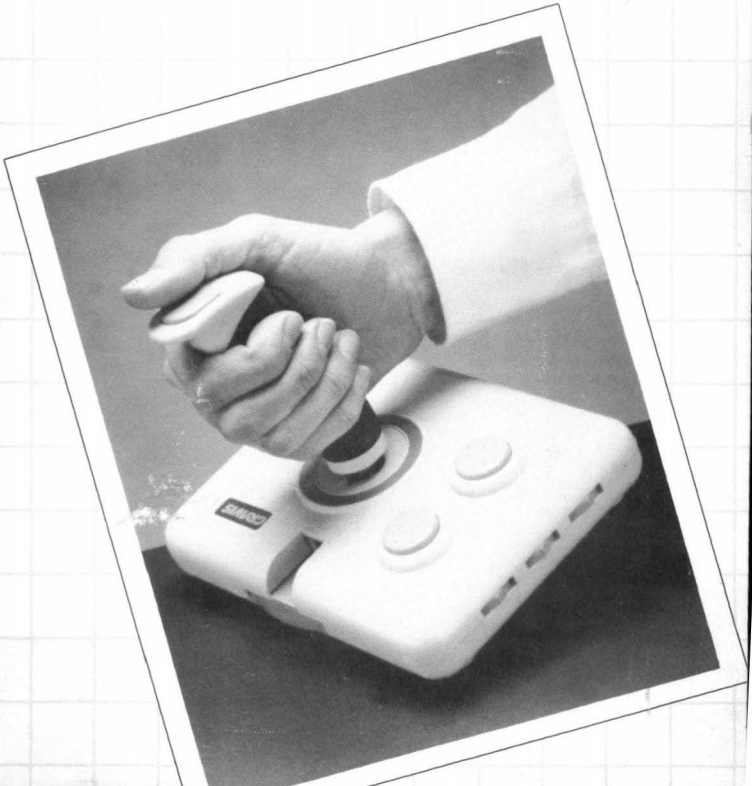
Advanced

GRAVIS

GRAVIS MOUSESTICK™ USERS GUIDE



Gravis MouseStick™ Users Guide

Macintosh™ ADB Model

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Chapter 1
Introduction

Thank you for purchasing the Gravis MouseStick™, ADB model. Your new MouseStick is the most versatile and sophisticated input device currently available for the Macintosh™ computer. Years of design and engineering have been combined with only the highest quality materials and workmanship to insure that it will provide many years of reliable and enjoyable service.

This quality assurance is backed by our **"1 Year, No Nonsense Warranty"** on both parts and labor.

The ADB model will connect to any Apple Macintosh computer equipped with a standard Apple Desktop Bus (ADB) connector. Other models are available for the Apple IIgs and Macintosh, 128K, 512K, 512Ke and Plus. Users who purchase one of these other models can upgrade to the ADB model at a later date. In addition, Advanced Gravis produces its MouseStick for other computer platforms such as IBM OS/2, Amiga and Atari.

If you would like further information on these or other fine products from Gravis simply check the information request box on your registration card.

About This Users Guide

The MouseStick is easy to learn and become accustomed to, either as a precision Mouse replacement or for recreational use. As with your first Mouse, there will be a short adjustment period required to find the settings that are best suited to your work style and intended use. This Users Guide has been designed to assist you through this transition period as well as provide essential information for those users wishing to utilize it to its fullest potential.

Chapter 1. Introduction

This chapter introduces you to the Users Guide and provides an overview of your MouseStick and the software utilities provided.

Chapter 2. Quick Start

Step by step instructions take you through the installation of your MouseStick Utilities software as well as the connection of your MouseStick and Gravis MouseStick Processing Unit.

At the end of this short chapter you will be ready to experience the basic functions of your MouseStick or journey on through the rest of the Users Guide to explore your MouseStick's hidden potential.

Chapter 3. Using the MouseStick

Learn how to adjust the MouseStick's handle tension and assign various button functions through the Button Function Control Selectors. This chapter will show you the physical components of your MouseStick and provide vital information which will be expanded in the later chapters.

Chapter 4. Using the MouseStick Utilities

The major advantage of the Gravis MouseStick - ADB model over other Macintosh models is the availability of its powerful Control Panel software and Function Keys. Using the Apple ADB connector's ability to provide two way communications through this port, you are able to control and configure the Gravis MouseStick Processing Unit with versatile Control Panel and Function Key software.

Chapter 5. MouseStick Tutorial

A mere reference manual is not enough to provide you with a full understanding of your potential, using the Gravis MouseStick. Three tutorial sections guide you through the basic types of cursor response, creating a customized Auto Center set for large monitors and experiencing a small fraction of the possible uses for the programmable and interchangeable button functions.

This chapter is designed to give you a better understanding of how to use your MouseStick rather than merely explaining its many features.

Chapter 6. Creating & Editing Sets

No other input device, for the Macintosh, comes close to offering you the versatility and adjustment options provided by the Gravis MouseStick. Through the MouseStick cdev (Control Panel Device software) you are able to create and edit MouseStick Sets for controlling every aspect of your MouseStick's response. This chapter is laid out in an easy to use reference format allowing you to easily find detailed information of the multitude of settings and options available.

Chapter 7. InfoGuard

This short chapter aquaints you with InfoGuard, a security system. This complimentary demonstration copy has all the features of the full program and will prove valuable to many users.

Chapter 8. Laser Run

This complimentary space arcade game places you in the defense pod of the newest Space Vehicle Superspace Attack Ship. Your mission is to protect your Galaxy by destroying as many of the invading Alien Mother Ships as you can.

What You Need

Your Gravis MouseStick - ADB model will connect to any Macintosh equipped with a standard ADB connector. This ADB connector is used for connection of the Mouse and Keyboard to models such as the Macintosh SE, SE/30, Macintosh II, IIx and IIcx. All of these models come equipped with a minimum of one 800K disk drive and the Control Panel desk accessory, required for use of the MouseStick utilities supplied.

NOTE:

Your current equipment configuration likely uses 2 of the three available ADB connector and your MouseStick will use you remaining third connector. Apple recommends that you do not connect more than three ADB devices at any one time. If you wish to connect additional ADB devices, you can order an ADB Splitter direct from Advanced Gravis.

You should be operating, as recommended by Apple, a minimum operating system of version 6.02 or higher. Your MouseStick Utilities will operate on any version of the Macintosh operating system software which supports Control Panel Device software (System 4.1 / Finder 5.3.)

Your Startup Disk, either floppy or hard disk, will require the following amount of available disk space for installation of the required software.

73K	MouseStick cdev	(required)
11K	MouseStick FKey	(recommended)
8K	MouseStick Prefs	(for FKey only)
21K	MouseStick Help	(optional)

Additional disk space required for saving MouseStick Sets is minimal.

Knowing Your Macintosh

This Users Guide assumes that you are already familiar with the basic operation of the Macintosh. You should be familiar with these basic operations and terms:

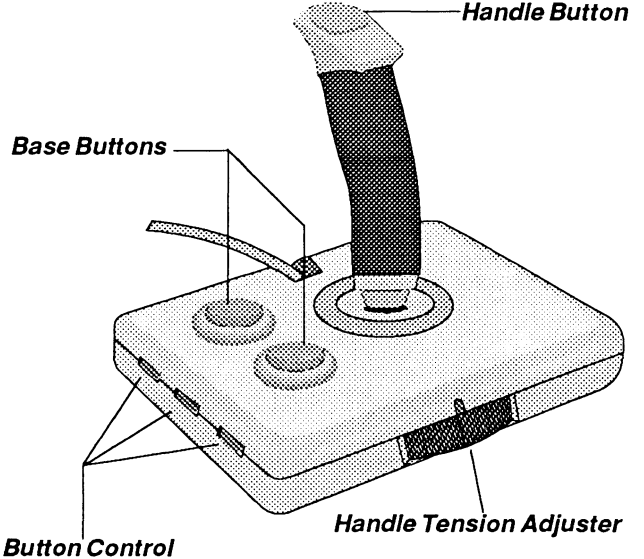
- Starting and Shutting Down your Macintosh
- Startup Disk
- Choosing the Control Panel desk accessory
- Use of the Mouse to Select and drag items
- Opening and closing windows
- Use of scroll bars
- Use of the Trash Can
- Copying files between disks
- Making a back-up copy of a disk

If you are not familiar with these terms or how to accomplish some of the tasks, you should to refer to your Macintosh Users Guide.

MouseStick Components

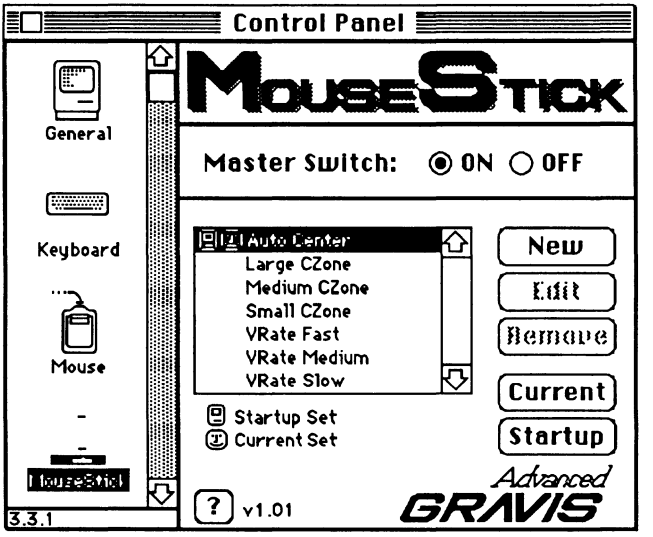
Your Gravis MouseStick is comprised of three major components; the Gravis MouseStick Processing Unit (GMPU), the Gravis MouseStick (MouseStick) and the MouseStick control panel device software (cdev.)

Your MouseStick unit consists of the stick, or handle, and a base unit containing 2 buttons, 3 button control selectors and a stick tension adjuster. The stick provides you with direct control over cursor movement and incorporates a third button.



