-based applications as a mouse, as well as Windows applications that support a digitizer.

PC Minimum Requirements

- Microsoft Windows 95, 98, Me, NT 4.0, 2000 or XP
- 1 available serial port
- 10 MB of free disk space
- Installation must be done by a "Power User" or "Administrator" on Windows NT, Windows 2000 and Windows XP

Overview

The Summagrid VI tablet consists of:

- Drawing Area
- Indicator Light
- Pointing Tools

Drawing Area

The drawing area is the rectangular surface area on the tablet designated by the engraved corners. This is where all of your work is performed.

Indicator Light

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

Pointing Tools

There are two types of pointing tools available with Summagrid VI: **pens** and **cursors**.

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

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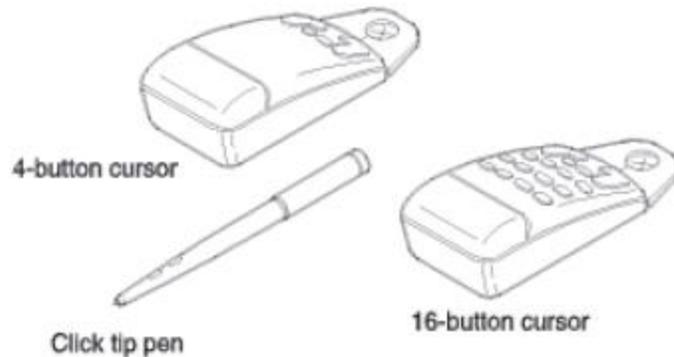
Cursors

The cursor is similar in appearance to a mouse, except that it has an attached lens with crosshairs for highly accurate detail work. Cursors are available with 4 or 16 buttons.

Pens

The pen is identical in appearance to a ballpoint pen. It has a button built into the tip, plus two programmable side buttons on the barrel.

Getting Started

Unpacking the Tablet

Before you begin installation, verify that you have received:

- Pointing tool (at least one)
- Power supply
- Software CD with Help files and printable PDF manual
- Registration card and Quick Start instructions
- Pen holder (if your pointing tool is a pen)

If any package contents are missing, call GTCO CalComp by Turning Technologies Customer Service at 1.866.746.3015 in the U.S. or Canada. Outside the U.S. or Canada, please contact your local GTCO CalComp by Turning Technologies office or authorized reseller.

Installing the Tablet

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

1. *Connect the serial cable.*

   Attach the round end of the serial cable to the socket labeled **I/O** on the tablet. The arrow on the connector should face down.
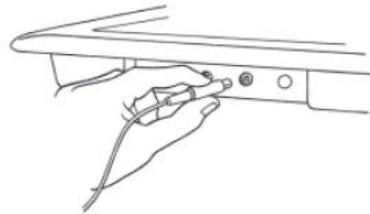
   Connect the wide end of the serial cable to the computer's serial communication port. Tighten the thumbscrews. The arrow on the connector should face down.
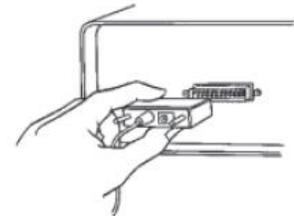
2. *Join the power cable to the serial connector.*

   Connect the power cable into the jack on the back of the serial cable connector. Attach the power supply end to a power outlet or power strip.
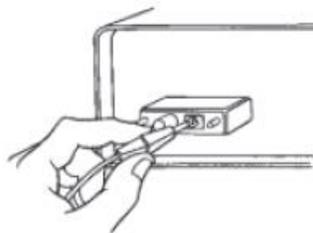
3. *Connect the corded pointing tool.*

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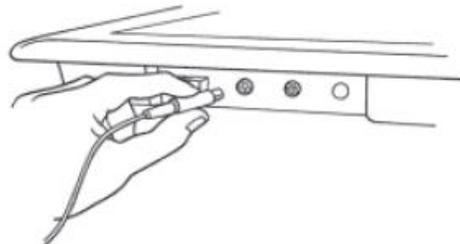
4. Turn on the computer and tablet.

