Advantage2

KINESIS
COMPUTER ERGONOMICS

USER'S MANUAL

Advantage2 Family of Contoured Keyboards™ with SmartSet™ Technology

KB605

KB600

Designed and Assembled in the USA

Mac/Windows/PC Switchable

Contoured Keyboard™

SmartSet™ Onboard Programming Engine

Cherry Mechanical Keyswitches

USER'S MANUAL

Kinesis® Advantage2™ Keyboard with SmartSet™ Technology

Keyboard Models Covered by This Manual:

- **KB600: Advantage2**
- **KB600LF: Advantage2 LF ("Linear Feel")**
- **KB600QD: Advantage2 QD ("QWERTY/Dvorak")**
- **KB605: Advantage2 Silver**
- **KB620-XX: Advantage2 Limited**

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FCC 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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1. Health and Safety Warning

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

- Observe sensible guidelines which 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 judgement 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 the 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 particular risk of injury may be affected by workstation and chair design, posture, time worked without breaks, type of work, activities outside the workplace, and/or individual physiology.

New Users: Establish realistic expectations!

If you currently have an injury to your hands or arms, or have had such an injury in the past, 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 weeks before you notice a difference. It is normal to feel some new fatigue or discomfort as you adapt to your Kinesis keyboard.

Keyboard is not a medical treatment!

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

2. Read Me First

Preserving your warranty rights

Kinesis does not require any product registration to obtain warranty benefits, but we do encourage you to keep your purchase receipt in the event you need to contact Kinesis regarding a potential warranty repair.

Read this User's Manual

Even if you don't normally read manuals, Kinesis strongly encourages you to read this entire manual at least once. The manual provides suggestions for the initial adaption period and explains the unique features of the physical form-factor and electronic design of the Advantage2 keyboard. Programmable keyboards like the Advantage2 are powerful tools but if you hit an inadvertent key combination and enter a programming mode you can unknowingly alter the layout of your keyboard. Even if you are a long-time user of Kinesis contoured keyboards we recommend reading this manual as there are many new features in the Advantage2 and many of the programming shortcuts have changed to simplify the user interface.

Quick Start Guide

If you are eager to get started, please consult the Quick Start Guide which is included in the box with all new Advantage2 keyboards. The Quick Start Guide can also be downloaded from Kinesis.com.

3. Introduction

The first thing you will notice about the Kinesis® Advantage2™ Contoured™ ergonomic keyboard is its sculpted lines, designed to conform to the natural postures and shapes of your hands— reducing the physical demands of keyboarding. The Advantage2 is a sharp departure from the constraints of a traditional, flat keyboard. While the Advantage2 may look very different, you'll find that making the transition is actually quite easy because of its intuitive form factor, thoughtful key layout, and its unparalleled electronic configurability.

History of the Kinesis Contoured Family of Keyboards

The first Kinesis Contoured ergonomic keyboard was developed after extensive research in close collaboration with experts from the fields of medicine, ergonomics, and engineering. Since debuting in 1992 as the first letter-based ergonomic keyboard in the US, the design is widely recognized as providing the ultimate in keyboarding comfort. The Kinesis contoured design has long been imitated by other companies who are only interested in paying lip-service to ergonomics, but no keyboard design goes as far as the Contour to address the major repetitive strain injury ("RSI") risk factors associated with keyboarding. The Advantage2 keyboard builds on this legacy by adding Kinesis revoluationary new SmartSet™ Onboard Programming Engine, designed to make the Advantage2 even more powerful and versatile than its predecessors.


4. Keyboard Overview

The Advantage2 keyboard features a unique ergonomic design with distinctive key groupings not found on a traditional keyboard. These key grouping will be referenced throughout this User's Manual so please familiarize yourself with this graphic before reading further.

LED Indicator Lights

- 1a/1b– Left & Function Rows
- 2a/2b– Left & Right Key Wells
- 3a/3b– Left & Right Thumb Clusters
- 4– LED Indicator Lights

The are four blue light emitting diodes (LEDs) located near the center of the keyboard which are used to indicate that status of the keyboard. These LED Indicator Lights will illuminate individually when one of the four basic modes are active. From left to right those modes are 1) Caps Lock, 2) Num Lock, 3) Scroll Lock and 4) Keypad Layer. The LED Indicator Lights are also used to indicate when the keyboard has been placed into special programming modes. Certain combinations of individual LEDs will flash, either fast or slow, and either one or more times, to indicate the keyboard has received a valid programming command or is in a temporary programming state. Four flashes are uses to indicate when a feature is activated, and one or two flashes signal when a feature has been deactivated.