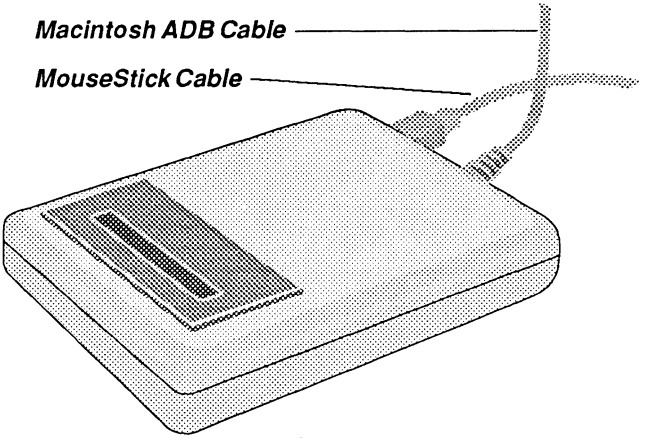
Gravis MouseStick "base" unit

MouseStick Sets are control parameters created through the MouseStick cdev. When directed, these MouseStick Sets are sent (downloaded) to the GMPU.



Powerful Control Panel software provides for convenient recall of supplied or user created MouseStick Sets

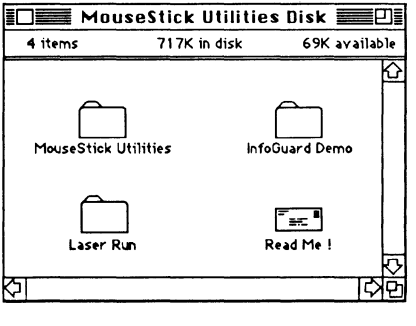
The GMPU is a microprocessor which interprets MouseStick signals according to the parameters of the current MouseStick Set. Signals are sent from the MouseStick to the GMPU for interpretation and then sent to the computer.



Gravis MouseStick Processing Unit (GMPU)

MouseStick Utilities Disk

Enclosed with your new Gravis MouseStick™ is a disk labeled **MouseStick**. This disk contains a demonstration copy of our microcomputer security system "***info*Guard™, File and Folder Guardian**", a current listing of software changes and new MouseStick settings called "**Read Me !**", a complimentary copy of our space arcade game "**Laser Run**" and a "**MouseStick Utilities**" folder.



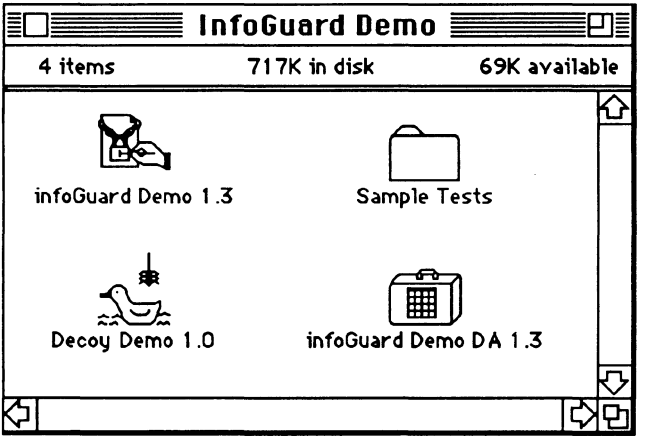
Making a Working Copy

Before using your MouseStick Utilities disk you should first make a Working Copy. A working copy of your MouseStick Utilities disk will allow you to store your original in a safe place and use the working copy for installations on your hard disk or floppy disks. If your computer should ever become infected with a computer virus or if your working copy gets lost or damaged, you can then make additional copies as may be required.

Your MouseStick Utilities disk is not copy protected and may be copied with any copy software or in the Finder. Prior to inserting your MouseStick Utilities disk into a disk drive, slide the write protect tab open to lock the disk. You may then copy the disk in your usual manner, such as by dragging the disk icon over that of a blank disk. If you are unfamiliar with making a working copy, please refer to your Macintosh Users Guide.

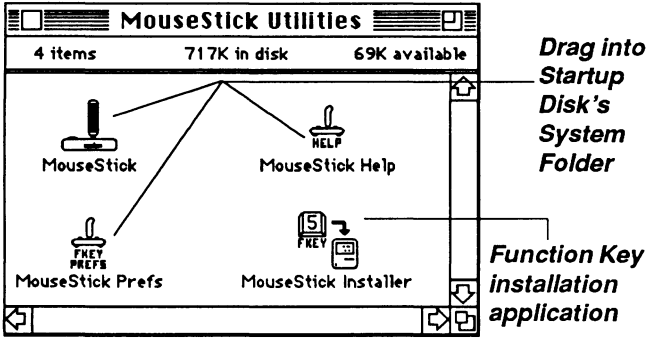
*info*Guard™

InfoGuard is a software security system for the Macintosh. A complimentary demonstration copy has been provided for your evaluation. Unlike traditional data encryption programs, InfoGuard provides security from accidental and intentional file access as well as protection and detection of computer viruses. Its blazing speed and the ability to work with data and application files either individually or in groups within folders makes it convenient for everyday use. The automated 'Sign In / Sign Out' password system allows you to launch secured files with a double-click.



MouseStick Utilities

MouseStick Utilities folder contains the control panel device (cdev) software, required to create and manage MouseStick Sets, and a handy function key (FKey).



MouseStick settings are created, edited and accessed through the MouseStick Control Panel Device (cdev) available in the Control Panel desk accessory. This is the heart of your MouseStick control and the means by which you will control much of the feel and functionality of your MouseStick.

The MouseStick Function Key (FKey) is a small utility program which allows you to quickly and easily reset your Gravis MouseStick Processing Unit (GMPU) to its startup MouseStick Set and toggle between mouse tracking speed settings.

Your MouseStick cdev comes with several custom Mouse-Stick Sets designed for specific applications as well as several general Sets. All but the "Auto Center" set can be removed or edited to suit your particular needs and will serve as a useful starting point for creating your own custom sets.

Custom Sets

New Custom Sets are continually being developed for specific programs and varied uses. To ensure that you are provided with the most current listing, we have included a **Custom Sets** file on your MouseStick Utilities disk. This file can be opened as a 'stand alone' application by selecting the file and choosing **Open** from the **File** menu or by **double-clicking** the file.

Included among these settings are **Auto Center** Sets for various sized monitors, any new custom sets which may not have been pre-installed in your MouseStick cdev and information on special Sets which require additional settings from within the program which it was designed for.

NOTE:

Some files require additional ***menu selections from within the program*** *to optimize the custom set being used. These files have names preceded by an* ***asterisk*** *(*). Such special setting are noted in this file and must be set from within the program.*

Updates to these settings will be periodically posted on national bulletin boards such as; CompuServe™, GEnie™ and MacNET™. If you do not have access to these bulletin boards you may wish to contact your local Macintosh User Group and have their Public Domain Librarian download new Custom Sets as they become available.

If you create any Custom Sets which you would like to share with others, drop us a line with your new settings and we'll add it to our next listing revision.

Chapter 2
Quick Start

MouseStick Utilities Installation

NOTE:

The installation of an FKey adds resources to your system file. Virus warning applications may alert you of a resource installation being attempted. Some of these virus prevention applications may have to be turned off to allow the installation. If you have such an application in operation, please refer to its documentation on disabling it while resources are being installed.

1. Start your computer in the usual manner with either a hard or floppy disk as the Startup Disk.

2. Drag the **MouseStick** icon, the **MouseStick Prefs** file and the **MouseStick Help** file, from your working copy of the MouseStick disk, into the System Folder of your startup disk.

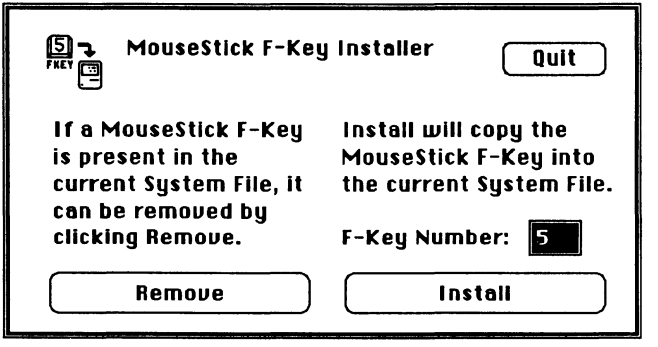
NOTE:

The MouseStick Prefs file is not required if you are not installing the MouseStick FKey. The MouseStick Help file is optional for those using floppy Startup Disks with limited space. A list of these file sizes is available in the ***Introduction*** *chapter of this Users Guide.*

4. Launch the MouseStick FKey Installer by selecting the application and double clicking or choose **Open** from the **File** menu.

NOTE:
The MouseStick FKey is optional but highly recommended.

5. Follow the MouseStick FKey's on-screen installation instructions.



NOTE:
*The default key is **5**, though any of the numbers from **5** - **9** may be selected. Only the number characters above your alpha keypad may be used as the Macintosh does not recognize the numbers on the numeric keypad nor the "**F**" series of keys along the top of extended keyboards, for use as Macintosh function keys. Keys **1** - **4** are already designated, as explained in your Macintosh Users Guide.*

6. Choose the **Shut Down** from the **Special** menu.

NOTE:
*The FKey is only installed into the **current Startup system** (the system on the active Startup disk.) If you wish to install the FKey on additional floppy disks, repeat this section restarting your computer with each of the desired startup disks.*

MouseStick Installation

NOTE:
***DO NOT** connect any ADB devices, such as your mouse, keyboard or GMPU, while your computer is running as these components may not function properly or your computer may be damaged.*

1. Connect the **cable from the GMPU** to any **ADB connector** on your computer or keyboard.

NOTE:
*ADB connectors are the connectors to which you connect your mouse and keyboard. **DO NOT** connect the MouseStick unit (with the handle) directly to any other connector on your computer.*

2. Connect the **MouseStick cable** to the connector on the back of the **GMPU**.

3. Start your computer using a Startup Disk containing a copy of the MouseStick Utilities.

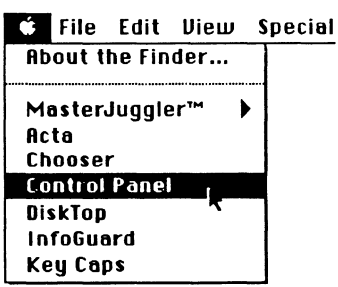
Experiment with and enjoy your new MouseStick! In order to gain the most use from your MouseStick, and to fully appreciate its power and versatility, we strongly suggest that you read the remainder of this Users Guide and experiment with the various features, reactions and feel of the MouseStick Sets provided. If you do not wish to read the entire Users Guide at this time, you will gain the greatest benefit by following the Tutorials in Chapter 5.