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

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

5. Attach the pen holder (optional).

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

6. Mount the accessory tray (optional for large format).

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

a. Insert the carriage bolts provided into the three tabs on the side of the tray.

b. Loosely attach the black knobs to the bottom of the carriage bolts.

c. Slide the bolts into one of the grooves on the underside of the tablet.

d. Position the tray and then tighten the knobs securely.
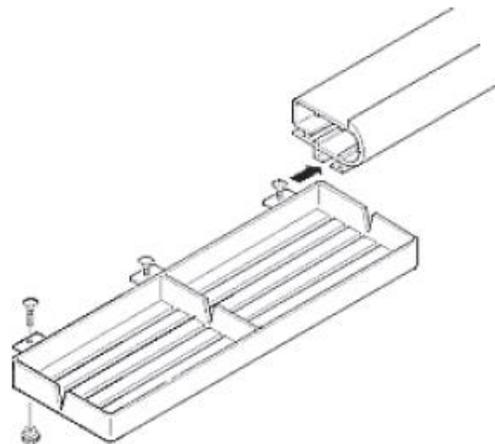
Installing the Software

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

TabletWorks software must be installed before any Windows application (including AutoCAD) will be able to work properly with Summagrid VI.

Special Cases: Setting up the Tablet for DOS or Other Non-Windows Environments

If you are using the Summagrid VI tablet with non-Windows applications, you will need to set the tablet switch settings to be compatible with your application. You may also need to install one or both of the following drivers:

- **Mouse emulation driver** (installation instructions)
  Driver allows you to use the tablet as a mouse in non-Windows applications.

- **Autodesk ADI driver** (installation instructions)
  Driver provides access to use the tablet with AutoCAD for DOS.

NOTE: If you are using AutoCAD for Windows, you must install the appropriate Windows driver. You will not need the DOS ADI driver.

Setting the Tablet Switch Settings

Summagrid VI provides an easy and interactive way to set the tablet switch settings using the program SG5SETUP found on the TabletWorks CD under the \SGDOSUTL\UTILITY\SG5 directory.

1. Insert the TabletWorks CD into the CD drive.
2. The Install program should auto start. If it does not, type: **D** (or appropriate drive letter) **: \SGDOSUTL\UTILITY\SG5\SG5SETUP.EXE**
3. A screen appears. You can set the switch settings by clicking on the appropriate row/column (see table below). An X will appear which turns the switch ***on***, or you can click on the appropriate setting below the matrix, such as Baud Rate and then press the down arrow on the keyboard to see the available settings.
4. Click on ***Change Settings*** to change the settings for the current work session or ***Save Settings*** to permanently save the settings to the tablet.

Functions		Check (X) these Switches
Baud Rate	19200	None
	9600	A1
	4800	A2
	2400	A1, A2
	1200	A3
	600	A1, A3
	300	A2, A3
	150	A1, A2, A3
Parity	Odd	A5
	Even	A4, A5
	None	None
Stop Bit	1	None
	2	A6
Data Bits	7	None
	8	A7
UIOF Formats	Binary	None
	ASCII Counts	A8, B1
	ASCII Units (no decimal)	A8
	ASCII Units (decimal)	A8, B2
GTCO Formats	Binary 23	B6, B8
	Binary 28	B8
	ASCII 9 (no CR)	A8, B8
	ASCII 9 (with CR)	A8, B1, B8
	ASCII 10 (no CR)	A8, B2, B8
	ASCII 10 (with CR)	A8, B1, B2, B8
CalComp	Binary 23	B6, B7
	Binary 28	B7
	ASCII 4	A8, B7
	ASCII 5	A8, B1, B7
	ASCII 6	A8, B2, B7
	ASCII 7	A8, B1, B2, B7
MM	Binary	B7, B8
	ASCII	A8, B7, B8
CR	————	None
CR LF	————	B3

