Kinesis® Contoured™ PS/2 Ergonomic Keyboard Family

USER'S MANUAL

⫴KINESIS⫷
COMPUTER ERGONOMICS

USER'S MANUAL

Kinesis® Contoured™ PS/2 Ergonomic Keyboard Family

VERSIONS COVERED:

Essential™, KB132PC

Classic, KB133PC

Classic QD™ (QWERTY/Dvorak dual-legended), KB133PC/QD

Professional, KB134PC

Professional QD, KB134PC/QD

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FEDERAL COMMUNICATIONS COMMISSION
RADIO FREQUENCY INTERFERENCE STATEMENT

Note

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

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Warning

To assure continued FCC compliance, the user must use only shielded interfacing cables when connecting to computer or peripheral. Also, any unauthorized changes or modifications to this equipment would void the user's authority to operate.

INDUSTRY CANADA COMPLIANCE STATEMENT

This Class B digital apparatus meets all requirements of the Canadian Interface-causing Equipment Regulations.

Cet Appareil numerique de la classe B respecte toutes les exiginces du Reglement sur le material broilleur du Canada.

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TABLE OF CONTENTS

HEALTH AND SAFETY WARNING

Continuous use of any keyboard may cause aches and pains or more serious cumulative trauma disorders such as tendinitis and carpal tunnel syndrome.

- Observe sensible guidelines when using any keyboard to help minimize the possibility of injury.

- Follow established guidelines for computer and workstation setup. See Appendix, "Ergonomic Guidelines for Computer Workstations."

- Maintain a relaxed keying posture and use a light touch to press the keys.

- Exercise good judgment in placing reasonable limits on your keyboarding time every day.

- Ensure that you take reasonable rest breaks from keyboarding during the course of the day.

- At the first sign of stress-related injury from keyboard use (aching, numbness, or tingling of arms, wrists, or hands), consult your health care professional.

Kinesis Corporation bases its product designs on research, proven features and user evaluations. However, because of the complex set of factors believed to contribute to computer-related injuries, the company can make no warranty that its products will prevent or cure any physical ailment.

Your risk of injury may be affected by workstation and chair design, posture, time worked without breaks, type of work, activities outside of the workplace, and individual physiology.

READ ME FIRST
Important information for those who don't normally read manuals — and for those who do!

Welcome to the *HumanKind™* environment of the Kinesis® contoured ergonomic keyboard. Designed to fit the shape and movements of your body, the Kinesis contoured keyboard can significantly reduce the physical demands of keyboard use. And while this keyboard may look quite different from your traditional keyboard, you'll find that making the transition is actually quite easy — just follow a few simple guidelines documented in this manual (see CHAPTER THREE).

Registration. Please take a moment to register your Kinesis purchase. To ensure that we have a complete record of your recent purchase, return the filled-out registration card which was included with your keyboard, or email the information requested on the card to registration@kinesis-ergo.com. This information also enables us to notify you of product enhancements and the release of new products and accessories. *Privacy note: Kinesis does not sell or distribute its customer records to any other company.*

If you normally don't read manuals. Do not stop reading yet! This section will give you the basic information you need to get started. However, you are strongly encouraged to read this manual in its entirety, at least once. It explains the features of the Kinesis keyboard — including the embedded numeric keypad, optional foot switches, and customizing your keyboard. Also included are suggestions for adaptation and for the ergonomic setup of your computer workspace.

If you have used a Kinesis Contoured keyboard previously. This keyboard has significant differences in the location of certain keys and in foot switch features. Please see CHAPTER ONE, QUICK TOUR.

Plugging in your keyboard. Be sure to first turn off your computer. The keyboard may be plugged into and used immediately with a PC. No special drivers are required or available.

Installing foot switches (new). If you have an optional foot switch, plug the attached coupler into the phone-style foot switch connector extending slightly from the back of the keyboard. For more detailed information on connecting and using foot switches, refer to CHAPTER TWO. *Compatibility note: foot switches used with earlier models of Kinesis contoured keyboards may not work correctly with this keyboard.*

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Adaptation schedule. Many new users of Kinesis contoured keyboards believe it will be difficult to adapt. However, years of experience has shown us that most users find it easy and rapid – just try to schedule your first experience with the Kinesis keyboard during a period when you are not operating under a tight production deadline. The tension resulting from adjusting to new equipment when under pressure can lead to unnecessary frustration and even to physical discomfort. See CHAPTER THREE, ADAPTATION GUIDELINES.

Injured typists. If you are injured or have experienced significant discomfort while using a traditional keyboard, pay special attention to "CHAPTER FOUR: IF YOU ARE INJURED." All users, whether or not they are injured, can benefit from the information contained in this chapter.

Ergonomic guidelines. Please use your Kinesis keyboard in conformance with ergonomic guidelines. See the appendix for appropriate work surface heights and other ergonomic recommendations to improve your workspace.

Using palm rests. The palm rests are designed to provide comfortable support for your hands while not actively typing, though many users rest their palms some of the time while typing to relieve strain on the neck and shoulders. For maximum speed, try holding your palms slightly above the palm rest area while typing. Do not expect to reach all of the keys on the keyboard without moving your hands from a stationary position on the palm rests. And for maximum comfort, be sure to install the self-adhesive palm pads provided with your new keyboard.

Embedded numeric keypad. To access the embedded numeric keypad, tap the *Keypad* key or press an optional foot switch. To deactivate, tap *Keypad* again or release the foot switch.

Mouse click key actions. Most operating systems support one or more ways to perform mouse clicks with a key or foot switch. For more details, see CHAPTER ONE, QUICK TOUR, AND CHAPTER FIVE: CUSTOMIZING YOUR KEYBOARD."

CHAPTER ONE: QUICK TOUR

Welcome to the *HumanKind™* environment of the Kinesis® Contoured™ ergonomic keyboard. In a liberating departure from the constraints of a traditional, flat keyboard, the sculpted lines of the Kinesis Contoured keyboard fit the shape and movements of your body — reducing the physical demands of keyboarding. While it may look very different from the keyboard you have been using, you'll find that making the transition is actually quite easy.

The first Kinesis Contoured ergonomic keyboard was developed after extensive research in collaboration with experts from the fields of medicine, ergonomics and engineering. Years of commercial use (since 1992) have proven its benefits for both comfort and productivity. The newly improved Contoured PS/2 keyboard family represents a refined, sixth generation design which provides the ultimate in high-performance computing for computers requiring PS/2 keyboards.
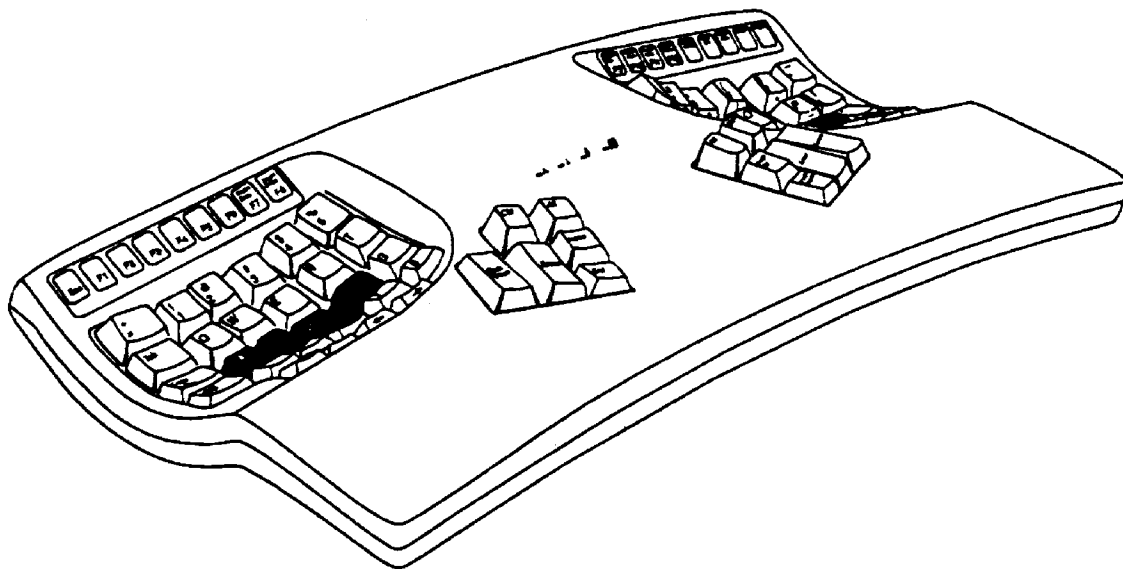

PS/2 Compatibility

The Kinesis PS/2 Contoured keyboard family is designed for computers having a PS/2 keyboard port. No special driver is required to operate with any version of Windows (Windows 98, 2000, XP), Linux, or with most other operating systems supporting a PS/2 keyboard port. Just use the standard driver provided by the operating system. For Macintosh and other USB systems, purchase the Kinesis "Advantage MPC" USB Contoured keyboard or a PS/2-to-USB adapter. See CHAPTER SIX for information on purchasing accessories).