NOTE:

If you are using a Macintosh with the standard 9 inch screen use the pre-selected "Auto Center" setting. If you are using a ***larger monitor****, such as an Apple 13 inch color monitor, you may choose to use the "****13 Auto Center****" MouseStick Set. In either case, feel free to select any of the settings and experiment with their effects. If you are using a monitor other than the Apple 9 or 13 inch, select any one of the* ***CZone*** *MouseStick Sets until you customize an Auto Center Set for you size of monitor.*

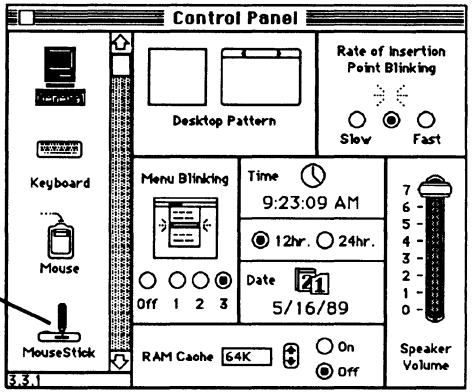
1. *Select the* ***Control Panel*** *from the (desk accessory) menu.*

2. *Select the* ***MouseStick icon*** *from the scrolling list of the Control Panel.*



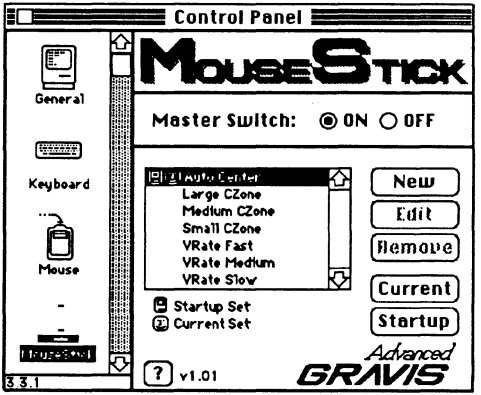
Scroll down the icon list if the Mouse-Stick cdev icon is not visible.

MouseStick cdev icon



3. *Select **13 Auto Center** (or one of the CZone Mouse-Stick Sets) from the selection list.*

Your MouseStick cdev will open when it's icon is selected.

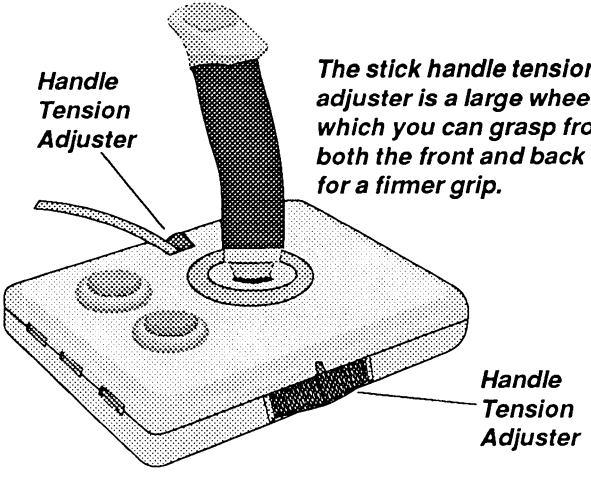


4. *Click the* ***Current*** *button to download the MouseStick Set into the GMPU.*

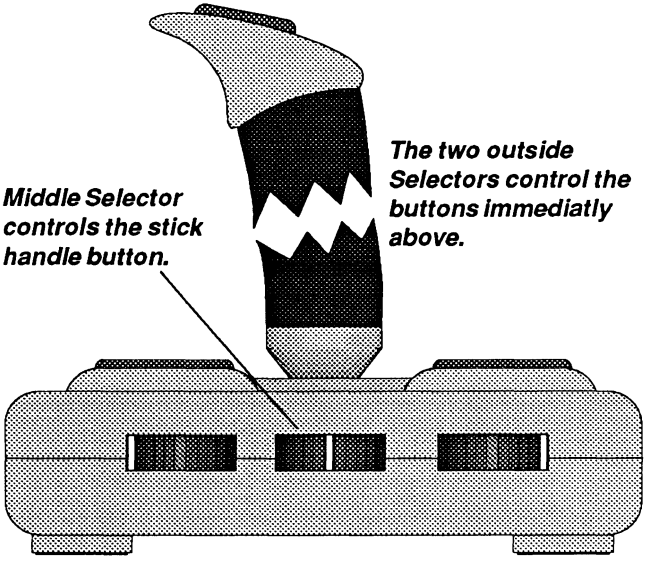
5. *Close the Control Panel by clicking in the Close Box in the window's top left corner.*

Chapter 3
Using the MouseStick

Depending on the user and the current use of the MouseStick, you can choose from one of **eight tension settings** which control the resistance of the stick handle. Within the base unit is a large ring extending from both the front and rear sides of the base. By turning this Tension Adjustment Ring clockwise you can set it for little or no stick tension to fully counter clockwise for a stiffer resistance and positive feel. A few minutes of experimentation will determine which setting you find most comfortable.



The MouseStick provides three interchangeable buttons; two on the base and one on the handle. The function of these buttons can be changed through the MouseStick cdev or by physically changing the identity of a button with the Button Control Selectors.



Each Selector is a three position switch which can be rotated to button position 1, 2, or 3.

The Button Control Selectors are the three small wheels located on the left side of the base. Each control selector directly effects the corresponding button to which it is connected. Each control selector is a three position switch

which is set to position 1 when rotated fully clockwise, position 2 when centered and position 3 when rotated fully counter clockwise. This allows you to designate any of the three buttons as either Button Function 1, Button Function 2 or Button Function 3. This allows you to quickly switch the location of button settings or provides the availability of having multiple buttons perform the same function.

NOTE:
We suggest that you start with your Button Selectors positioned as follows:

Button A *(closest to the cable)*	***- Button Function 1*** *(clockwise)*
Button B *(handle button)*	***- Button Function 2*** *(centered)*
Button C *(furthest from cable)*	***- Button Function 3*** *(counter clockwise)*

Most users will find little or no need to adjust these settings.

Handle Grips

Many people are accustomed to traditional joysticks therefore it is a common reaction for new users to grasp the handle in their fist, using their thumb on the stick button. This method may be appropriate for some actions but may restrict precise control and movements for some users.

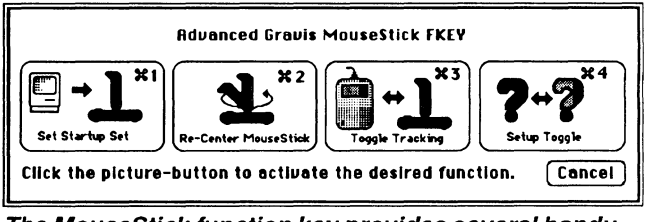
An alternate grip is to control the stick with your thumb and middle finger. This method allows you to rest the heel of your hand on the base and use your pointer finger on the stick button. Use whichever method you feel most comfortable with or switch grip methods to suit your current use.

Chapter 4
Using the MouseStick Utilities

Function Key

The MouseStick FKey comes in handy when actions can not be accomplished with the cursor or when it is more convenient than opening the Control Panel. Your FKey may not function properly if used while a dialog box is open or while the Control Panel window is open and the MouseStick cdev is active.

The default installation setting designates **⌘-Shift-5** as the key combination for launching the FKey. When installing the FKey you have the option of substituing the **5** key with any key from **5** to **9**.



The MouseStick function key provides several handy utilities, available through your keyboard.

Set Startup Set (⌘ 1)

Using the MouseStick cdev, you can designate both a **Current** and **Startup** MouseStick Set. In order to set your MouseStick to the best possible configuration, for your current purpose, you may occasionally encounter settings which restrict your cursor's area of travel. This restriction may prevent you from accessing menus or buttons with your MouseStick. Under these conditions you may choose to use your mouse, if still connected, or to use the FKey's **Set Startup Set** command to re-load your designated Startup Set and return complete cursor control to your MouseStick. For this reason we recommend that you select a Startup Set which allows full cursor travel.

Re-center MouseStick (⌘ 2)

If you have the handle tension very loose, allowing the handle to lean to the side while starting your computer, you may find your cursor reacting in an erratic manner. This is caused by the internal position counters in the GMPU starting in an off-center position. If you encounter this situation, select **Re-center MouseStick** and follow the on-screen instructions. These instructions will direct you to move the MouseStick handle to its center position and press the **RETURN** key. If the stick handle tension is not tight enough to self center the handle, it should be temporarily tightened for this proceedure.

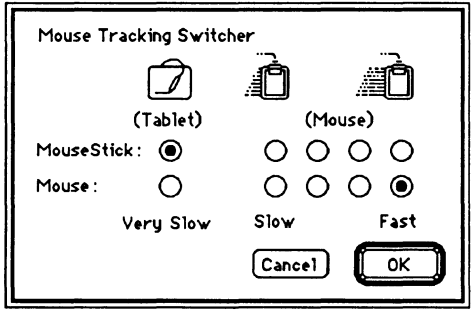
Toggle Tracking (⌘ 3)

This option **toggles** the mouse tracking speed between the

two Mouse Tracking Speed settings selected in the **Setup Toggle** option.

Setup Toggle (⌘ 4)

Many settings require the Mouse Tracking Speed to be set at the **Tablet** rate. This option allows you to designate two tracking speeds which can then be toggled between, with the **Toggle Tracking** command. Most MouseStick Sets will cause erratic cursor movement if a faster tracking speed is selected while some custom sets may require a faster mouse tracking speed. The Tracking Speed can also be controlled in the Set Editor, while editing or creating MouseStick Sets.