Resolution	100 lpi	None
	200 lpi	B5
	1000 lpi	B6
	2000 lpi	B5, B6
	4 lpmm	B4
	10 lpmm	B4, B5
	40 lpmm	B4, B6
	80 lpmm	B4, B5, B6
Operating Mode	Prompt	None
	Point	C1
	Track	C2
	Run	C1, C2
Echo	Off	None
	On	C3
Proximity	In	None
	Out	C4
Click	Off	None
	On	C5

Installing the Mouse Emulation Driver

NOTE: If you are using Microsoft Windows, TabletWorks must be installed. You will not need the Mouse Emulation Driver.

The TABLETMG drivers are powerful device drivers that provide Microsoft compatible mouse emulation for the Summagrid VI tablet. The drivers are found on the TabletWorks CD under the **\SGDOSUTL\DOSDRV\UIOF** directory. There are two ways to use the drivers:

- Loading the driver manually
- Loading the driver automatically

Loading the Driver Manually

The following describes the simplest way to use the TABLETMG driver.

1. Insert the TabletWorks CD.
2. Copy TABLETMG.COM to your C: drive:
   > **COPY A** (or appropriate drive letter):
   > **\SGDOSUTL\DOSDRV\UIOF\TABLETMG.COM C:**

3. Run the program by typing at the DOS prompt: **C:TABLETMG.COM**

Loading the Driver Automatically

To set up your computer to load the tablet driver automatically every time you power on:

1. Insert the TabletWorks CD.
2. Copy TABLETMG.SYS to your C: drive:
   COPY A (or appropriate drive letter)**:**
   \SGDOSUTL\\DOSDRV\UIOF\TABLETMG.SYS C
3. Using a text editor, add the following line to your CONFIG.SYS file:
   DEVICE = **C:\TABLETMG.SYS /2 /A**

Command Line Arguments

There are two groups of command line arguments for TABLETMG:

- **Tablet-specific commands**
  TABLETMG [/#] [/BA###] [/I#] [/C#] [/A or /R] [OFF]
- **Mouse-compatible commands**
  TABLETMG [/S#] [/H#] [/V#] [/P#] [/M#] [/N#] [/U] [/E] [/HI] [OFF]

	Argument	Description
Tablet-Specific	/#	Selects the serial port that the tablet is connected to (1=COM1, 2=COM2, 3 and 4=COM3 and COM4 on PS/2 systems). If this argument is omitted, the driver will be installed on the first serial port where it finds a tablet.
Tablet-Specific	/BA#### /I#	If you have an AT-standard COM3 or COM4, or some other 8250 based serial port, then this argument can be used to define the port address and the /I argument is its IRQ. The BA must be exactly 4 hexadecimal digits. For example: C>TABLETMG /BA03E8 /14 Select port address 3E8 hexadecimal, IRQ4, the AT standard address for COM3.
Tablet-Specific	/C#	Selects the pointing tool type being used. Options include: CP = Pen C4 = 4-button cursor C16 = 16-button cursor

Tablet-Specific	/CM####	This argument is followed by 0-4 digits that specify which cursor buttons are assigned to act as standard mouse buttons. Each digit represents the number of the cursor button, and its position after the CM represents the mouse button that it is assigned to: /CMlrmb where l is the left mouse button, r is the right mouse button, m is the middle mouse button, and b is both left and right mouse buttons pressed simultaneously.

For example: C>TABLETMG /CM2134

Maps cursor button #2 to the left mouse button, cursor button #1 to the right mouse button, cursor button #3 to the middle button and cursor button #4 to both left and right mouse buttons.

If the CM command has no numerical arguments, then the default button mapping for the pointing tool is assumed.