Familiar key layout (QWERTY standard, Dvorak available)

Kinesis Contoured keyboards retain the familiar QWERTY key layout. Sevl changes in the location of non-letter keys reduce the work required of your overworked little fingers and increase the workload for your stronger thumbs. Optional foot switches can further reduce the work demanded of your hands and fingers.

Contoured keyboard showing default QWERTY key layout.
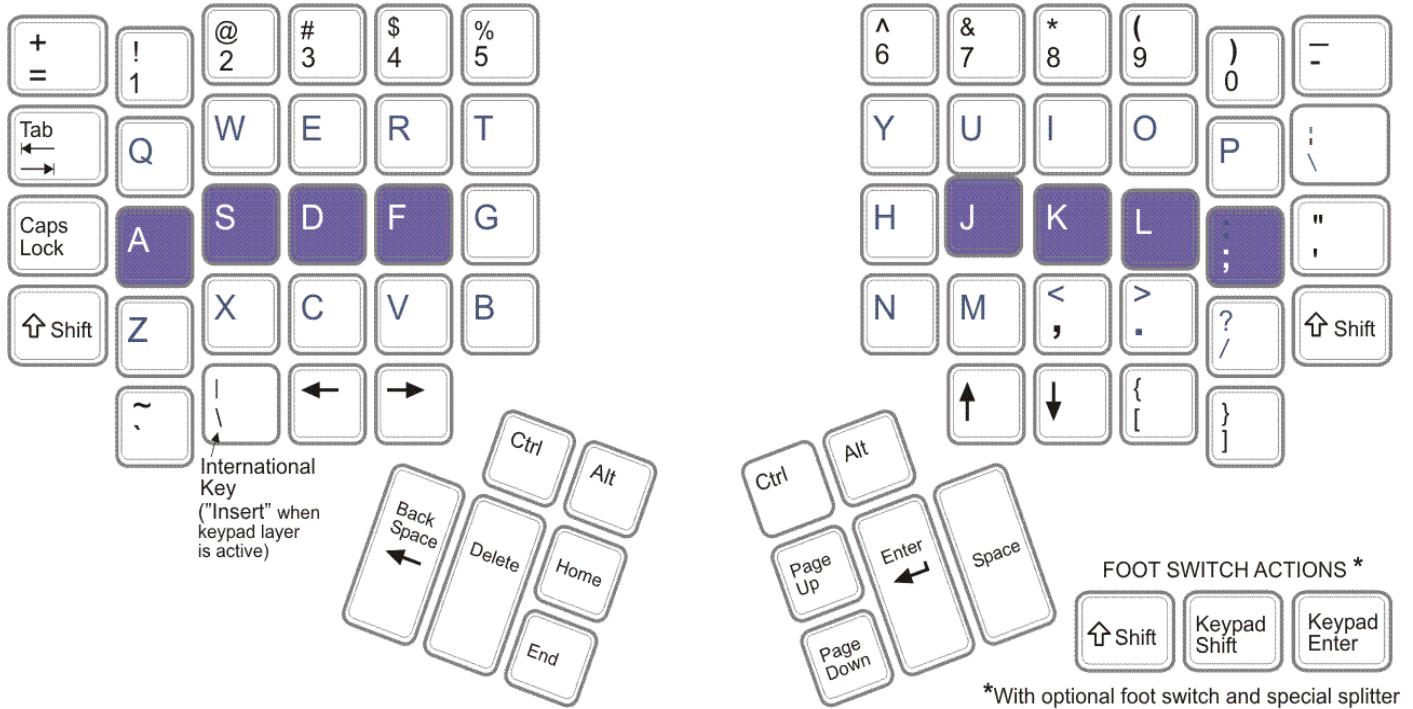
Alphanumeric keys

The alphanumeric key layout is split into two separate keypads (see figure above). However, the finger you use to press each alphanumeric key is the same one that you would use on a traditional keyboard. The middle row of keys is the home row. To help you to locate the home row, these keys are a different color than the other keys. Because it is important for you to be able to find the home row from anywhere on the keyboard by touch, the tops of the home row keys (i.e., the keycaps) are more cupped to fit your fingertips, and the different heights and angles of all keys within the keypads provide excellent tactile feedback for positioning your hands.

International / Insert key

Next to the *Left Arrow* key is the "*International key,*" which changes action as different keyboard country layouts are selected in your operating system. See the appendix for a list of actions for Windows operating systems for selected countries. The *Insert* action is available when the embedded layer is active.

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Reference drawings of traditional keyboard

Compare the Kinesis QWERTY layout with the alphanumeric and editing portions of traditional US and US International Windows keyboards (opposite).

Traditional PC (Windows) keyboard

International traditional keyboard (note new "International key" next to left Shift key)


Onboard Programmability (Classic and Professional models)

Classic and Professional Contoured keyboards provide the powerful Kinesis productivity feature know as "onboard programmability." No drivers or software are required. For example, the keyboard can be instantly changed between QWERTY and Dvorak. Virtually any key (168 top level and embedded level key actions) can be copied, moved, or inactivated. In addition, up to 48 macros can be stored in the keyboards' memory chip, triggered by a single key or key combination. A label on the keyboard bottom provides minimal instructions for programming the keyboard. For details, see CHAPTER FIVE.

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On-board Dvorak layout (Classic and Professional models)

To convert the keyboard to Dvorak using the on-board Dvorak feature, three keys must be pressed at the same time. Hold down the *Progrm* key (far right function key), then hold down one of the *Ctrl* keys. Finally, tap the *F5* function key and release all keys.