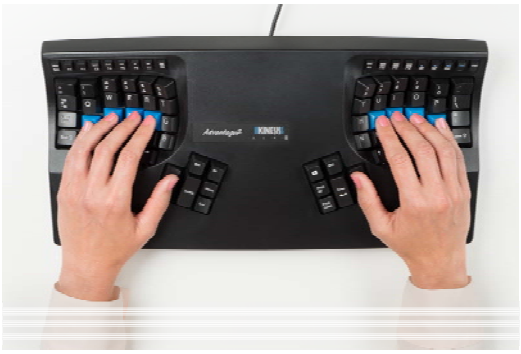
Cables

The underside of the keyboard features two cables. The longer cable with the USB Type-A connector is used to connect the keyboard to your computer through a standard full-size USB port. The cable with the familiar looking telephone connector (RJ11 style) is used to connect the keyboard to an optional Kinesis Advantage Foot Pedal.

5. Ergonomic Features

The design of the Advantage2 keyboard traces its roots to the very first contoured keyboard made by Kinesis in the early 1990s. Kinesis set out to develop a design that would prioritize ergonomics over everything else, and would address the major risk-factors associated with keyboarding. Every aspect of the form factor was thoroughly researched and tested.

Separate thumb keypads



The thumb keypads feature commonly used keys such as Enter, Space, Backspace, and Delete. Modifier keys such as Control and Alt on the PC , and Command and alt Option on Macs have also been relocated to the thumb keypads. Windows users will appreciate a Windows key in the right thumb keypad. By moving these commonly used keys to the thumbs, the Advantage2 redistributes the workload from your relatively weaker and overused little fingers, to your stronger thumbs.

Separate key wells for each hand

Separating the key wells reduces strain and stretching by positioning your arms approximately at shoulder width and with the wrists straight. This design reduces abduction and ulnar deviation which are harmful postures that can lead repetitive strain injuries such as carpal tunnel syndrome and tendonitis.

Concave key wells

Concave key wells reduces hand and finger extension. Extension occurs when the joints in your fingers curl up and extend forward from your hands rather than relaxing down slightly in the direction of the palms. A flat typing surface assumes that your fingers are all of the same length, thus your longer fingers must arch up over the keys. The result is extension of the muscles and tendons in your hands. Your muscles do not operate at maximum efficiency and the result is more rapid muscle fatigue. Concave key wells reduce extension by accommodating the various lengths of your fingers and placing your hands and fingers in a more relaxed and neutral position.

Vertical key layout

Keys are arranged in vertical columns to reflect natural motions of your fingers, and the keypads are sculpted and concave to fit the varying lengths of your fingers.

Closer placement of function keys

Cherry ML mechanical keys switches are used in the function row for great typing feel and consistency. These function keys are positioned closer to the alphanumeric keys to reduce awkward motions and stretches, particularly for key combinations involving thumb keys (Control and Alt, for example).

20-degree lateral tilt design

The contour design of the Advantage2 positions your hands so that your thumbs are approximately 20 degrees higher than pinky fingers. This "tented" design helps to minimize stresses associated with pronation and static muscle tension, while enabling maximum keying productivity.

Integrated palm support

Unlike most keyboards, the Advantage2 features integrated palm supports and optional self-adhesive cushioned palm pads that enhance comfort and reduces stressful extension of your wrist. This provides a place to rest your hands while they are not actively keying.

Cherry MX Low-force key switches— Choice of Brown or Red Stem

All Advantage2 keyboards feature Cherry MX mechanical switches for each alphanumeric key. Cherry switches are known for their reliability and durability— MX switches are rated for more than 50M keystrokes. All Advantage2 models (other than the KB600LF) utilize Cherry® MX Brown-stem switches. Cherry Brown switches are a low-force, tactile switch that offer the ultimate in typing performance and comfort. Cherry first built the Brown-stem switch according to specifications supplied by Kinesis in the early 1990s and it has since been adopted as one of the switches of choice for all of the major mechanical keyboard manufacturers, ergonomic or otherwise. "Tactility" is a slightly elevated force around the midpoint of the stroke of the key which lets you know the switch is about to be activated. A tactile response is preferred by many ergonomists, because it cues your fingers that activation is about to occur and is thought to reduce the

incidence of “bottoming out” the switch with a hard impact. The peak (tactile) force is ~55gm, following by an activation force of ~45gm.