Tablet-Specific	/A or /R	Specifies whether the mouse emulation is in absolute or relative mode. If neither is specified, then relative mode is assumed.
Mouse Compatible	/S, /H and /V	Three Microsoft mouse driver compatible commands are provided to adjust the sensitivity of the mouse cursor tracking when you have set the emulation mode to relative using the /R option. The default sensitivity setting provides the same tracking response as a 200 dpi mouse, but with the additional smoothness and precision provided by a digitizing tablet. Each sensitivity option has a number from 0 to 100 following it. The default setting is 50. Larger values make the tracking more rapid, smaller values reduce the sensitivity. Experiment to find a comfortable setting.

The command options are:

/S = Sets both horizontal and vertical sensitivity

/H = Sets the horizontal sensitivity

/V = Sets the vertical sensitivity

For example:

C>TABLETMG /S100

Makes a very speedy mouse emulation in relative mode. C>>TABLETMG
/S10
Provides a very slow mouse, great for highly accurate cursor pointing. These command line options can be combined together, and they can also be issued after the driver is initially loaded. For example, you can go back and change the sensitivity of the cursor tracking with the /S command option at any time.

Mouse Compatible	/P#	Mouse drivers compatible with mouse version 7.00 and above support a "ballistic gain" feature. As with the sensitivity arguments, ballistic gain only has an effect when you use the TABLETMG driver in relative mode.

The TABLETMG driver comes with 4 built-in ballistic gain profiles: slow, moderate, fast, and unaccelerated. To select a ballistic profile, you can use the following options:
/P1 = slow
/P2 = moderate
/P3 = fast
/P4 = unaccelerated
The default ballistic profile for relative mode is /P2.

Mouse Compatible   /M#   The /M option overrides an application that changes the mouse cursor for text modes by "locking" the mouse cursor to the default text cursor:
1=enables locked cursor,
2=disables locked cursor (default)
This command is compatible with the Microsoft mouse's /M option.

Mouse Compatible   /N#   The /N option controls how often the cursor is redrawn as it moves across the screen. This option is useful for systems with LCD displays. A number from 0 to 10 follows that specifies how many screen updates to skip before actually plotting the cursor. The default is 0.

Mouse Compatible	/U, /E, /HI	These options allow you to maximize the amount of memory available for DOS application programs. The trick is to move most of the driver to a memory location outside of the 640K area used by most application programs. The /U command moves the driver to the upper memory area between 640K and 1Mb. The /E command moves the driver into expanded memory. The /HI command moves the driver into the high memory area between 1 Mb and 1.064 Mb. Only TABLETMG.COM can be relocated. TABLETMG.SYS cannot be relocated. You cannot relocate the driver into another memory area without first removing the mouse driver by using the OFF command.
Mouse Compatible	OFF	Allows you to disable TABLETMG and remove the driver from memory, if possible.

Installing the Autodesk ADI Driver

NOTE: If you are using AutoCAD for Windows, you must install the appropriate Windows driver. You will not need the DOS ADI driver.

There are two ADI drivers (For AutoCAD For DOS) available for the Summagrid VI tablet:

- **DGMG.COM**
  This driver allows you to use the Summagrid VI with applications developed by Autodesk. It provides full ADI V4.1 compatibility.
- **DGPMG.EXP**
  This driver is a protected mode ADI driver for Summagrid VI. Use this driver if you have Release 11 or higher 386 DOS extender version of AutoCAD and wish to take advantage of AutoCAD's protected mode capabilities.

You can find both drivers on the CD under the \SGDOSUTL\ADIDRV\UIOF directory.

Installing DGMG.COM

1. Insert the CD.
2. From within AutoCAD, select the ADI driver option for the digitizer driver. The Summagraphics ADI driver is always installed on Interrupt 79 (hexadecimal), which is the AutoCAD default.
3. Load the driver by typing at the DOS prompt: **DGMG [/#] [/C#] [/A#]**.