*On-board Dvorak layout, showing both QWERTY and Dvorak legends*
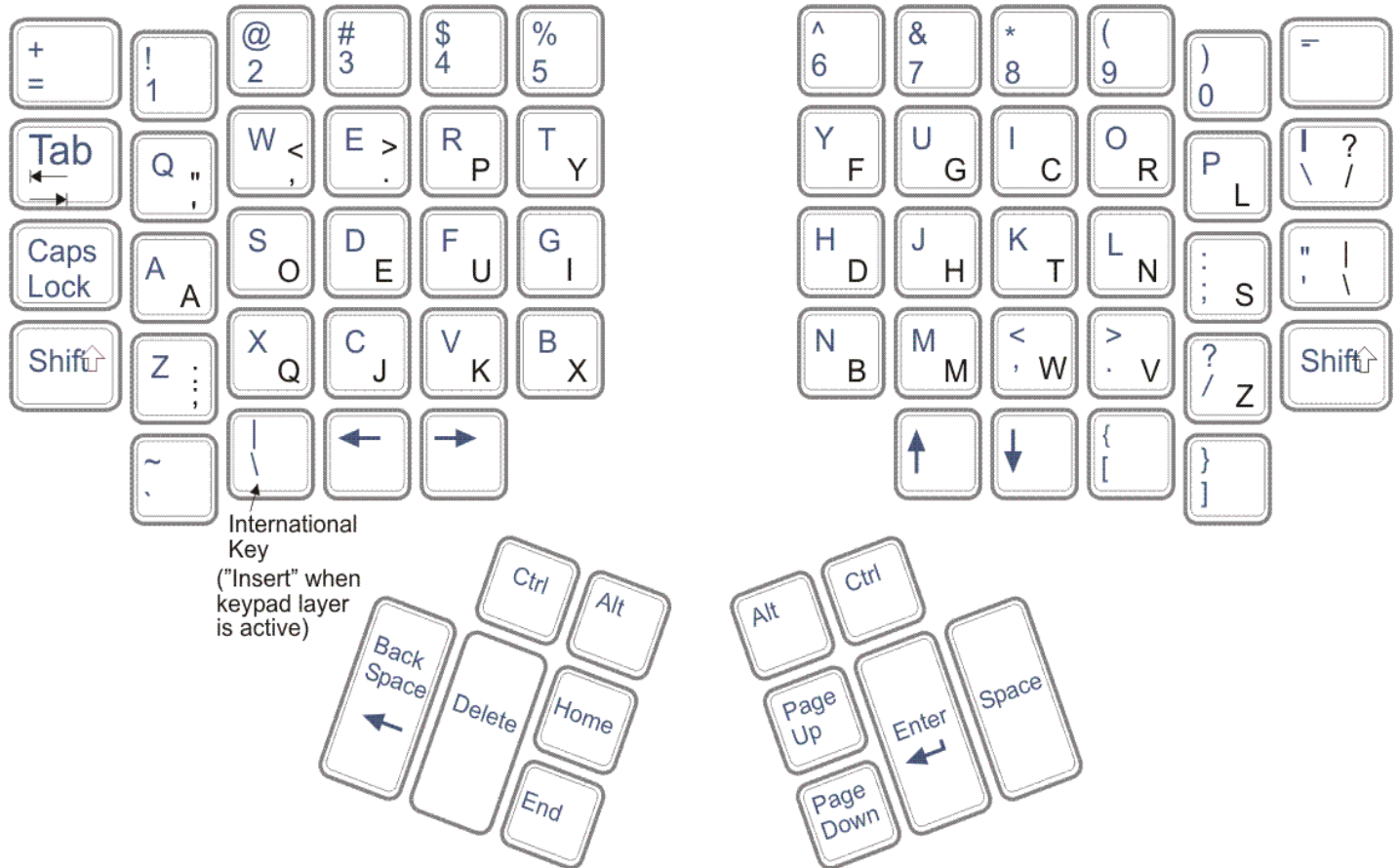
CHAPTER FIVE describes special issues regarding remapping of keys if you use the on-board Dvorak feature. CHAPTER SIX describes how to contact Kinesis to purchase dual-legended keycaps or to upgrade your Essential keyboard to add this feature.

Thumb Keypads

On a traditional keyboard, the control and editing keys such as *Enter*, and *Backspace* are scattered around the edges of the alphanumeric keys. Reaching for these keys wastes time and can overwork your little fingers, as well as causing stressful wrist and hand motions. The Kinesis keyboard relocates these keys to two thumb-operated keypads.

Thumb keys (may also be activated with fingers)
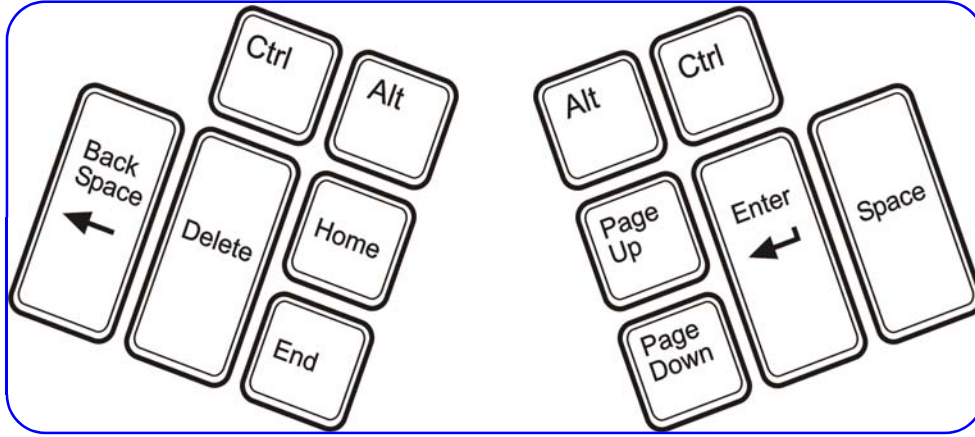
Important note: Move your hands and forearms, if necessary, to reach keys on the thumb keypads without stretching your thumbs or bending your wrists. If you prefer, you can activate thumb keys with your index fingers.

If your thumbs are sensitive, see CHAPTER FOUR for tips on reducing or eliminating thumb usage.

Function Keys

The function keys of your Contoured keyboard comprise two elevated, tilted rows of soft, tactile keys which can be activated with minimal hand and arm movement: *Esc* and *F1* through *F8* (on left) and *F9* through *Progrm* (on right). Most of these keys perform their traditional actions unless combined with the *Progrm* key

Actions of right-side function keys.
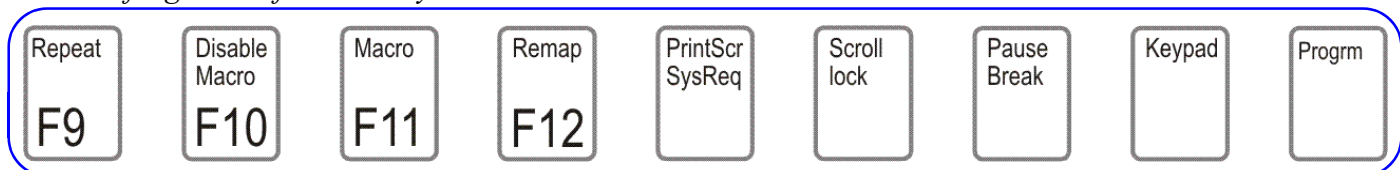
Special actions for functions keys

Repeat, Disable Macro, Macro, and Remap. These actions only operate if the *Progrm* key is first pressed and held. *Repeat* allows settings faster or slower repeat rates when a key is held down. *Disable macro* inactivates but does not permanently erase any macros stored in the keyboard. *Macro* and *Remap* are used in combination with the *Progrm* key to program the keyboard. For details, see CHAPTER FIVE: CUSTOMIZING YOUR KEYBOARD."

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Keypad. The *Keypad* function key acts as a toggle key to activate the "embedded layer" of the keyboard, including the embedded numeric keypad. Except for the embedded numeric keypad and embedded right function keys, most embedded keys have the same actions as the top level keys, but can be reprogrammed to be different.

Progrm. The *Progrm* key is only active when pressed first in combination with certain other keys for programming the keyboard. For example, Program + F10 temporarily disables any macros stored in the keyboard's memory. The combinations *Progrm + Ctrl + F11* and *Progrm + Ctrl + F12* are using to program macros or remap the keys. Programming is covered in "CHAPTER FIVE: CUSTOMIZING YOUR KEYBOARD."

Embedded function key actions
Several special functions (Windows key actions) are "parked" in the embedded layer of the right function keys. *"Left Windows"* and *"Right Windows"* keys generally perform the same action as clicking the *Start* menu with the mouse. The *"Application"* key offers a context-sensitive menu, similar to clicking the right mouse button.

*Embedded actions of right-side function keys.*

Accessing the embedded level
Embedded key actions are accessible either by tapping the *Keypad* key or by holding down the appropriate pedal of an optional foot switch. The special programming actions (*Disable Macro, Macro, and Remap*) will still operate in the embedded layer if the *Progrm* is held down first.

To use a Windows key action, you must first press the *Keypad* function key (far right) to activate the embedded layer. To remap an embedded key action (if you have a programmable Contoured keyboard model) to a convenient top level location, see CHAPTER FIVE: CUSTOMIZING YOUR KEYBOARD.