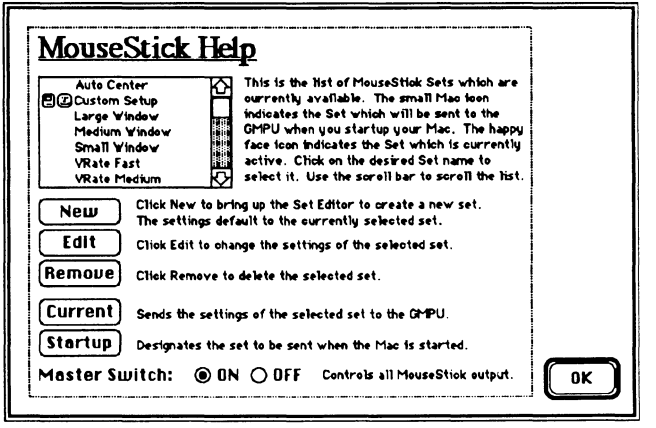
MouseStick cdev

The MouseStick cdev automatically downloads the designated Startup Set, to the GMPU, each time you turn on or restart your computer. If the MouseStick Master Switch is turned off, or if your MouseStick is not

connected to your computer, this automatic download will not take place. If your MouseStick is not connected the cdev will not appear in the Control Panel and the startup icon will indicate that the cdev is turned off.

The name of the cdev must be left as **MouseStick**. Any change of the name will result in other portions of your MouseStick system encountering difficulties locating required information.

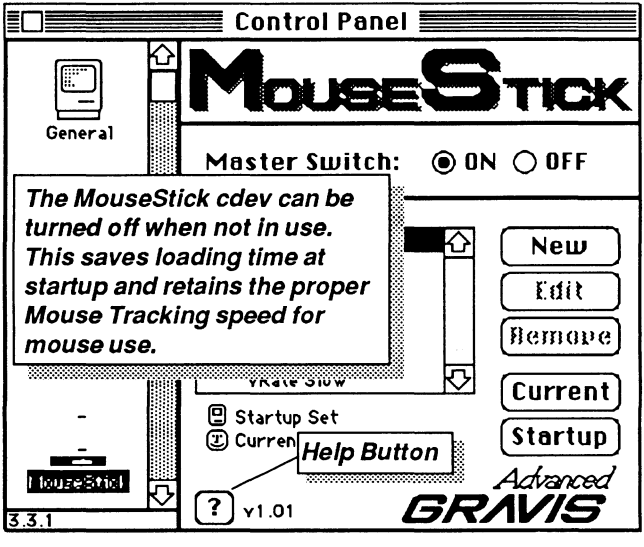
On-screen help is available by clicking any of the **Help Buttons** (small button with a question mark) in the corner of the cdev window or the Set Editor settings groups. The Help dialog is closed by clicking the **OK** button.



On-screen help provides a quick and handy reference point.

Master Switch

A master control switch has been provided to turn off and disable your MouseStick. While most Sets are quickly downloaded into the GMPU some complicated Sets may require additional time and the Mouse Tracking setting will effect the use of your mouse speed. If you do not wish to use your MouseStick, and therefore not require the Startup Set to be loaded into the GMPU at startup time, you may choose to turn the Master Switch **OFF**.



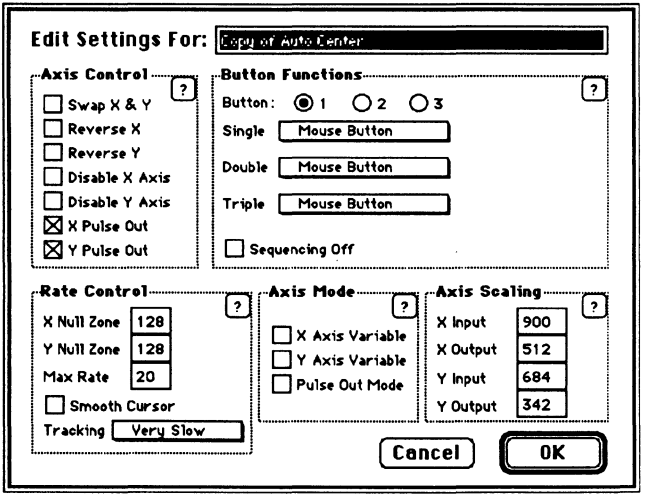
When the Master Switch is turned **off**, your MouseStick will continue to function until your mouse is moved or a key is pressed on the keyboard. This delay will allow you

to turn the Master Switch back on with your MouseStick if you change your mind or clicked the OFF button by mistake.

When you wish to re-activate your MouseStick, click the **ON** button. This will download the Startup Sets to the GMPU and re-establish your control of the MouseStick.

New

New **MouseStick Sets** can be created using the currently selected Set as a starting point. When the **New** button is clicked, a dialog box (called the **Set Editor**) is opened showing the settings of the currently selected Set . The name of this new set will default to the name of the current



selection preceded by "**Copy of.**" When saved, this will become a new MouseStick Set which can be selected and downloaded in the usual manner.

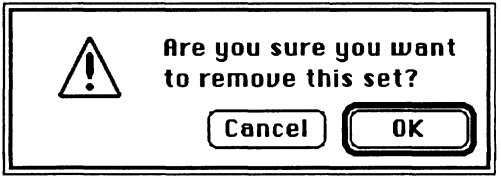
Edit

All but the **Auto Center** Set can be edited or modified. The **Set Editor** is opened, showing the settings for the current Set selection, when the **Edit** button is clicked. When saved, the edited Set will be available in the selection list and will be automatically downloaded to the GMPU if it was the **Current** Set.

A Set, which is not the Current Set, can be edited in the same way. When saved, its' settings will not be automatically downloaded. The **Current** button must be pressed to download these new parameters (settings) to the GMPU.

Remove

All but the **Auto Center** Set can be **Removed** from the MouseStick Sets list. By selecting a Set and clicking the **Remove** button you can erase any or all but the Auto Center Set. Once the Remove button is clicked a dialog box will be presented to confirm your intention to erase the selected Set.



Current

Clicking on the **Current** button will download the selected Set to the GMPU. This Set will remain in effect until another Set is selected or your computer is restarted. When this button is clicked there will be a slight time delay as the new Set is downloaded to the GMPU and once completed a **happy face icon** will appear beside the **Current** Sets name.

A second method of downloading a Set is to select a desired Set, then double-click it. This will cause that Set to be loaded as the Current configuration in the same way as clicking the Current button.

Startup

In addition to the Current Set a **Startup Set** can be chosen by clicking the **Startup** button. This will be the **default set** which will be automatically be downloaded to the GMPU, when you startup or restart your computer. In order for this to be automatically loaded into the GMPU, you must have a copy of the MouseStick cdev installed in the System Folder of the startup disk.

If the computer has been restarted, without a power interruption to the GMPU and the startup disk used **does not** contain a copy of the MouseStick cdev, the previous Current Set will still be in effect. This provides a handy way of providing a desired Set under conditions where you may not be able to access or even install the cdev.

This method can be used to set the desired settings for **recreational software** with little or **no room for the cdev** on the disk or where programs **do not support desk accessory access.** Another means of overcoming such restrictions is to download the desired setting, then launch the program with your current Startup Disk in place.

Startup / Current Configuration

The icons beside **Current Set** and **Startup Set** indicate the current active selection and the default Set loaded when the computer is started. The **Mac icon** indicates which setting has been selected as the default or startup set while the **happy face** indicates the current setting.

MouseStick Sets

MouseStick Sets are control parameters created through the MouseStick cdev. These Sets are available for selection from scrolling list in the MouseStick cdev window. When directed, these MouseStick Sets are sent (downloaded) to the GMPU.

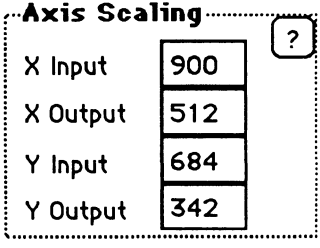
Several MouseStick Sets have been provided and will serve the needs of many users. These comprise of **3 commonly used Set types** and several custom designs for specific applications. These common types are:

Auto Center
CZone (Cursor Zone)
VRate (Variable Rate)

Auto Center

This Set is designed for general operation and produces a MouseStick response similar to that of a mouse. In addition to standard mouse response, this setting will cause your cursor to automatically return to the center of your screen when the stick handle returns to center.

The screen size for Auto Center is dependent on the Axis Scaling settings which, for this Set, have been configured for a standard 9 inch Macintosh screen. A 9 inch Macintosh screen is 512 X 342 pixels, as reflected in this Sets Axis Scaling settings. Larger monitors will require a modified setting to reflect their monitor's size and pixel count. Another common screen size is the Apple 13" color monitor which has a screen size of 640 X 480. A Set titled **13" Auto Center** has been provided in the MouseStick Sets.



Auto Center is a **direct tracking mode** which provides direct response to the position of the stick handle much as the cursor responds the mouse movements. It is used for general use but may not be appropriate for some uses where automatic re-centering of the cursor is not desired.

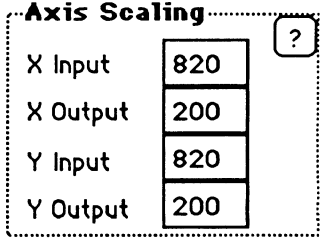
NOTE:

The cursor may not be in the screen's center when this set is invoked and some manual stick movements may be required to center the cursor.

1. *Move the stick to the extreme end of either the X or Y axis, holding that position until the cursor reaches the edge of the screen*
2. *Release the handle, allowing the stick tension adjustment to spring it back to center.*
3. *Repeat steps 1 & 2 for the remainder of the top and bottom of the Y axis and the left and right sides of the X axis.*

Small, Medium & Large CZone

These settings are used for localizing your work area to a restricted region of the screen. This allows the cursor to be positioned accurately within an invisible square area of the screen, called the **Cursor Zone**, where you have direct cursor control. While moving within the boundary of the Cursor Zone you will have direct control and extreme accuracy; when the cursor reaches the edge of the zone, it will travel across the screen at an increased rate of speed, until the stick handle is returned to center. Once the stick is centered a new Cursor Zone is automatically established around the cursor's current location. This allows you to have precise pixel by pixel control within your immediate working area while



retaining the ability to quickly reposition your work area to any location of the screen or a second monitor.

By comparing the values of the Axis Scaling, for the three preset Cursor Zone sizes, you will be able to gauge additional custom settings which may be more appropriate for your specific working conditions.

Small CZone
Creates a Cursor Zone of 200 X 200 pixels or approximately 2 3/4 inches square on the standard 9 inch Macintosh screen.