Argument	Description
/#	Selects the serial port that the tablet is connected to (1=COM1, 2=COM2, 3 and 4=COME3 and COM4 on PS/@ systems). If this argument is omitted, the driver will be installed on the first serial port where it finds a tablet.
/C#	Selects the cursor type being used with the tablet (CP=stylus, C16=16-button cursor).
/A#	Allows digitizing paper drawings in AutoSketch (AC=resetting to the ADI specification, AS=selects AutoSketch digitizing mode). The default mode is the standard AutoCAD mode (AC) which uses the full active area of the tablet. AutoSketch mode was designed for Autodesk's AutoSketch drawing program. It scales the digitized coordinates from the tablet so that one inch measured on the tablet surface corresponds to one inch measured or plotted by AutoSketch.

Installing DGPMG.EXP for AutoCAD Release 12/13 for DOS

DGPMG.EXP only works with Autodesk products. The following instructions assume that you are installing the driver for use with AutoCAD. If you are using a different Autodesk product, consult the specific product's documentation for details.

1. Insert the TabletWorks CD.
2. Copy the driver file from the CD to your AutoCAD driver directory without changing the file's name: **COPY A** (or appropriate drive letter):
   \SGDOSUTL\ADIDRV\UIOF\DGPMG.EXP C:\ACAD\DVR
3. Start AutoCAD. In the drawing editor, type: **CONFIG**
4. At the configuration menu, select *Configure Digitizer*.
5. AutoCAD asks if you want a new digitizer. Type **Y** and a list of digitizer options appear on the screen.
6. Select *Summagraphics Microgrid Series, ADI 4.2 by Summagraphics*.

7. Next, you are prompted for tablet sixe, transducer type and COM port number. Enter the appropriate information and when prompted to save changes, enter **Y** to save changes and exit to the drawing editor.

Customizing the Tablet

Customize the Summagrid VI tablet and pointing tool to suit your individual work requirements using TabletWorks. The Windows program is included with the digitizer software and helps you experience the full capabilities of your tablet. You can map your device to the screen area, record your own macros and designate areas on the tablet to switch between open software applications. To learn how to use TabletWorks, please refer to **TabletWorks Help**.

Learning the Basics

Using the Pointing Tools

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

Using the Cursor

When using the cursor, the intersection point of the crosshairs on the lens identifies the point that's selected. The crosshairs are etched on the bottom of the lens to increase accuracy. For maximum precision, look through the lens from directly over it.

Button 1 on the cursor is used as the pick (or left mouse) button. All other buttons are defined by the TabletWorks software or through your own software application.

Using the Pen

The pen tip is Button 0 and us 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.

Button 2
Button 1
Button 0
(Tip)
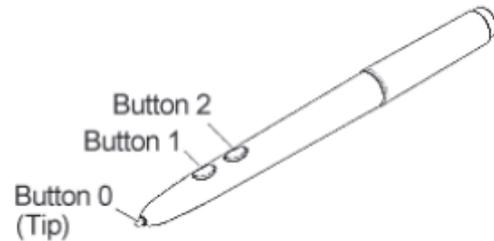
Click Tip Pen: Available in both corded and cordless versions. It is primarily used for tracing and menu picking. To use the pen, press down until you feel the tip click.

Learning Basic Movements

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

Clicking and Double-Clicking

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

Dragging

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

Caring for the Tablet

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

- 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.

Cleaning the Tablet

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

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

Replacing the Pen Tip

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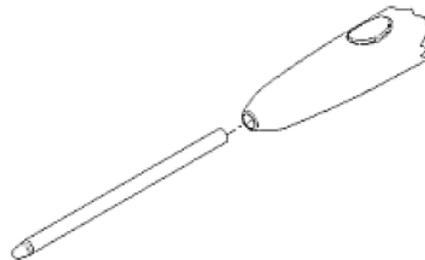
Replacing the Pen Batteries