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Embedded numeric keypad

Kinesis Contoured keyboards have a second ("embedded") layer of key actions which is activated by the *Keypad* key or by an optional foot switch, and includes a numeric keypad (right) with the 10-key section on a traditional keyboard. The Kinesis keypad uses the "Space" key for "0" and includes an "=" key in the embedded numeric keypad
on the right side.
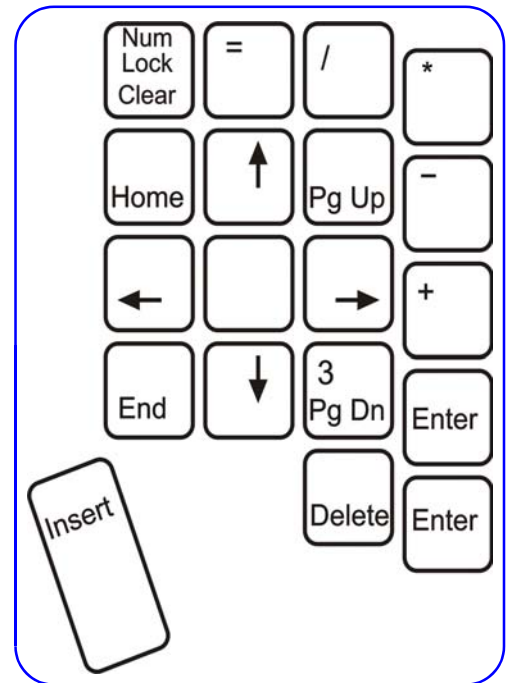
Foot switch application

The embedded-level key actions of the Kinesis contoured keyboard can be toggled on and off by pressing the *Keypad* function key. However, the most convenient way to access embedded level key actions is with a Kinesis foot switch. Using a foot switch, the keypad level is "shifted" only while the foot switch is depressed. Release the foot switch to return to top-level key actions.

Kinesis embedded numeric keypad
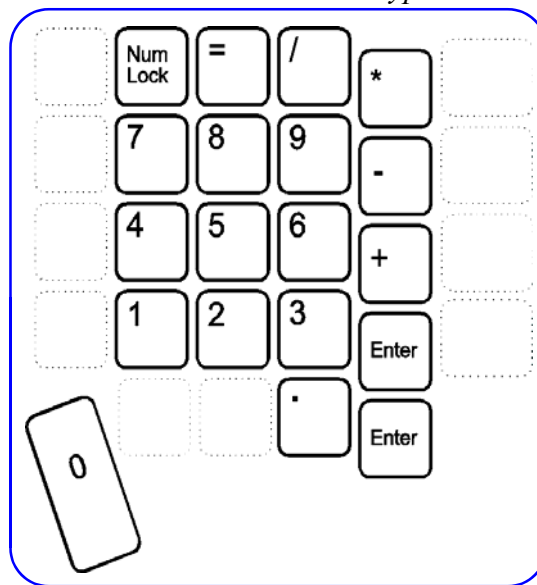
Traditional numeric keypad
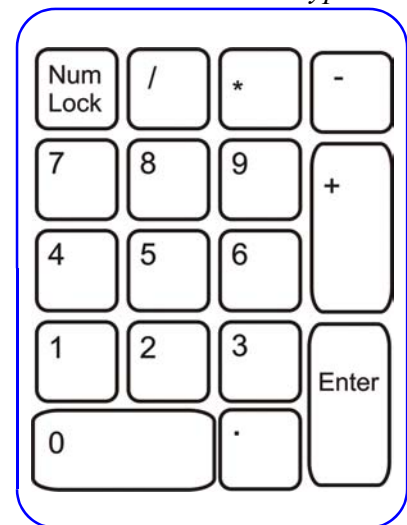
Using "Num Lock" and other special embedded key actions

The *Num Lock* function can be confusing because on a PC it totally changes the actions performed by most keys in the numeric keypad. The *Num Lock* light is the second from the left in the middle of the keyboard.

Most PC computers boot up with *Num Lock* on, and it is normal to leave it on at all times. However, if your computer boots up with *Num Lock* off, your keypad will

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normally produce the key actions shown in the figure to the right. To manually turn on *Num Lock,* first activate the keypad by pressing the *Keypad* key. Then press the *Num Lock* key.

Other special key actions in the embedded keypad layer

On the far left side of your keyboard, the key which is *Caps Lock* at the top level becomes a "Null" key (i.e. no action) when the keypad layer is active. You might use this "Null" key when in remapping mode to inactivate another key. Another special embedded key action is *Insert.* This key action is available on the left side (next to *Left Arrow*) when the keypad layer is active.

Mouse-click functions

With a Windows or Macintosh operating system, you can perform a mouse click with a key or optional foot switch by activating the "Mouse Keys" utility included with "Accessibility Options" in the control panel. If you are using an interface device to use your keyboard with a Macintosh system, "Mouse Keys" is also found in the Mac Control Panel, in a folder called "Easy Access." For both operating systems, the "keypad 5" key will become a standard left mouse click. You can then remap the "keypad 5" to a more convenient key or to a foot pedal. For more details, see CHAPTER FIVE: CUSTOMIZING YOUR KEYBOARD and the help files for your Operating System.

LED Indicators

There are four small, green, light emitting diode (LED) status indicators near the center of the Kinesis keyboard. The far left ("A") is *Caps Lock*, with *Num Lock* ("1") next. *Num Lock* is normally always on by default for most computers. Do not be concerned about this, as LEDs last a very long time and consume very little power. The third from the left is *Scroll Lock* (↓), while the far right LED is lighted if the embedded *Keypad* is active.

LEDs in center of keyboard

CHAPTER TWO: INSTALLATION

Attach the Kinesis keyboard to a compatible computer in the same way you would attach a traditional PS/2 keyboard. No drivers are required other than what is provided by your operating system. Be sure to shut down your computer before connecting any PS/2 device to avoid the risk of damage.

Optional Foot Switches *(Now three actions available)*

Optional foot switches are available to facilitate accessing the embedded keypad, to click the mouse, or to move any key action from an overworked finger. Contact Kinesis sales or visit the web site (www.kinesis-ergo.com) for more information. See CHAPTER SIX for details).

Warning: Do not plug a telephone into any foot switch connector. Also, do not plug any Kinesis keyboard connector into a modem or a telephone outlet. Doing so could damage your keyboard and the modem or phone.

Connecting your foot switch

Kinesis foot switches connect with a telephone-style (RJ11) connector to the short cable extending from the back of the keyboard. To connect a single foot switch, a telephone "coupler" will be required (included with a Kinesis single action foot switch). For two or three foot switches, you will require a special three-position "splitter" or a Triple Action Foot Switch, both of which are available from Kinesis.

Foot switch actions

For a single foot switch, the default action activates the embedded keypad while the pedal is depressed (*Keypad Shift*). This action cannot be remapped to another location, though it can be used to remap a *Keypad Toggle* action to a new location. Additional default foot switch actions are the normal *Shift* action and the *Keypad Enter* action.

Using an older Kinesis foot switch

An older Kinesis foot switch connected to the keyboard's with a phone coupler will only perform a single action ("Keypad shift"). The two-port telephone "splitter" provided with older single-action foot switches will not work with Contoured keyboards having the foot switch pigtail near the back of the keyboard.

Training materials

Kinesis has included training materials (typing exercises either printed or as a PDF file to be printed on a CDROM) with your keyboard to help you adapt to the different geometry and to the relocation of some of keys. These exercises were developed by Kinesis specifically for users transitioning from the traditional keyboard to the Kinesis keyboard. Whether or not you are a touch typist, typing exercises such as these can help you to rapidly adjust to your keyboard's new reaches and motions.

Typing programs
If you wish to practice with your new keyboard while using the computer or just want to improve your typing skills, you may use any commercially available software typing training software that is compatible with your system.