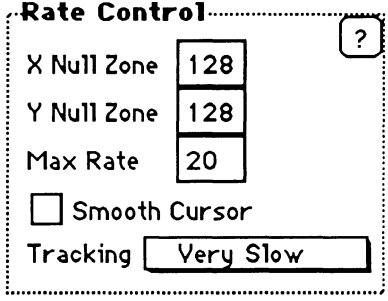
Medium CZone
Creates a Cursor Zone of 250 X 250 pixels or approximately 3 1/2 inches square on the standard 9 inch Macintosh screen.

Large CZone
Creates a Cursor Zone of 300 X 300 pixels or approximately 4 1/4 inches square on the standard 9 inch Macintosh screen.

Slow, Medium & Fast VRate

Variable Rate modes allow the cursor to travel across the screen with a velocity and direction relative to the position of the stick. As the stick handle is moved away from its center position the cursor will begin to travel, in the corresponding direction, at an increasing rate of speed relative to the stick's distance from its centered position.

In addition to the variable cursor velocity, these modes will allow the cursor to stop and remain in its current location when the stick is returned to its center position. When your cursor reaches the edge of your screen the GMPU continues to send out cursor movement signals (pulses) which are interpreted by the software as if the cursor were still moving, though it has physically stopped. The rate of the cursor's movement is established by the setting entered into the Rate Control's **Max Rate** editing field.



These variable rate modes are well suited to many recreational programs which require continual movement in any direction.

VRate Slow
Max Rate is set to 8

VRate Medium
Max Rate is set to 20

VRate Fast
Max Rate is set to 30

Chapter 5
MouseStick Tutorial

The best way to gain a better understanding of how your MouseStick works and how to utilize its potential is to explore its supplied Sets and Set Editor features.

The first tutorial, **Exploring Settings**, will take you on a tour of several common MouseStick Sets. By exploring these sets you will gain an understanding of the various basic cursor reactions and their relation to stick movements. This first important tutorial will also guide you through your first Set Editor experience, by editing one of the Sets.

Custom Auto Center, the second tutorial takes you through the process of creating a new Auto Center Set for large monitor. Even if you don't have a large monitor, this short tutorial will strengthen your knowledge of the Set Editor and help you create your first custom set.

Your new MouseStick is equipped with three buttons, each capable of performing various functions. **Button Power**, the third tutorial, explores a sampling of common uses for these button. You will learn how to enter keyboard command shortcuts, lock objects onto your cursor and send sequences of button signals.

Exploring Settings

Experience is the best teacher, and this chapter will take you through the basic functions and reactions possible with the Gravis MouseStick and introduce you to the Set Editor.

NOTE:

The Auto Center MouseStick Set is based on a standard 9 inch Macintosh screen. This set will not react properly on other monitors. If you are using a monitor other than that built into in the Macintosh SE or SE/30 please read but don't follow the Auto Center portion of this exercise until you have created an auto center set for your size of monitor. Creating a custom auto center set is demonstrated in the Custom Auto Center tutorial.

Auto Center

1. Open the **Control Panel** and choose the **MouseStick cdev**.

2. Choose **Auto Center**, if it is not already chosen.

3. Click **Current** to download this Set's settings to the GMPU.

NOTE:

A watch cursor will appear while the settings are being downloaded to the GMPU. The amount of time required for this download process is dependent on the settings involved and the communication speed restrictions of the ADB.

When the cursor returns to a **cross** you are ready to try the

Auto Center set.

4. Move the stick handle around and note that the cursor responds directly to any stick movement. This direct relationship is called **Direct Tracking.**

5. Position the cursor in a corner of the screen and quickly release the handle. If the stick handle tension is adjusted to anything other than its loosest setting, the cursor will spring back to the center of the screen.

Variable Rate

1. Choose **VRate Medium** from the MouseStick Sets list and click **Current**. You may have to scroll down the list.

2. After the cursor returns to a cross, start moving the stick and note the response of the cursor.

3. Move the stick very slowly off center and note that the cursor increases in speed as you move the stick further off center. This **variable rate** of travel is known as **Indirect Tracking.**

4. Release the stick and note that the cursor remains in its current location.

In **indirect tracking** the cursor does not respond directly to the current location and movement of the stick.

While trying this set you will also notice that the cursor's maximum rate of travel is a somewhat moderate speed.

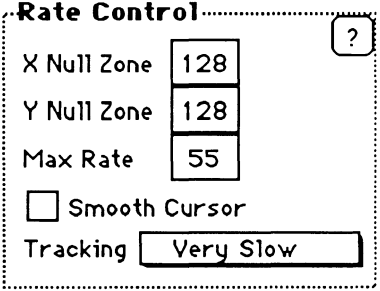
5. Click the **New** button, while VRate Medium is still selected.

6. Double click in the **Max Rate's** text box, located in the **Rate Control** settings group.

This will highlight the current setting, which will then be replaced by the next characters which you type, or you may click in the text box and **Backspace** or **Delete** the current setting.

7. Type **55**, to set a new Maximum cursor rate speed.

8. Click the **OK** button.



A new MouseStick Set called **Copy of VRate Medium** is now available for selection from the list. As we did not change the default name, based on a **Copy of** the selected set, the Set Editor automatically saved the new set with this name. The name may be up to 32 characters in length but only the first 16 (approximate) characters will be visible in the MouseStick Set selection list.

9. With **Copy of VRate Medium** highlighted, click the **Current** button.

10. When the downloading is completed, slowly move the stick further and further off center. You will note that the maximum rate of cursor travel is now considerable faster.

11. With **Copy of VRate Medium** set still highlighted, click the **Remove** button.

12. Click the **OK** button of the alert dialog box when asked for confirmation of the Remove command.

NOTE:

When a currently active set is removed, its setting will remain in effect until another set is made Current or some other action is initiated to download another set, such as restarting the computer or using the MouseStick FKey.

Cursor Zone

1. Select **Small CZone** from the MouseStick Sets list.

2. Click the **Current** button.

3. Move the cursor to the top left corner of your screen.

4. Move the stick handle around in a tight circle, causing the cursor to move in about a 1 or 2 inch circle, then release the stick.

This results in a reaction much like the direct tracking Auto Center set, but with the cursor centering to a small area near the top left corner of the screen.

5. Move the cursor handle slowly to the extreme right.

At first the cursor will react as direct tracking then about 4 or 5 inches from the left of the screen it will start to glide across the screen, similar to the indirect tracking experienced in the VRate Medium Set.

6. When the cursor reaches the right side of the screen, release the stick, allowing the handle to center itself.

The cursor will spring back approximately 1 to 1 1/2 inches from the edge of the screen. This type of MouseStick Set utilizes both direct and indirect tracking to establish an auto centering cursor zone based on the current location of the cursor.

Our Small CZone set established a cursor zone of 200 X 200 pixels or approximately 2 3/4 inches square. The size of this zone can be adjusted by editing the settings in the X & Y Output text boxes of the Axis Scaling settings group, located in the lower right corner of the Set Editor.

Custom Auto Center

If you are using a monitor other than the standard 9 inch screen built into the Macintosh SE and SE/30 you may wish to create a customized Auto Center set.

Many varied sizes of monitors are available for the Macintosh ranging from the standard 9 inch built-in screen up to 19 inches and beyond. Auto centering may not be practical on very large monitors due to the cursor travel distance from the center of the screen to the outside edges. Those users with large monitors will often find it more practical to use one of the CZone sets or a customized CZone set.

Each custom auto center set will vary depending on the size (number of pixels) of your screen. In this example we will create an Auto Center set for Apple's 13 inch color monitor. This monitor is 640 pixels wide by 480 pixels high.

1. Choose **Auto Center** from the MouseStick Sets list.

2. Click the **New** button. This will open a new Set Editor containing the settings found in the Auto Center set.

3. Change the name from **Copy of Auto Center** to **13" Auto Center**.

4. In the Axis Scaling settings group, set the **X Output** to **640** and the **Y Output** to **480**.

The X & Y output scaling determines the number of output pulses to be transmitted by the GMPU, to move the cursor from one side of your screen to the other and to determine its center.

5. Change the **X Input** and the **Y Input** to **800**.

The Input scaling determines the amount of stick travel required to achieve full travel across the screen. These numbers must always be equal to or greater than the corresponding Output scaling for that axis.

NOTE:

If you are using a monitor of different dimensions, put the pixel size of your screen into the X and Y Output settings and start with 800 in each of the Input settings. After saving the new set and downloading it with the Current button check to verify if you have direct tracking and access to all four corners of your screen. If you are not able to reach each corner, adjust the X or Y Input setting higher by 25 then save, download and test the adjusted setting. Dependent on your monitor size and dimensions you may not be able to set a true auto center. This will normally only occur on the largest monitors. A large ***CZone*** *setting will work equally well on these large monitor units.* ***Additional monitor settings are provided in the "Read Me !" file on your MouseStick™ Utility Disk.***

6. Click the **OK** button to savethe MouseStick Set.

7. Click the **Current** button to download the settings.

NOTE:

*After creating a custom Auto Center Set you may wish to click the **Startup** button to make this the default set.*

Button Power

A versatile feature of your Gravis MouseStick is its ability to program its three buttons. These can be programmed from the Set Editor and can be manually changed by rotating the three Button Control Selectors on the base of your MouseStick unit. Before starting this exercise insure that the Control Selectors are in the proper starting positions:

***Button A** (closest to the cable)*	***- Button Function 1** (clockwise)*
***Button B** (handle button)*	***- Button Function 2** (centered)*
***Button C** (furthest from cable)*	***- Button Function 3** (counter clockwise)*

1. Select the Auto Center set , or if using a large monitor, your customized Auto Centering set.

2. Click the **New** button.

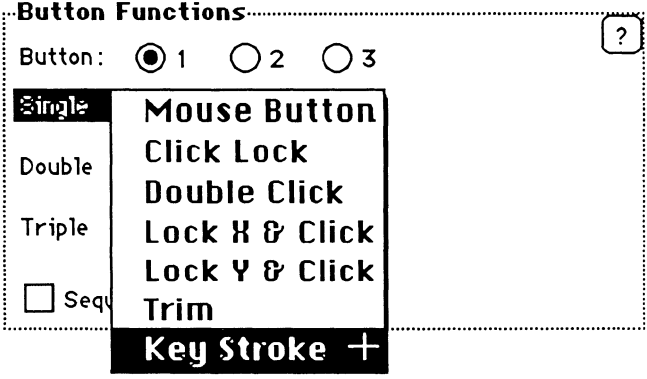
3. Name your new set **Button Power**.