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

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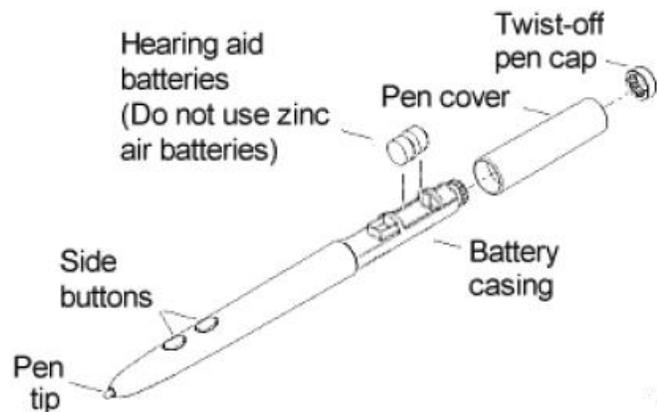
NOTE: When you replace the pen batteries, the pen will reset to the default frequency. If you changed the frequency of the pen before replacing the batteries, you will need to do so again after replacing the batteries (see the *Reducing Monitor Interference* section in *Solving Problems*).

Replacing the Cursor Batteries

The cordless cursor requires two AAA batteries. The average battery life for the cursor batteries is 4,000 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.
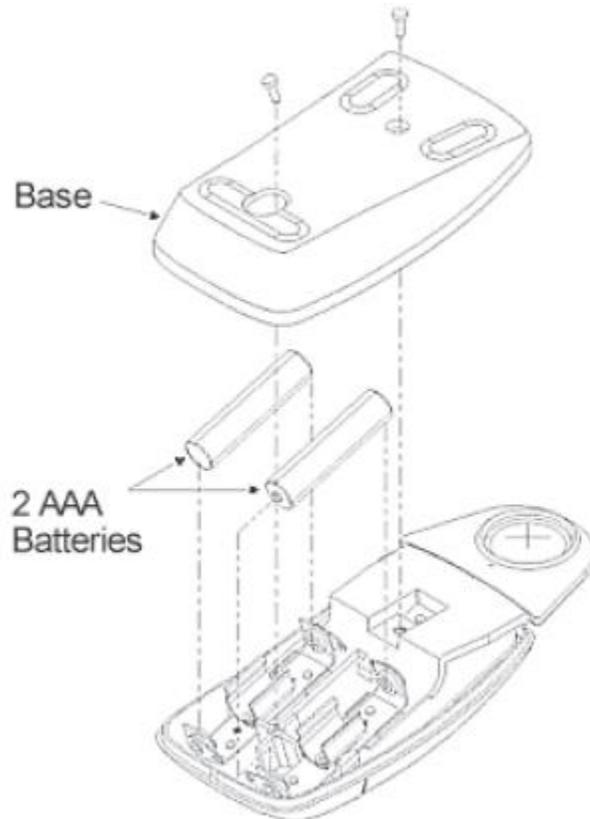
NOTE: When you replace the cursor batteries, the cursor will reset to the default frequency. If you changed the frequency of the cursor before replacing the batteries, you will need to do so again after replacing the batteries (see the *Reducing Monitor Interference* section in *Solving Problems*).

Solving Problems

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

1. Review this *User's Guide* to verify you have performed the correct steps.
2. Read the topics below to check for a solution to your problem. Assess the checklists, as well as the Troubleshooting Chart. Keep in mind that the problem could be your computer, display or software, instead of the digitizer.
3. If you still experience an issue, 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. 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
   - Type of computer being used
   - Summagrid VI model and serial number (see bottom of tablet)
   - Type of pointing tool that's being used
4. Be at your computer when you call.

Reducing Monitor Interference

If you are experiencing monitor interference with your tablet, you can reduce the interference by changing the frequency your tool uses. Pointing tools with the following FCC ID numbers support two frequencies: ECPPPP, ECPPP2, ECPPLTP, ECPPCURSOR4, ECPPCURSOR16 and ESPPCURSORII. Pointing tools with FCC ID numbers other than those listed must have frequencies 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 power light on the tablet begins blinking.