Setting up your workstation and beginning to type
Arrange your workstation according to the advice of your ergonomics advisor, or see "Appendix A: Ergonomic Guidelines" for details on setting up an ergonomic workstation. The following is a brief introduction to workstation ergonomics.

Positioning
When you use your keyboard, your wrists should be at approximately the same height as your elbows, with your forearms parallel to the floor. Adjust the height of your chair up or down to allow your feet to rest flat on the floor, with your knees bent approximately 90˚ and your thighs parallel to the floor. If the height of your work surface is not adjustable, you may need to adjust your chair to accommodate the work surface instead. You can add a foot rest, if necessary. Finally, you should sit close enough to your keyboard that your upper arms rest comfortably at your sides, with your elbows tucked in.

Starting to type
To start typing, place your fingers on the Kinesis home row keys (the blue key caps). Relax your right thumb over the *Space* key and your left thumb over *Backspace*. Raise your palms slightly above the palm rests while typing. This provides the necessary mobility for your hands so that you can comfortably reach all of the keys.

Now begin typing, starting from the home row. When you pause to compose, you can reduce physical stress by resting your hands on the padded palm rests.

CHAPTER THREE: ADAPTATION GUIDELINES

Many experienced computer users, when presented with a Kinesis contoured keyboard for the first time, overestimate the time it will take for them to adapt. Experience shows that those same users, when asked about adaptation after a week of use, reply that learning the new keyboard was much easier than they had anticipated, and was well worth the effort**.**

Adapting your kinesthetic sense

As you adapt to the Kinesis contoured keyboard, you are not actually *learning* in the traditional sense of the word. You are *adapting* your kinesthetic sense, which is your muscle memory, or intuitive understanding of reach and distance.

Typing with long fingernails

Typists with exceptionally long fingernails may have difficulty with the curved keypads and should consider trimming their nails. Experience has shown that a 1/4 inch nail length is usually feasible.

Typical adaptation period

You will need a little time to adjust to the new shape of the Kinesis keyboard, but not much. Laboratory studies and many years of experience show that most new users of Kinesis contoured keyboards are productive (approximately 80% of full speed) within the first few hours. Full speed (or greater) is typically achieved gradually within 3-5 days.

After the first week, many new users equal or exceed their previous speeds and accuracies. However, extremely fast typists may need more time to adapt than will average typists.

Using training materials

Whether or not you are a touch typist, Kinesis encourages you to use the training materials included with your Kinesis keyboard. Although this is not a necessary step in adapting to the Kinesis keyboard, many users — regardless of their typing skills — find the typing exercises to be extremely helpful.

Don't overdo it at first

Using typing exercises and other drills is physically taxing. Take frequent rest breaks. Limit your typing speed for the first few hours as you adapt to the Kinesis keyboard.

Initial awkwardness, fatigue, discomfort

At first, you probably will experience some awkwardness when using the Kinesis contoured keyboard. You also may experience muscle fatigue and/or mild discomfort for a few days until your body has adjusted to the positions and motions required of it.

Note: If new symptoms persist for more than a few days, stop using the Kinesis keyboard and see Chapter Four, "If You Are Injured."

Reaching all the keys while resting palms

You should not expect to reach all of the keys on the keyboard without moving your hands from a stationary position on the palm rests. Many users prefer to move their arms slightly to press the most distant thumb keys, or to use their index fingers.

If your thumbs are sensitive

If your thumbs are sensitive, see chapter four for ways to reduce or even eliminate usage of one or both thumbs.

Reduce workload during adaptation

You can avoid unnecessary frustration, perhaps even physical tension and discomfort, if you try to reduce your normal workload during the first few days of use.

Switching back to the traditional keyboard

Switching back and forth between a Kinesis contoured and a traditional keyboard while your are learning to use the former can lengthen the adaptation period. After you have adapted to the Kinesis keyboard, you should not have difficulty switching back and forth, although you will probably find that the traditional keyboard is uncomfortable to use.

CHAPTER FOUR: IF YOU ARE INJURED

The Kinesis keyboard is designed to reduce the physical stresses that *all* keyboard users experience — whether or not they are injured. Of course, ergonomic keyboards are not medical treatments, and no keyboard can guarantee to cure injuries or prevent injuries in the future. Always consult your health care professional if you notice discomfort when you use your computer.

Have you been diagnosed with RSI or CTD?

Have you have ever been diagnosed with tendinitis, carpal tunnel syndrome or some other form of repetitive strain disorder (RSI), also known as cumulative trauma disorder (CTD)? If so, you should use special care when using a computer. Even if you simply experience discomfort when using a traditional keyboard — *you should use reasonable care when operating any keyboard.* Arrange your workstation in accordance with ergonomic standards as described in "Appendix A: Ergonomic Guidelines" and take frequent short breaks. Establish an adaptation schedule with your health care provider.

Establish realistic expectations

If you currently have an injury to your hands or arms, or have had such an injury — regardless of the cause — it is important that you have realistic expectations of your keyboard. You should not expect an immediate improvement in your physical condition simply because you are using a new keyboard. Your physical trauma has built up over months or years, and it may take a number of weeks before you notice a difference. At first, you may feel some new fatigue or discomfort as you adapt to your Kinesis keyboard.

Keyboard is not a medical treatment

The Kinesis contoured keyboard is not a medical treatment nor a substitute for appropriate medical treatment. If any information in this manual seems to contradict the advice you have received from a health care professional, please follow your health care professional's instructions.

When to begin using your new keyboard

Consider beginning to use your Kinesis keyboard after you have taken a break from traditional keyboarding — perhaps after a weekend or a vacation. This gives your body a chance to rest. If possible, begin using the keyboard during a period when you are not under pressure (from a tight production schedule, for example).

At first, even healthy keyboard users may experience temporary fatigue or mild discomfort as they adjust. If you feel discomfort when you use the Kinesis keyboard, take a break immediately. It is important that you do not overtax yourself. If you have not been using a keyboard regularly, build up slowly.

Remember, even if you are symptom free after using the Kinesis keyboard for a period of time, *you are still susceptible to injury*. Do not dramatically increase your keyboarding time or stop treatments without consulting your health care professional.

If your thumbs are sensitive

The Kinesis contoured keyboard is designed for increased thumb usage compared to the traditional keyboard. Some new Kinesis users initially experience fatigue or discomfort as their thumbs adapt to the increased workload. If you have a previous thumb injury, be especially careful to move your hands and arms when reaching for thumb keys and read the paragraph below about thumb-free typing options.

Guidelines for using your thumbs

Avoid stretching your thumbs to reach the furthest keys in the thumb key arrays. Instead, move your hands and arms slightly, being careful to stay relaxed and keep your wrists straight. If your thumbs are sensitive, consider using your index fingers instead of your thumbs to activate these keys. You may want to speak with your health care professional about these options. If pain persists for more than several days, stop using the Kinesis keyboard and contact your health care provider for advice.

Thumb-free typing option

If your thumbs are sensitive, your keyboard can be configured for minimal thumb use or even thumb-free typing if necessary. This approach is most effective using one or more optional Kinesis foot switches. Typically this is accomplished by remapping commonly used thumb keys to other locations. For some keys, you can remap to the embedded level and use a footswitch to activate the embedded level. See the Kinesis web site for details and examples.
(http://www.kinesis-ergo.com/fs-apps.htm).

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CHAPTER FIVE: CUSTOMIZING YOUR KEYBOARD

If you purchased or upgraded to a programmable model (Classic, Professional) Contoured keyboard, you can easily customize it to maximize both comfort and productivity. The non-volatile memory chip retains your settings even when the power is turned off. The Professional model also includes a hidden memory-locking switch that prevents accidental changes or erasure of the keyboard's memory. You can fully customize the layout for keys and foot switches, and store words, sentences, or key combinations as macros in the keyboard's memory.