Button 1

When the Set Editor is opened the Radio button, beside "Button: 1" in the Button Functions settings group, will automatically be selected.

4. **Click and hold** the popup menu for a **Single** click.

5. When the menu pops up, drag down to **Key Stroke** and release the button, while it is highlighted.



Click and hold down the mouse(MouseStick) button on the shadowed box to pop up the menu. The designated key strokes will appear to the right of the menu and the selected menu will appear in the shadowed box.

6. Type ⌘ **W** (Command - W) when the dialog box, asking you to **Press Key Sequence** appears.

7. Click the **OK** button.

Command-W is a command key short cut for closing the currently active window in many applications. **Cmd W** will now appear beside the Single: Key Stroke menu.

8. Choose **Key Stroke** from the **Double** click popup menu.

9. Type **⌘ N** (Command - N) in the dialog box.

10. Click the **OK** button.

Command-N is a command key short cut for creating a New Folder. **Cmd N** will now appear beside the Double: Key Stroke menu.

11. Click the **Sequencing Off** check box. This box will then be checked with an **X** indicating that the Sequencing Off option is **on** (selected). This option will be explained later in this exercise.

Button 2

We will not alter the button function 2, currently designated as the stick handle button, and retain its default **Mouse Button** setting for all three clicks. The Mouse Button setting sends a **standard mouse button click** to the computer. This second button function could also be set for various command in the same manner as button function 1 and 3.

Button 3

12. Click on **Button: 3** in the Button Functions settings group.

13. Choose the **Double Click** option from the **Single** click popup menu.

14. Choose the **Click Lock** option from the **Double** click popup menu option.

15. Click the **Sequencing Off** check box.

16. Save your new set, by clicking the **OK** button in the lower right corner.

17. Download your new **Button Power** setting by clicking the **Current** button.

17. Click on the Control Panel's **Close Box**, in its top right corner

Testing Button Power

1. Open any window on your desktop.

We have set a **Single** click of **Button Function 1** to send a command key signal (**⌘ W**) to close the Active Window.

2. Click **Button Function 1** (Button A) and observe the window automatically closing.

3. Re-open a window.

A **Double** click of **Button Function 1** should send a command key signal (⌘ N) to create a New Folder.

4. **Double** click **Button Function 1.**

A new folder has been created in the Active Window.

5. With the New Folder still highlighted, **Single** click **Button Function 3** (Button C), which has been set to send a Double Click signal.

A Double Click signal is a short cut for the **Open** command. This will have caused the New Folder to open.

6. Use the **Single** click of **Button Function 1** to close this window.

7. Place your cursor over any one of the menu items in your **menu bar.**

8. **Double** click **Button Function 3.**

9. Move your cursor around the screen and over the other menu bar items. You will note that the menus remain pulled down, even when the cursor is not over any menu items.

A click of **Button Function 3**, or **any mouse button**, will cause a highlighted menu item to be chosen. If the cursor is not over a menu item, when the next click occurs, no menu item will be chosen.

10. Move the cursor away from the pull down menus and click **Button Function 2** (stick handle), to release the menus.

11. Move your cursor on top of the New Folder which we created earlier. Probably named "Empty Folder".

12. **Double** click **Button Function 3.**

13. Move your cursor around the screen and note that the outline of the selected folder is locked onto the cursor.

14. Position your cursor over the **Trash Can.**

15. With the Trash Can highlighted, click **Button Function 2** to place the Click Locked folder into the Trash.

Click Lock causes an item to be locked until a second click of the **Click Lock** button or until a mouse button click is sent to the computer.

Sequencing Buttons

1. Open the Control Panel.
2. Select the **Button Power** MouseStick Set.
3. Click the **Edit** button.
4. Set **Button 1**, **Single** click to **Key Stroke**.
5. Type **1** into the Key Stroke dialog box.
6. Click the **OK** button.
7. Set a Key Stroke entry of **2** for the **Double** click.
8. Set a Key Stroke entry of **3** for a **Triple** click.
9. Click the radio button for **Button Function 3**.
10. Set a Key Stroke entry of **1** for a **Single** click.
11. Set a Key Stroke entry of **2** for the **Double** click.
12. Set a Key Stroke entry of **3** for a **Triple** click.
13. Click the **Sequencing Off** check box to remove the **X**, turning the sequencing off option back on for this button function.
14. Save these settings by clicking the **OK** button.

15. Download the edited set to the GMPU by clicking the **Current** button.

16. Close the Control Panel.

Testing Sequencing

1. Open any word processing application.

2. **Single** click **Button Function 1.**

3. **Double** click **Button Function 1.**

4. **Triple** click **Button Function 1.**

You will note that for each of the clicks, single , double or triple, you get a **single keystroke entry.**

NOTE:

If you are experiencing any difficulty with the feel and response of the buttons and differentiating between single and combination click, now is a good time to take a few moments and experiment with the feel and response of the buttons.

5. On a clear line, **single** click **Button Function 3.**

6. **Double** click **Button Function 3.**

7. **Triple** click **Button Function 3.**

You will note that with sequencing on (**Sequencing Off not checked**) a single click enters a **1**, a double click enters a **12** and a triple click enters **123**.

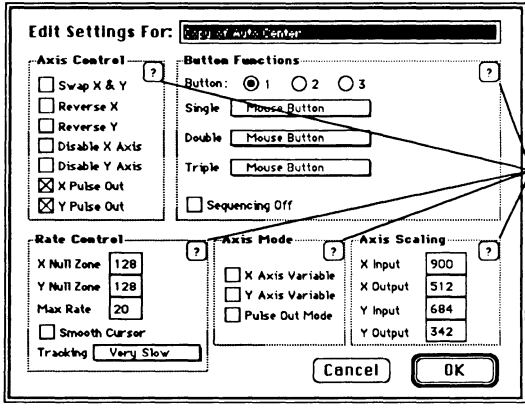
8. Choose **Quit** from the **File** menu to close the word processing application.

This is the end of the tutorial section. You can remove the Button Power set from you MouseStick Sets or you may wish to use this as a basis for further exploration.

Chapter 6
Creating & Editing Sets

The **Set Editor** is a dialog box in which you enter settings for creating and modifying **MouseStick Sets.** This dialog box is divided into 6 groups of related settings:

Name
Axis Control
Button Functions
Rate Control
Axis Mode
Axis Scaling



On-screen help is available for each settings group.

On-screen help is available by clicking any of the **Help Buttons** (small button with a question mark) in the corner of each Set Editor settings groups. The Help dialog is closed by clicking the **OK** button.

Name

New settings will default to a "**Copy of**" name based on the current selection's name. Settings which are being edited will retain the name of the current selection. Names may contain any alpha or numeric character, upper or lower case, up to 32 characters in length.

Edit Settings For: XYZ Simulator

Use names which discribe their intended application.

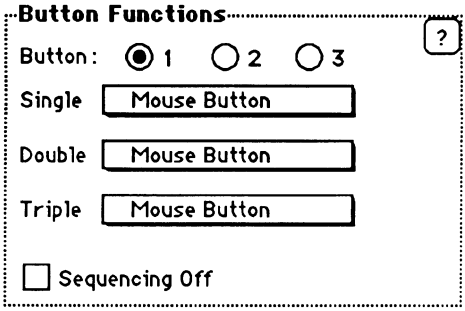
When a Set is saved, by clicking the **OK** button, its name will appear in the MouseStick Set list in **alphabetical order**.

Custom Sets

Custom sets which require additional menu selections from within the application should be identified for a later reminder when selecting one of these MouseStick Sets. It is recommended that these Sets be preceeded by and asterisk. i.e.: ***Flight Simulator**

Button Functions

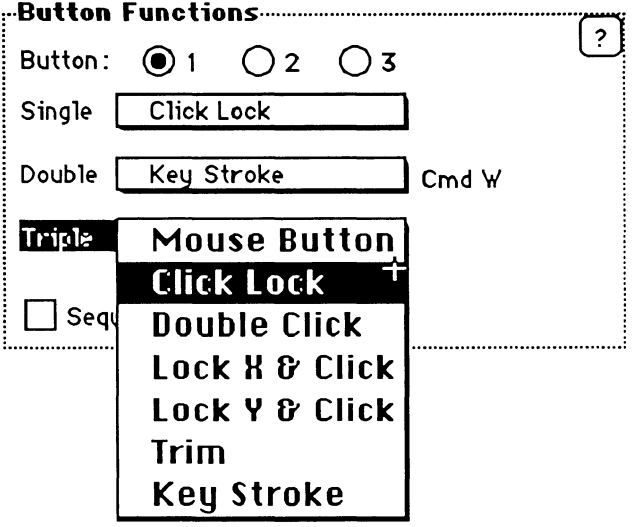
The Button Function settings group is the busiest group in the Set Editor. It contains radio buttons, popup menus, text boxes and check boxes for controlling the **Button Functions** of the 3 MouseStick buttons.



Any one of the three buttons can be assigned as Button Function 1, 2 or 3. Radio buttons are provided to select which Button Functions are being programmed or edited. Only one button can be selected at any one time and the settings shown will change to reflect the current Button Function selected.

Each button can be programmed to react differently to either a single, double or triple click. In addition, the signals or messages sent as a result of each group of clicks can be sent as individual signals or chained together in a sequence.

Each of the shadowed boxes is a **popup menu** which reflects the current selection. The popup menus are activated by **clicking and holding** on the shadowed box, then dragging up or down to make your selection. If an arrow appears, at the top or bottom of the menu, it indicates that additional menu items can be selected by dragging in that direction.



A popup menu item is selected by releasing the button while an item is highlighted in the same manner as other menus. The selection will be shown in the popup menu. If a popup menu is activated and you do not wish to make a selection, simply drag off to the side of the menu and release the button; the previous selection will not be changed.