4. The cursor turns on again at the new frequency. You will know the cursor is on when the power light glows steadily.

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

Changing the Frequency of the Cordless Pen

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

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

Tablet Checklist

- Is the tablet power supply plugged into the serial connector and into a live outlet?
- Is the tablet power switch on?
- Does the power light glow steadily when the pointing tool is inside the drawing area? Does it blink when the pointing tool is outside the drawing area?
- The power light will blink if the pointing tool has gone into sleep mode. Press any button on the tool to activate it. If the power light continues to blink and the pointing tool is in the drawing area, change the pointing tool's battery.
- Are all cable connections tight?
- Power cable to serial connector?
- Pointer cable to tablet?
- Serial cable to tablet?
- Serial cable to computer? Check that the cable is connected to the serial port specified in your software package.
- Is the tablet set up according to the software recommendations?
- Are any of the connector cables or receptacles damaged? Check for bent pins, cut insulation and loose wires.

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?

- 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 operates.
- 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 setup.

- 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?
- 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, or do you have multiple mouse 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 tablet lists common Summagrid VI problems, their causes and their solutions.

Problem	Cause	Solution
Frozen screen pointer	Pointing tool is in Sleep Mode.	Press any button on the tool.
	Tablet plugged into the wrong serial port on the computer.	Check that the serial port used is correctly identified in your software application.
	Tablet not powered correctly.	Check that the power cable is installed correctly.
	Batteries low in pointing tool.	Replace the batteries in the pointing tool.
	Software application set up incorrectly.	Check that the tablet is identified in your software application.
	Another device is connected to a COM port that shares the same IRQ as the tablet COM port (*i.e.,* your tablet is connected to COM1 IRQ4 and your modem is connected to COM3 IRQ4).	Move one of the devices to another COM port. Contact your system manufacturer for assistance in relocating the device.
Screen pointer appears to shake 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 pointing tool's frequency. (See the ***Reducing Monitor Interference*** section.)

Unable to use the entire tablet surface	Incorrect format selected.	Check your selections in the Menu Strip.
	Software application setup 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 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.

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

Specifications

Communications Specifications

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

Design Specifications

Feature	Description
Resolution	Variable up to 2,540 lpi, 100 lpmm
Accuracy	± .010" standard accuracy
	± .005" high accuracy (optional)
Proximity	>0.5" (12 mm)
Jitter	± 1 lsb
Repeatability	.001"
Maximum Data Rate	>200 pps (corded) >170 pps (cordless)

Electrical Specifications

Feature	Description
Power Source	Wall mount power supply with a 2.1 mm mono plug DC connector and positive outside diameter
Input Voltage	12 to 17 VDC
Current Draw	400 ma

Regulatory Specifications

Feature	Description
Safety	UL1950, EN60950
Electromagnetic/Immunity	FCC Class B, DOC Class B, VCCI Class II and EN50082-1

Environmental Specifications

Feature	Description
Operating Temperature	50° to 104°F (10° to 40°C)
Storage Temperature	-40° to 158°F (-40° to 70°C)
Humidity Range	0% to 95%, non-condensing
Operating Altitude	Up to 15,000 ft. (4,572m) above sea level
Storage Altitude	Up to 50,000 ft. (15,244m) above sea level

Physical Specifications

Model	Active Area	Footprint	Weight	Shipping Weight
SG6-2436	24 in x 36 in (610 mm x 914 mm)	32.5 in x 46 in (826 mm x 1168 mm)	25 lb. (11.4 kg)	45 lb. (20.4 kg)
SG6-3648	36 in x 48 in (914 mm x 1219 mm)	44.5 in x 60 in (1130 mm x 1524 mm)	40 lb. (18.2 kg)	71 lb. (32.2 kg)
SG6-4460	44 in x 60 in (1117 mm x 1524 mm)	52.5 in x 69 in (1333 mm x 1753 mm)	69 lb. (31.3 kg)	93 lb. (42.1 kg)

Parts and Accessories

The following tablet lists the Summagrid VI 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, or email to gtco.sales@gtcocalcomp.com.