Turning on and off audible tones (including the Essential, *Progrm* + -)
The keyboard includes change-of-state tones for *Caps Lock* (**A**), *Num Lock* (**1**), *Keypad*, *Scroll Lock* (↓) and *Insert*. Tones sound twice when a tone-linked action (e.g. *Caps Lock*) is turned on, and once when it is turned off. To disable these tones, hold down *Progrm* and press the *hyphen* (**-**) key. If you wish to turn on the tones again, simply repeat the process. The Essential model will revert to having tones active after a restart.

Turning on and off the key click feature (including the Essential, *Prgrm* + \)
By default, the keyboard includes an audible electronic key click for all keys, including the function keys. To turn off the key click, hold down *Progrm* and press the *Backslash* key ("\" located just below the hyphen key). If you wish to turn on the key click again, simply repeat the process. The Essential model will revert to having tones active after a restart.

Note: Most experienced Kinesis keyboard users find that leaving on the key click function makes it easier to use the function keys. You can also use the "click" to train yourself to type on the full travel keys with minimal force. These keys trigger (and "click") about halfway through their long (4 mm) travel. With practice, you can stop your keystrokes before the impact of

Setting key repeat rate and repeat delay (*Progrm* + F9)
Holding down a key will cause it to repeat until it is released. The time it takes until repeating begins is called "Repeat delay" and is set in the operating system's control panel under "keyboard." However, with Contoured PS/2 keyboards, the repeat rate is set from the keyboard, using *Progrm* plus *F9*. After briefly holding

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down the *Progrm* key and tapping *F9*, the lights will begin flashing. Tap one of the function keys (F1 through F12, where F1 is the slowest and F12 is the fastest) to set the keyboard repeat rate. On an Essential keyboard, this process must be repeated each time the computer is re-booted.

Resetting keyboard memory (Classic, Professional models)
If the keyboard behaves strangely or you just want to re-create the factory settings, the first thing to try is a memory reset. If you have the Professional model, be sure the memory locking switch (see below) is to the right (unlocked). Two different memory reset procedures are available:

Memory reset, Option One (Progrm + Ctrl + F10)
This procedure will erase all remapping and macros, but will not change macro memory settings or switch Dvorak back to QWERTY. Press and hold the *Progrm* key, then add one of the *Ctrl* keys, and finally add the *F10* function key so that all three keys are depressed. The lights on the keyboard should begin flashing. Release the keys and when the flashing stops in several seconds, the keyboard's memory has been reset.

Memory reset, Option Two (F7 on power on)
This procedure is more aggressive than Option One and will completely reset the memory back to factory settings (24 macros, QWERTY layout). Hold down the *F7* key *before* turning on the power to your computer. Start your computer and after a few seconds, release *F7*. A successful reset is indicated if the keyboard's lights flash for several seconds after releasing *F7*.

Resetting and changing keyboard "macro memory" mode *(Progrm + Ctrl + F2, F3, or F4)*
The factory settings support up to 24 macros before the macro memory becomes full. However, the memory mode can be changed to support 36 or 48 smaller macros. In doing so, all previous settings are erased. The maximum macro size with different settings is shown in the table below.

Macro size (approximate number of characters per macro)

Keyboard model	24 macro mode	36 macro mode	48 macro mode
Classic	56	38	28
Professional	142	94	70

Performing the memory mode change

Before performing this configuration change, review *"Performance limitations at higher macro settings,"* below. If you decide to proceed, press and hold the "Progrm" key, then add one of the *Ctrl* keys, and finally add either *F2, F3*, or *F4* so that three keys are depressed at once (for 24, 36, or 48 macros, respectively). Once the keyboard lights begin flashing, release the keys. When the flashing stops after a few seconds, the memory will be erased and reconfigured.

Performance limitations at higher macro settings

When "macro play mode" is active (which happens automatically if a macro is programmed, until *Progrm +Disable Macro* is perfomed), the keyboard's microprocessor must check 24, 36, or 48 memory positions between each keystroke to determine if a macro is assigned to the key. For very fast typists, the 36 macro mode may exhibit occasional missed keystrokes. The 48 macro mode will only work for most steady typists with typing speeds up to 50-60 wpm. If you want to use the 36 or 48 macro settings, it is advisable to program one simple macro after switching and try typing for a period of time to before programming extensive macros or remapping.

Remapping (moving) key actions (*Progrm + F12*)

Briefly hold down the *Progrm* key and tap *F12*. The keyboard's lights will flash rapidly. To copy a key, first tap the "source" key whose action you want to copy somewhere else. The lights will flash more slowly. Now tap the key where you want the new action to appear. The lights will resume rapid flashing. You can repeat this sequence with a different pair of keys or exit with *Progrm* plus *F12*.

Default layout always available

When you are in remapping mode, the default key layout is always active. Therefore you cannot "lose" a key action by remapping it. Any changes you make by remapping are only implemented when you exit remapping mode.

Activating on-board Dvorak layout (Progrm + Ctrl + F5)
Activating on-board Dvorak is basically a "global remap" of the keyboard, so any other remapping that you may have done is erased. If you want to customize the keyboard and switch back and forth between QWERTY and Dvorak, use macros to make your special changes. Macros are preserved when switching.

Remapping if you have activated the on-board Dvorak layout
When remapping mode is activated, the "source" key action is always QWERTY (the upper left legend on the keycap for dual-legended keyboards), even if the key normally performs the lower right (Dvorak) action. So for a remapping sequence, first tap the key with the upper left legend whose action you want to copy, then tap the destination key where you want that action to reside.

Remapping from embedded level to top level
You can copy an "embedded" key action (such as a "Windows" key) to the top level to make it more convenient. Simply turn on the keypad layer before activating remapping mode. Tap the Keypad key after tapping the source key and before tapping the destination key. Do not use the footswitch *Keypad Shift* to change layers during remapping or the footswitch itself will be remapped.

Creating a macro
Briefly hold down the *Progrm* key and tap *F11*. The keyboard's lights will flash rapidly. Then tap a "trigger key" (the key or combination of keys that will initiate playback of the macro). The lights will begin flashing slowly. Now type the key or keys that will comprise the body of the macro. To exit from macro programming mode, hold the *Progrm* key and tap *F11*. The lights should stop flashing on the first tap. If not, you have added *F11* to the end of your macro and you should exit and start over.

Modifier keys and macro trigger keys
Macros may be triggered by a single key or by any combination with *Ctrl*, *Alt* and/or *Shift*. A modifier key alone may not be a trigger key unless combined with another (non-modifier) key. If you want to use a modifier key by itself to trigger a macro, first remap it. The best source action to remap the modifier is the embedded *Capslock* (*null*) key action.

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Activating or disabling stored macros (Progrm + F10)
If you want to temporarily regenerate the default actions of keys that have been programmed to trigger macros, hold *Progrm* and tap *F10* to disable all macros. Repeat this to reactivate macros (no lights will flash).

Output delays, data entry during playback (Progrm F8, Progrm F7)
Two special features are useful for advanced macro programming. Macros can be programmed to pause briefly during playback, in half second intervals. While programming the macro, enter *Progrm + F8* for each half second delay.

To program a macro which pauses during playback to allow you to enter variable data, insert *Progrm + F7* while programming the macro. When you play the macro, it will pause until you perform a second *Progrm + F7*.

Customizing a foot switch action *(up to three foot switches supported)*
If you have a single Kinesis foot switch, you can instantly use it to "shift" the embedded keypad to the active state. If you have two or three foot switch pedals along with a special "splitter" or a Kinesis Triple Action Footswitch, the other default actions are *Shift* and *Keypad Enter*. You can also customize any foot switch to do any key action except for the *Progrm* key action. Just program the foot switch (remap or macro) like it was another keyboard key.

Note: The *Keypad Shift* action cannot be moved or copied to another location. However, a *Keypad Toggle* action (which operates like the *Keypad* function key) can be created by remapping if you have a foot switch. To do so, you must remap a key or pedal twice using the *Keypad Shift* pedal as the source action. Start with the keypad LED off, then remap again after tapping the *Keypad* function key to activate the embedded layer.