Each of the single, double or triple click popup menus contain the same 7 menu items:

Mouse Button
Click Lock
Double Click
Lock X & Click
Lock Y & Click
Trim
Key Stroke

Button Selection

Each of the three MouseStick buttons can be designated as Button Function 1, Button Function 2 or Button Function 3 by rotating the **Button Control Selectors** on the unit's base. The recommended **initial settings** are:

Button A designated as **Button Function 1**
(Selector: clock wise rotation)

Button B designated as **Button Function 2**
(Selector: center position)

Button C designated as **Button Function 3**
(Selector: counter clockwise rotation)

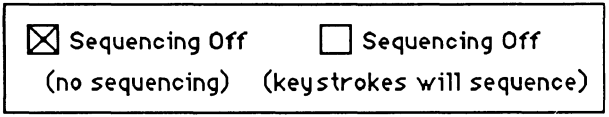
Prior to programming buttons you should confirm that the Button Selectors are correctly positioned. Button Function settings will effect whichever button has been assigned that function and if the button designation have been adjusted you will not get the anticipated results.

Single, Double and Triple Click

The amount of time between clicks, for the computer to differentiate multiple single clicks from a double or triple click sequence, is **NOT** affected by the Mouse (supplied by Apple) Control Panel settings, as is the button on the Mouse. The time interval between clicks is set and cannot be modified.

Sequencing

Sequencing allows you to expand the scope of the various button commands by **linking the signals** sent by the GMPU. With the **Sequencing Off** option **checked** each signal (for a single, double and triple click) will be sent as a **separate item**. When this option is **not checked** the sequencing option is **on** and the signals are **linked in a sequence**.



With **sequencing on** (not checked), a triple click will cause the single click signal to be sent, followed immediately by the double click signal and then by the triple click signal. Sequencing is demonstrated in the Chapter 5. Tutorials. Following the sequencing portion of the tutorial will give you a better understanding of how this feature works and how to make it work for you.

Mouse Button

The mouse button menu command will cause the selected number of clicks to send a single **mouse button click.** Your computer will react to this in the same way as it would if you where to clicking your mouse button.

Click Lock

Click Lock is a MouseStick shortcut which reacts similar to clicking your mouse button and holding it down. When this action is selected it will cause a mouse **click and hold** reaction which will stay in effect until the next mouse click. This is useful for moving icons or other objects around or for selecting pull down menu commands.

Double Click

Applications which require a good deal of double clicking respond well to this setting. A single click can be translated into a **double mouse click signal.** This action is especially useful for using the **Open command shortcut** of double-clicking an item to open or launch it.

Lock X & Click

Cursor movement is **restricted to the X axis** until the designated button is released. If a single click of a button is set to **Lock X & Click** your cursor will only move from side to side until the button is released. If this command is designated for a multiple click action, the axis will be locked after the button has been pressed for the final time and will remain in effect until that button is released.

Lock Y & Click

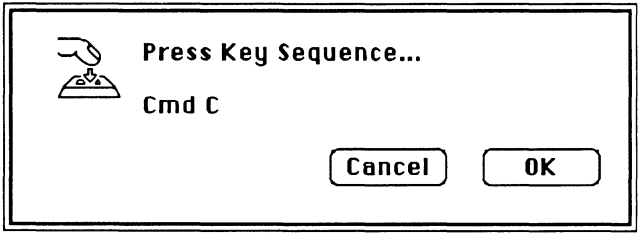
As with the **Lock X & Click** command this menu item locks the cursor movement onto one axis; in this case the Y axis. Cursor movement will be restricted to up and down until the designated button is released.

Trim

In some situations, such as a **flight simulator**, you may wish to change the **cursor centering position** to adjust for angle, wind etc. The **Trim** feature allows you to adjust the centering location or relation between the stick and cursor. While pressing and holding the designated button you can reposition the cursor, setting it to the new location when the button is released.

Key Stroke

Each of the button functions can be programmed to send **up to 2 keystroke characters** to the computer. Commonly used keyboard commands, such as ⌘S for **Save** or game control keys, can be sent by a single, double or triple click action.



When the Key Stroke menu item is chosen you are presented with a dialog box and requested to enter the desired keystroke(s.) Each keystroke entry **may contain one or two keystrokes** and if additional characters are entered the first character will be removed from the dialog box.

Any keystrokes are valid including **modifier keys** such as the Command, Option and Shift keys. These modifier keys will not appear independently as separate key strokes as they generally perform no function unless used in conjunction with another key. Entering a single Shift key would result in no keystroke entry where as entering both a **Shift** and **n** character would result in an **upper case N** (Shift N.) All characters will appear as upper case characters in the dialog box and in the Set Editor, but are sent to the computer as lower case character unless accompanied by the **Shift** key.

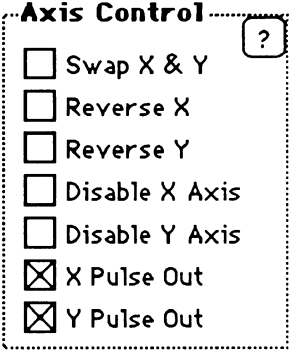
NOTE:

If you are using a macro programs such as QuicKeys™, Tempo II™ or Macro Maker™ you may experience some conflicts as these programs intercept your MouseStick generated keystrokes in the same manner as they intercept regular keystrokes from the keyboard.

Axis Control

The Axis Control settings allows you to control the reaction and relation of the cursor movement on the X and Y axis to that of the X and Y axis movements of the stick. These settings are selected by clicking in the check box,

which toggles between **ON** (indicated by an X in the check box) and **OFF** (indicated by an empty box.)



Swap X & Y

Turning **on** the Swap X & Y setting causes a forward and back stick motion to result in a side to side cursor movement and a side to side stick motion to result in an up and down cursor movement.

Reverse X
Reverse Y

Turning **on** the Reverse X or Y settings causes the cursor to move in a direction opposite to the direction of the stick's travel. When the Reverse X setting is checked and the stick is moved from left to right, the cursor will travel in a direction from right to left.

Disable X Axis
Disable Y Axis

Cursor movement can be restricted to either the X or Y axis by checking the box to disable either axis. Checking the X axis setting will restrict the cursor travel to the Y axis only, regardless of the position and travel direction of the stick.

If both the X and Y axis are disabled you will not be able to move your cursor with the MouseStick. Care should be taken to ensure that some means is available to return full cursor control, using either the keyboard or the mouse, when restricting the movement of the cursor. The MouseStick function key will allow you to download the Startup Set using the keyboard.

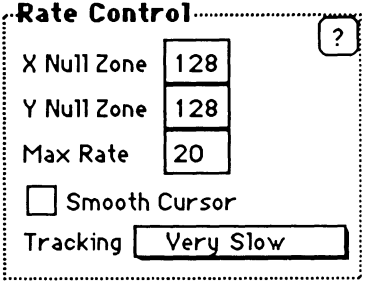
X Pulse Out
Y Pulse Out

Cursor movement can be restricted to incriments of 45 degrees.

By checking the X & Y Pulse Out settings the GMPU is directed to send a continuous stream of pulses causing the cursor to continue its travel on the X and/or Y axis. By not checking these settings you can prevent the sending of continual pulse out signals and restrict the cursor's movement. X & Y Pulse Out settings restrict the cursor to pulse out (travel) on either the X or Y axis or at a 45° angle.

X & Y Pulse Out works in conjunction with the Axis Modes Pulse Out setting and the Axis Scaling's X and Y Output settings. These settings will limit the travel area of the cursor when the Axis Scaling's Pulse Out is **not** checked. By not checking either the X or Y Pulse Out, and setting the Axis Scaling's X & Y Output to a number smaller than your screen size, you can limit the maximum extent of the cursor's travel. The amount of stick travel required to achieve full cursor travel across the restricted travel area is determined by the Axis Scaling's X & Y Input settings.

Rate Control



The Rate Controls consist of three text boxes for managing various aspects of the cursor's response to stick movements. These settings directly effect the X or Y Axis Variable rate modes but have no effect if these modes are not checked.

X Null Zone
Y Null Zone

A Null Zone setting allows you to set sensitivity of response to minimal stick movements off its self-centering position, while using the variable rate settings. A specified amount of stick movement, say 2° off its self centering position, is then required to effect any cursor response.

Due to the high precision of this device it would be very difficult to stop the cursor from moving, even though the stick tension centers the handle, if a Null Zone was not established to desensitize slight stick motions. This allows us to set a 'dead' or null zone which will not effect the cursor. The Null Zone can be set from a minimum setting of 2 up to a maximum of 250. As you examine other settings you will note that they are generally set at 128, a comfortable setting for most uses. These setting are based on the stick's 1200 line count resolution, so a setting of

128 allows you to move the stick approximately 10% off center before the cursor begins to respond.

Max Rate

The Max Rate specification determines the **maximum** cursor travel speed, for the X and Y Axis Pulse Out and Variable rate modes. It can be adjusted from 1 to 100. For a slow response such as used in the **VRate Slow** set, we have established a Max Rate speed of **8** and a rate of **30** for the **VRate Fast** set. These established settings should give you a good feel for what might be appropriate for your situation or a starting point for experimentation.

Smooth Cursor

The Gravis MouseStick Processing Unit is a very powerful and precise device constantly providing signals to your Macintosh, as to the current location of the cursor. This information is sometimes provided at a rate faster than the Mac is able to capture and use the information, therefore it is possible for the Mac to miss occasional cursor movement signals. The **Smooth Cursor** option will insure smooth cursor movement but may reduce the tracking accuracy of the cursor.

This situation will not be experienced by most users and is provided primarily for specialized conditions. Some MouseStick Sets will not function properly with this option checked and therefore it is recommended **only for custom Sets** where 'jittery' cursor movement is experienced.

Tracking

The Mouse Tracking Speed popup menu allows you to select from the 4 mouse tracking speeds generally selected from the Mouse cdev. This allows you to choose a mouse tracking setting as part of each set and have it download to the GMPU with the rest of the Set's parameters.

NOTE:

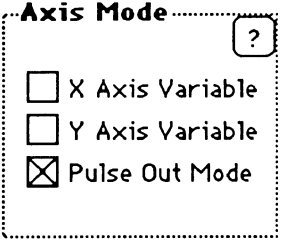
The cursor may react in an inconsistent fashion in some settings when a mouse mode faster than Tablet is selected. A small number will momentarily appear, on a mouse shaped cursor, to indicate the Mouse Tracking setting speed being set. "0" indicates the Tablet (slowest) speed and "4" indicating the fastest speed.