Tablets	Model	Description
	SG6-2436	24 x 36" active area
	SG6-3648	36 x 48" active area
	SG6-4460	44 x 60" active area

Pointing Tools

4-button cursor, corded
4-button cursor, cordless
16-button cursor, corded
16-button cursor, cordless
16-button cursor, high accuracy
Two-side button/click tip pen, corded
Two-side button/click tip pen, cordless

Accessories

Accessory tray
Power supply, 100/110V
Power supply, 220/240V
I/O cable with 9-pin connector
9- to 25-pin adapter
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 ± .010 inches, we mean that every point in the drawing area is within .010 inches of where it should be.

ASCII

Abbreviation for *American Standard Code for Information Interchange*.

Baud Rate

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.

Format
The form in which data is sent from the tablet. DrawingBoard IV 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 pointing tool has moved the required increment distance in either the X or Y direction and has satisfied the requirements of the operating mode. These increment distances are set separately for each axis.

Jitter
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.

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.

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

Prompt Mode (Remote)
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 drawing area that the pointing tool can be raised and still be sensed by the tablet.

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

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

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

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

Track Mode (Switched Stream)
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
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'emet pas bruits radioelectriques depassant les limites applicables aux appareils numériques de Classe B prescrites dans le réglement sur le brouillage radioelectrique edicte par le Ministere des Communications du Canada.

European Union Emission Directive

This product is in conformity with the protection requirements of EU Council Directive 89/366/ECC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22/European Standard EN55022. The limits for Class B equipment were derived for typical industrial environments to provide reasonable protection against interference with licensed communication devices.

European Union WEEE Directive

The manufacture of this equipment required the extraction and use of natural resources. It may contain hazardous substances that could impact health and the environment.

- In order to avoid the dissemination of the hazardous substances into the environment and to diminish the pressure on our natural resources, GTCO CalComp by Turning Technologies encourages you to return this product to the appropriate take-back system facility. These facilities reuse or recycle most of the materials in this equipment in a responsible way.
- The crossed-out wheeled bin symbol below invites you to use these take-back systems.
- If you need more information about the collection, reuse and recycling systems in your area, please contact your local or regional waste authority.
- Further information about the responsible end-of-life management of this and other GTCO CalComp by Turning Technologies products is available on our website at www.gtcocalcomp.com.

![GTCO CalComp by TURNING technologies logo]

Japan

VCI

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。

CE Certification

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

Manufacturer's Name: GTCO CalComp by Turning Technologies, Inc.
Manufacturer's Address: 14557 N. 82nd Street
                                            Scottsdale, Arizona 85260

Declares, that the product:
Product Name: Summagrid VI
Model Numbers: SG6-2436, SG6-3648 and SG6-4460
Product Options: All

Conforms to the following product specifications:

Safety: UL 1950, EN 60950:1988+A1+A2
EMC: CISPR22: 985/EN 55022:1988-Class B
               EN 50082-1:1992
                   IEC 801-2:1991-4kV CD, 8kV AD, Criterion B
                   IEC 801-3:1984-3V/m, Criterion A
                   IEC 801-4:1988-1kV power lines, 5kV data lines, Criterion B
Supplementary Information

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

Scottsdale, Arizona   6-18-1999   Dana Doubrava
Location   **Date**   **Engineering Manager**

Limited Warranty for Summagrid VI

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**.

Within the European Union, the warranty period is two (2) years, as mandated by the EU. Contact your local dealer or distributor for additional warranty information.

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 (setup), 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, 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.gtcocalcomp.com (in US); at EUOffice@gtcocalcomp.com (in Germany); at 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
14557 N. 82nd Street
Scottsdale, Arizona 85260
Tel: 1-866-746-3015
Support: 1-866-746-3015
Fax: 480-998-1751

www.gtcocalcomp.com

Support: 1.866.746.3015

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