Sticky keys feature for Ctrl, Alt, and Shift
An intentional "sticky" modifier key is useful because it doesn't need to be held down when performing an awkward combination of keys. Once tapped, a sticky key is active until a non-modifier key is pressed and released. Two sticky modifiers can be tapped in sequence before pressing the key to be modified. *Note: Be cautious in selecting sticky keys, since the results can be confusing.*

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Two ways to achieve "sticky keys"

Intentional "sticky keys" can be established two different ways: (1) using on-board programmability, or (2) using utilities available in most operating systems (use Accessibility Options in Windows control panel). *Note: With the "on-board programmability" version of sticky keys, a sticky modifier will only act as a modifier for the first keystroke of the key being modified.*

Sticky keys with "on-board programmability" (Progrm + modifier + F6)

To use "on-board programmability" sticky keys, press and hold the Progrm key, add the modifier key to be made sticky, and finally tap F6. To make a modifier "non-sticky," repeat this process or perform a total memory reset.

Accidental sticky keys

Occasionally a modifier key will become electronically "stuck" accidentally when programming the keyboard. If this happens, just tap both modifiers of the same type (e.g. both Alt keys) to release the stuck key action.

Memory locking (Professional model only)

The memory locking feature consists of a hidden slide switch which prevents accidental re-programming or erasure of your keyboard's memory. To lock the memory, insert a business card or folded piece of paper above the left *Ctrl* and *Alt* keys and slide the hidden switch to the left. Alternatively, you may remove one of the top left thumb keycaps to reveal the locking switch, using

Memory locking switch (Professional models):

the keycap removal tool provided with your professional keyboard.
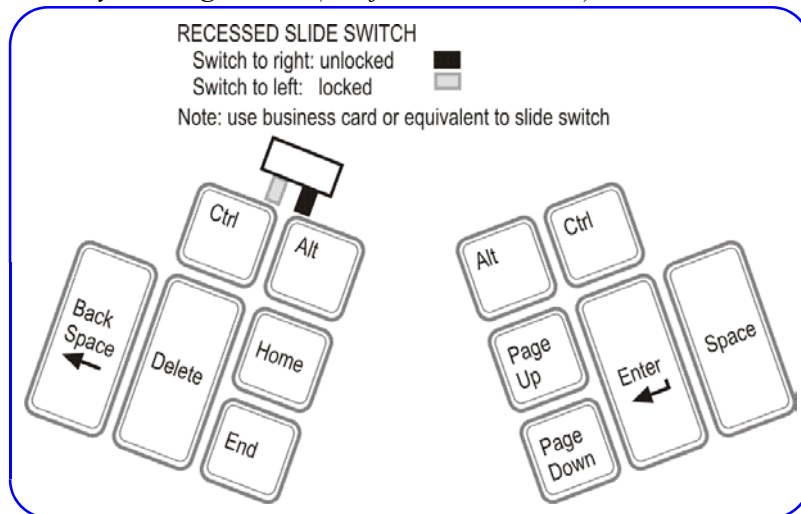
CHAPTER SIX: TECHNICAL SUPPORT, REPAIRS, ACCESSORIES, AND UPGRADES

If you have questions about installing or operating your Kinesis keyboard, first review the relevant sections of this *User's Manual.* If you are unable to solve the problem, visit the Kinesis web site (http://www.kinesis-ergo.com/ tech_support/ default2.htm). If you are still unable to solve the problem, contact Kinesis technical support as described below.

Technical Support

If, after reviewing the manual, you still have questions or concerns, you may contact Kinesis for free technical support. Be prepared with your keyboard's model number and serial number (displayed on the bottom of the keyboard), as well as information about your computer type and operating system.

Technical support is available by phone, fax, or e-mail. Phone lines are staffed between 8:00 a.m. and 4:30 p.m. Pacific time. Telephone numbers are 425-402-8100 (voice) and 425-402-8181(fax). E-mail should be directed to techsupport@kinesis-ergo.com. If you call and a technician is not available, we will return your call as soon as possible. However, we are unable to return phone calls to locations outside of North America.

Repairs and warranty Service

If you think your keyboard may be defective, contact Kinesis technical support. A support staff member will discuss with you the problem and potential solutions.

If your keyboard does need to be repaired, Kinesis will either ship you replacement parts or will arrange with you for the repair of the product. When you contact Kinesis, please provide your name, address and the serial number of your keyboard. If you are shipping the keyboard to Kinesis, you will be provided with a Returned Merchandise Authorization (RMA) number and shipping instructions.

See "Warranty" for details of Kinesis' warranty terms and conditions. The warranty does not provide for a loaner keyboard.

For non-warranty repairs, Kinesis has a minimum charge which covers most jobs. Before returning your Kinesis product for repairs, you will need to arrange for

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payment. Charges which exceed the minimum will be quoted for approval after the keyboard has been received by Kinesis.

Before returning any Kinesis product...

Before returning any Kinesis product for repair, replacement, or refund, you must contact Kinesis to provide essential information and to receive a Returned Merchandise Authorization (RMA) number plus additional instructions. Be sure to write your RMA number on the outside of your package near the address label and purchase insurance from the carrier. See the above paragraph for more details.

Purchasing Accessories and Upgrades.

You may purchase accessories such as foot switches, palm pads, cable adaptors, manuals or interface boxes, as well as keyboard upgrades, directly from Kinesis Corporation . Except for upgrades, these items are also available from Kinesis resellers. Check the Kinesis web site (www.kinesis-ergo.com) for additional information about products and dealers.

You may also use the "Accessories and Upgrades Order Form" that came with your original keyboard. Contact Kinesis sales toll-free between 8am and 5pm (Pacific time) within the continental U.S. at 800-454-6374 or fax your order to 425-402-8181. Send E-mail to sales@kinesis-ergo.com.

CHAPTER SEVEN: CARING FOR YOUR KEYBOARD

A few simple precautions can help to ensure the trouble-free operation of your Kinesis keyboard. The most important precautions are to avoid eating or drinking over your keyboard.

Cleaning

Clean your keyboard's exterior surfaces on a regular basis. First, always unplug your Kinesis keyboard before cleaning it. To remove dirt marks and residue that accumulate during normal use, wipe the keyboard with a soft cloth that has been dampened with water or rubbing alcohol (70% isopropanol). Avoid applying alcohol to keyboard labels.

If you use palm pads and notice any adhesive buildup when you remove them for replacement, wipe the palm rests with a soft cloth that has been dampened with rubbing alcohol.

Accidental spills

If you spill any type of liquid onto your Kinesis keyboard, unplug the keyboard immediately to reduce the likelihood of electrical damage. Do not use the keyboard until it has dried completely.

If you spill water on your Kinesis keyboard, tilt the keyboard so that the liquid can drain. Avoid getting the function keys wet in the process. Shake the keyboard vigorously to remove liquid trapped inside the switches. Air dry the keyboard at room temperature at least overnight (preferably for several days). If the keyboard does not operate after it has dried completely, please contact Kinesis.

A sticky spill can sometimes be washed away but may require replacement of a module and/or professional servicing. Contact Kinesis Corporation for instructions on returning your keyboard for servicing (see CHAPTER SIX).

Defective switches

If a particular key frequently produces multiple characters with a single key press, it can often be fixed (at least temporarily) by removing the keycap and spraying an electronic-grade contact cleaner into the switch. Be careful when removing keycaps to pull them straight off (using a keycap removal tool or two bent paper clips) to avoid causing permanent mechanical damage to the internal switch mechanism. If the problem persists, contact Kinesis technical support.

Kinesis Keyboard Limited Warranty

Kinesis Corporation ("Kinesis") warrants to the original retail purchaser that this Kinesis keyboard ("Product") is free from defects in materials and workmanship and will perform substantially in accordance with the Product documentation for two years from the date of purchase. This Warranty does not apply to any software or diskettes which might have been enclosed with the product, which are covered by a Kinesis License Agreement. If Product fails due to accident, abuse, inappropriate use, or normal wear, Kinesis shall have no responsibility under this Limited Warranty.