The Tracking speed for the Startup Set will be loaded when you start your Macintosh. If your intention is to use the Mouse rather than your MouseStick, you may wish to turn the MouseStick's Master Switch **OFF** to prevent it loading a tracking setting which may not be of the desired speed for working with a Mouse.

The MouseStick FKey also provides an option for toggling between two Mouse Tracking Speed settings. It toggles between the 2 speed settings selected in the FKey's **Setup Toggle** button, which do not relate to the current MouseStick Set's **Tracking** setting. As this is a straight toggle function it is possible to allready be set to a slow tracking speed and have the FKey toggle to another slow speed. If the FKey's **Setup Toggle** is set to a fast and a slow speed

it will toggle between these settings, if you wish to always toggle to a fast tracking speed, set both settings to a fast speed.

Axis Mode



This group of settings provides a variable rate of cursor travel relative to the stick's off-set from its center position. This allows the cursor to travel at an increasing rate of speed as the stick is moved further from its center position. Checking these settings creates **indirect tracking** Sets where the cursor position does not correspond directly to the current position of the stick handle. The cursor's maximum speed is controlled with the Rate Control's Max Rate text box.

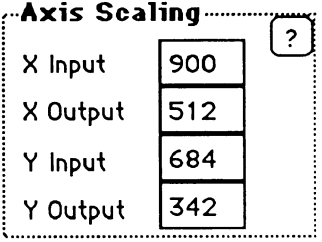
X Axis Variable
Y Axis Variable

The X or Y Axis Variable rate setting is active, or **ON**, when an X appears in the check box.

Pulse Out Mode

The Pulse Out Mode works in conjunction with the X & Y Pulse Out settings. This setting will allow the cursor to move at any angle indicated by the sticks movement and location. When selected, a continual pulse (cursor movement command) will be sent to the computer.

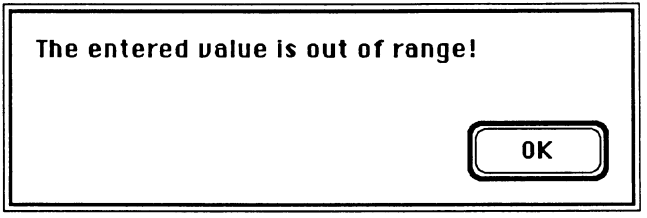
Axis Scaling



Through this group's four text boxes you are able adjust the rate at which the GMPU scales the Input and Output pulses which it receives from the stick and transmits to the computer. Your MouseStick is engineered to produce an extremely high resolution of 1200 line counts. When moved from the extreme right to the extreme left it will register a count of 1200 pulses; 600 right of center and 600 left of center. By scaling the input or output pulse rate, from 2 to 1200, you are able to adjust the sensitivity of your cursor control.

NOTE:

*The **Input** value must always be set to a value **equal to or greater than** that of the **Output** value. If an Input value is not high enough an alert message will advise you of an invalid setting.*



X Input
Y Input

Adjustments can be made from 2 to 1200 for scaling **input** pulses **received** by the GMPU.

X Output
Y Output

Adjustments can be made from 2 to 1200 for scaling the **output** pulse **transmitted** by the GMPU.

Cancel / OK

In the lower right corner of the Sets Editor is a **Cancel** and an **OK** button. The **Cancel** button closes the Edit Window without saving any of the settings modifications. The **OK** button saves the new settings, though they are **not** down-loaded into the GMPU until that setting is once again selected as the Current set.

You are able to save as many Sets as you wish. Once saved, these Sets will be saved to the MouseStick Sets list in alphabetical order. A newly created or edited Set will **not** be automatically downloaded to the GMPU, even if you have edited the Current set. To invoke these new settings you must first download the new parameters by clicking the **Current** button or **double-clicking** on the Set's name.

Chapter 7
InfoGuard

InfoGuard™ is a security system for protecting documents, the contents of folders and applications from unauthorized access or use. This short set of instructions will help acquaint you with it's many features.

When using the demonstration you'll notice that the password will always come up as **Gravis**. You can change it to see the effect but the demo will only recognize **GRAVIS**. Use the Sample Test folder to go through the exercise, but if you would like to try some of your own documents just add the word **DEMO** to their names.

Installation

1. Install InfoGuard onto your hard drive or diskettes by dragging the **InfoGuard icon** onto the destination disk

2. Install the InfoGuard desk accessory into your system with a DA Mover utility such as Apple's Font/DA Mover

Session Passwords

1. Choose InfoGuard from the desk accessory menu

2. Click **Sign In**

3. Enter the password "**GRAVIS**"

It will stay in effect, saving you the necessity of entering passwords each time you process a file or document, until you Sign Out.

Encrypting

1. **Double-click** the InfoGuard icon

The Startup screen will appear momentarily and the Main window will open.

2. Click **Encrypt**

A Get File dialog will appear.

3. Select **either** Whole Folders or Individual Files

4. **Double-click** the file or folder of your choice

A Password dialog will appear if you have not used the installed or used the InfoGuard DA to sign in a work session password.

Decrypting

1. **Double-click** the InfoGuard icon to bring up the Main window

2. Click **Decrypt**

3. **Double-click** the file or folder of your choice

4. Enter the correct password "**GRAVIS**"

5. Click **OK**

InfoGuard will do its work and return you to the Main window ready for the next job.

Auto Launching

1. **Double-click** the icon of the **encrypted** document of your choice

InfoGuard will request a password, if you did not Sign In.

2. Click **OK**

The file will be decrypted and the original application will be launched, presenting your document ready for use.

Sign Out

1. Choose the InfoGuard desk accessory from the menu.

2. Click the **Sign Out** button.

InfoGuard will select each of the files you have worked with and restore them to their encrypted state.

Chapter 8
Laser Run

You are in the defense pod of the newest Space Vehicle Superspace Attack Ship. Your mission is to protect your Galaxy by destroying as many of the invading Alien Mother Ships as you can. These ships are huge moon-like objects. We have discovered that destroying a Mother Ship is pretty simple. You have to use your Lasers and fire into a nuclear reactor intake port located on the bottom of the canyon. You will be assaulted by waves of Aliens trying to protect their Mother Ship by eliminating you! Be careful! Your ship is rare and very expensive. Good Luck!

Lasers

Your Superspace Attack Ship comes equipped with the latest HyperLaser Targeting System. Use the Gravis MouseStick to target your ships' Lasers. Pressing any of the MouseStick Buttons will fire the Lasers. The Laser Temp. Indicator to the left of your view screen displays the Laser System Temperature. If the Temperature is too high, your Lasers will not operate until they cool down. Constant use of the Lasers causes them to overheat sooner as your mission progresses.

Shields

Your ship comes equipped with Multitronic Shields. When activated, these will protect your ship from enemy

laser fire. To engage the Shields, press the "S" key on the keyboard. You will see an outline around your Laser Site indicating that your shields are on. The shields will automatically disengage after about two seconds. The Indicator to the right of your view screen displays the Shields Energy Level. Each time you engage the shields, the energy level will slowly decrease. The Shields will use more energy as your mission progresses.

Bombs

If you find yourself with overheated Lasers or simply outnumbered in an Alien Attack Wave, your ship has one other offensive weapon. The Quadrant Bomb. The Quadrant Bomb destroys all ships within one kilometer of your ship. It is rather unique in that it detonates from a center point (your ship) and explodes outward in all directions. The unique thing is that it creates an "eye" in the center (large enough for your ship) where no destruction occurs. The Quadrant Bomb is detonated by pressing the Space Bar on the keyboard.

Volume Control

Pressing the number keys, 0 through 7, controls the volume of your heated battle.

Pause

Pressing the "P" key on the keyboard engages the built-in Time Suspension Unit. Engaging the Time Suspension Unit does just that; suspends all time outside of your ship.

This is useful when you are tired and need a rest or just some peace and quiet to plan your next strategy. Pressing the "P" key once again disengages the Unit.

Abort

If you feel that you just aren't up to fulfilling your mission, you can press the "Q" key to abort the mission.

Scoring

To judge the success of you mission, the Superspace Attack Ship has an On-board Computer which monitors your every move. It keeps track of how many Mother Ships and Alien Fighters you destroy in the form of a score. The computer will award more points for destroying Aliens sooner.

Points are also awarded for destroying Alien Mother Ships. A new Superspace Attack Ship and Quadrant Bomb are issued for each 10,000 points on Levels 1 and 2, each 15,000 on Levels 3 and 4, each 20,000 on Levels 5 thru 7 and each 30,000 on Levels 8 and above.

The On-board Computer will track the ten best scores.

Keyboard Commands

Mouse Button	=	***Fire Lasers***
"S" key	=	***Engage Shields***
"Space Bar"	=	***Quadrant Bomb***
"0" thru "7"	=	***Volume Control***
"P" key	=	***Pause***
"Q" key	=	***Quit***

Index

GRAVIS ONE YEAR LIMITED WARRANTY

Advanced Gravis Computer Technology inc. (hereinafter referred to as "GRAVIS") warrants to the original purchaser of the joystick it manufactures that it will be free from defects in materials and workmanship for a period of one year from the date of purchase.

You may request information on how to obtain service by contacting the GRAVIS dealer from whom the product was purchased or by contacting the factory directly at the address printed below. Your sales receipt is your warranty validation. Dated proof of purchase (such as a bill of sale or cancelled check) must be provided when requesting work to be performed during the warranty period.

During the warranty period, GRAVIS will repair (or at its option replace) at no charge components that prove to be defective, provided the GRAVIS joystick is returned with proof of purchase, shipping prepaid to:

ADVANCED GRAVIS COMPUTER TECHNOLOGY Ltd.

CanadianCustomers:
7033 Antrim Ave.,
Burnaby, B.C.
Canada V5J 4M5

U.S. Customers:
1602 Carolina St., Suite #D -12
Bellingham, WA
U.S.A. 98226

This limited warranty does not apply if, in the opinion of GRAVIS, the product has been damaged due to abuse, improper usage, accidents, negligence, modifications or tampering by other than GRAVIS. Under these conditions, you must pay for all parts and labor charges for services performed in connection with repair or replacement of the joystick. GRAVIS will inform you of these charges and will repair the joystick after receipt of payment.

MouseStick Serial No.: _____

GMPU Serial No.: _____

Utility Disk Version : _____

Date Purchased: _____

Printed in Canada

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