Purchaser's Exclusive Remedies
During the first TWO (2) years after the date of original purchase, the exclusive remedy for a defect in this Kinesis Product shall be, at Kinesis Corporation's option, either repair or replacement of the product. If you suspect the Product is not working properly or if you have questions about the performance of the Product, contact Kinesis Technical Support. If you wish to return the Product to Kinesis for any reason, you must obtain from Kinesis an RMA number and instructions for returning the product. You are responsible for the cost of shipping the product to Kinesis. Within the United States and Canada, Kinesis will ship products repaired or replaced under warranty to you by ground at no charge. Repair parts and replacement Product will be either reconditioned or new.

Disclaimer of Other Warranties
The warranty and remedies set forth above are exclusive and in lieu of all others, whether oral or written, express or implied. Kinesis specifically disclaims any and all implied warranties, including, without limitation, warranties of merchantability and fitness for a particular purpose. No Kinesis dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty. Kinesis does not warrant that the product will meet your requirements, or that operation of the product will be uninterrupted or error-free, or that all errors will be corrected.

Limitation of liability
Kinesis is not responsible for special, incidental, or consequential damages resulting from any breach of warranty, or under other legal theory, including but not limited to lost profits, downtime, goodwill, damage to or replacement of equipment and/or property nor any costs of recovering, reprogramming, or reproducing any program or data stored in or used with Kinesis products.

Some states or countries do not allow the exclusion or limitation of incidental or consequential damages or exclusions of implied warranties, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state and country to country.

APPENDIX A: ERGONOMIC GUIDELINES

Adapting tools and environments to reflect human capabilities — the science of ergonomics — is crucial to enhancing comfort and reducing injury. Ergonomics also makes an important contribution by educating people in the safe, healthy use of technology products.

As a result, ergonomic issues involve many aspects of the work environment. No single product can be expected to provide a solution for all of the varied ergonomic concerns in the workplace.

Your experiences with a Kinesis keyboard will be affected by a number of non-keyboard factors, including your stress level, the chair you sit in, and the desk and other work surfaces in your office. In fact, hand and arm injuries can result from elements of your workstation other than your keyboard.

To enhance the comfort of your work environment, Kinesis has joined with Herman Miller, Inc. to provide guidance for creating an ergonomically appropriate workspace.

The following ergonomic guidelines are reprinted with the permission of Herman Miller, Inc. These guidelines include references to ANSI (American National Standards Institute) standards. They do not constitute research conducted by Kinesis.

Introduction by Herman Miller, Inc.
The position and location of the furniture and equipment in your office are related to the size and shape of your body. For example, when you adjust the height of your chair so that your feet rest flat on the floor, you may find that your work surface is too high. To work comfortably, you must make a series of adjustments to the components around you.

Start by adjusting your chair. Go on to adjust your work surfaces and finally your computer equipment. Remember, if you experience discomfort while working, consult a health care professional.

Adjusting your chair
Adjusting the Seat Height of your Chair
Seat height means the distance from the floor to the top of your chair's seat when you are sitting in your chair. First, sit in your chair in a comfortable, upright position.
Adjust your seat height up or down so that your feet rest comfortably flat on the floor and your thighs are approximately parallel to the floor. If your feet dangle slightly and the backs of your thighs press hard on the front of the seat, the chair is probably too high. If your knees are elevated and your thighs don't touch the front of the seat, the chair is probably too low.

If you like to lean back when working, try it now. If your heels are lifted off the floor, consider lowering your chair. If your heels rise as you push off with your feet to lean back, consider loosening your chair's tilt tension.

If you like to sit forward, try it now. If you must tuck your feet in or stick them out in front of you, consider raising your chair. If you feel the chair seat gives too much, consider tightening your chair's tilt tension. When you have adjusted your chair, take a look at the standard ranges recommended by ANSI. Compare the position of your chair with the ANSI ranges.

ANSI-Recommended Seating

1. Seat height should range from 16" to 20.5". This refers to how high the chair seat should be with a person's weight pressing on the cushions.

2. Seat depth for chairs with rectangular cushions or chairs made of hard materials should range from 15" to 17". Seat depth refers to the distance from the front edge to the back edge of the seat cushion. Seat depth can be greater if the front edge of the seat is soft or curved.

3. Seat width should be at least 18.2" measured across the middle of the seat. Seat width refers to the side-to-side distance across the seat cushion.

4. Distance between armrests should be at least 18.2" measured between the inner edges of the armrests.

5. The backrest should be at least 12" wide in the lower back area. Now that your chair is adjusted, go on to your work surface.

Adjusting your work surface

The proper height of the work surface is related to the clearance you have beneath it to accommodate your legs while in a seated position.

1. Pull up to the work surface while seated. With your feet flat on the floor, adjust the height of your work surface so that your knees do not bump the edge of the work surface, pencil drawer, or keyboard support tray (when the tray is in working versus storage position). The tops of your thighs should not touch the underside of the work surface.

2. When pulled up to the work surface, your feet or knees should not bump against the back of the work surface or wall supporting the work surface.

3. Swivel to grasp something within easy reach on your work surface. You should have enough clearance beneath your work surface to move freely. Your knees should not bump against storage drawers or work surface support brackets.

4. While sitting in an upright position, your forearms should rest comfortably on the work surface.

If the height of the work surface causes your shoulders to be raised up or hunched, consider lowering your work surface. If you must slump or hunch over your work surface, consider raising it so that you can work in a comfortable, upright position. Check the height of your work surface against the standards recommended by ANSI.

According to ANSI

1. Knee space should measure at least 20" from side to side under the work surface; 24" of knee space is preferred.

2. The underside of the work surface or keyboard tray should be higher than your knees. If you work at a desk with a work surface that cannot be raised or lowered, the clearance under the work surface should be at least 26.2".

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There should be at least 12.2" of front-to-back clearance at knee height, measured from underneath the front edge of the work surface back toward the wall supporting the work surface. Taller people will need more clearance. Now adjust your Kinesis keyboard and computer monitor.

Adjusting your Keyboard
Adjust the angle and height of your keyboard so that the front of the keyboard is approximately at the same height as your elbows. Your forearms should be parallel to the floor. *Be Careful of the Following:*

1. Are you striking the keys on your keyboard too hard? Try to remember to .soften your touch.
.
2. Are your shoulders raised or hunched? Relax and lower them. If the armrests of your chair are forcing your shoulders up, consider asking to have the armrests removed. If your work surface is forcing your shoulders up, consider asking to have it lowered.

3. Do you keep your hands poised above the keyboard ? Relax them; don't allow yourself to keep your hands frozen in one position. Remember mini-breaks.

4. Are you leaning against a sharply angled edge? Move back to relieve pressure on your forearms.

5. Are you leaning over to reach things in your workstation that could be placed closer? Do you often reach behind your body or above shoulder height to retrieve something that could be moved forward or down? Do your best to find an arrangement that keeps materials you frequently use within convenient reach (about 20" away for a heavy object).

Finally, listen to your body. If you think you may be more comfortable adopting a different posture or way of working, experiment! And if you are experiencing persistent discomfort or unusual sensations, see a health care professional for advice.

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APPENDIX B: PC INTERNATIONAL KEY ACTIONS (FOR WINDOWS OPERATING SYSTEMS)

The key to the left of *Left arrow* (◄─) is the "*International key,*" which changes with the country established for your keyboard in the control panel.

Alt Gr note:
When a non-US keyboard driver is selected, the right *Alt* key on a traditional keyboard becomes a new kind of modifier, "*Alt Gr.*" *Alt Gr* creates a third key action (in addition to unshifted and shifted) for certain keys, including the "International key" for some languages.

The *International key* actions are shown below for selected countries:

Country	Unshifted	Shifted	Alt Gr
US:	\	|	
Canada (Fr)	ù	Ù	
UK:	\	|	
German:	<	>	|
Sweden:	<	>	|
Denmark	<	>	\
Norway	<	>	
France	<	>	
Spain	<	>	
[Italy	<	>	

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