The Advantage2 LF Model (KB600LF) utilizes Cherry MX Red-stem switches which are preferred by some users. Red-Stem switches feature the same great low activation force of the Brown-stem switches (~45gm), but they lack the “tactile bump” and have more of a “linear feel”. The Brown and Red-stem switches are very similar in feel, and can be difficult to differentiate for all but the most seasoned mechanical keyboard enthusiasts.

Smaller footprint

By removing the traditional numeric 10-key keypad and embedding it into the right alphanumeric key well in the Keypad Layer, Kinesis was able to reduce the overall width of the Advantage2 making it much smaller than a traditional keyboard (5/8 inches x 8 1/8 inches x 3 inches). This smaller footprint allows closer placement of any pointing device reducing over-reach issues.

Optional foot pedals

Kinesis contoured keyboards were designed to be paired with optional Advantage foot pedals to further reduce the strain put on overworked hands and fingers. Up to three foot pedals can be used to perform individual keystrokes or complex macros, redistributing a portion of the workload away from your hands. For instance, a foot pedal can be used to activate the aforementioned embedded numeric 10-key keypad, or the “shift” key.

6. Installation

Compatibility

The Advantage2 is plug-and-play with all operating systems that support USB devices. Thanks to the Kinesis SmartSet Onboard Programming Engine, the Advantage2 does not require the installation of any software or special drivers on your computer.

Installation

1. Plug the Advantage2 into you computer's USB port. A device installation notice will appear on your screen. *Note: Mac Users may be prompted with the Keyboard Setup Assistant. Follow the on-screen prompts to complete the Setup.*
2. When the auto-installation is completed, you should see a "device is ready to use" notice on your screen.
3. For maximum comfort, install the self-adhesive palm pads on the keyboard's integrated palm rests.

Optional Foot Switch Installation

If you are connecting an Advantage single or triple foot switch to the keyboard, plug it to the telephone style connector at the back of the keyboard.

Default Configuration

The keyboard is factory configured for the familiar QWERTY layout for use on a Windows PC system. The factory configuration is also suitable for use with operating systems such as Mac or Linux, but users running a non-Window's operating system will likely benefit from changing to the appropriate Thumb Key Mode and replacing the appropriate thumb key keycaps with the optional keycaps that are provided. See Section "Thumb Key Modes: Windows, PC & Mac" for instructions.

7. Getting Started

Hand Position

Thanks to its split key wells, unique thumb clusters, and 20 degree lateral tilt angle, the Advantage2 forces you adopt a optimal typing position when you place your fingers over the home row. The Advantage2 uses the conventional home row keys (ASDF / JKL;), which are colored in either blue or gray for quick visual confirmation. You'll notice that the home row keys feature special, cupped keycaps designed let you quickly find the home row without taking your eyes off of the screen. Despite the unique architecture of the Advantage2, the finger you use to press each alphanumeric key is the same finger you would use on a traditional keyboard.

Position your fingers on the home row and 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 position provides the necessary mobility for your hands so that you can comfortably reach all the keys. *Note: It may be necessary for certain users to move their arms slightly while typing to reach some distant keys, and especially the function row keys.*

Using palm rests & pads

The integrated palm rests are designed to provide comfortable support for your hands while resting, 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. For maximum comfort, be sure to install the self-adhesive palm pads provided with your new keyboard.

Workstation Configuration

Since the Advantage2 keyboard is taller than a traditional keyboard and features integrated palm rests, it may be necessary to adjust your workstation to achieve a proper typing posture with the Advantage2. Kinesis recommends the use of an adjustable keyboard platform/tray to allow for optimal keyboard position. To shop for keyboard platforms and other ergonomic accessories visit www.kinesis.com. Always use your Kinesis keyboard in conformance with ergonomic guidelines. See Appendix A for appropriate work surface heights and other ergonomic recommendations to improve your workspace.

8. Adaptation Guidelines & Getting Started

Many experienced typists, when presented with a Kinesis contoured keyboard for the first time, overestimate the amount of time it will take them to adapt to the key layout. With 25 years of experience creating contoured keyboards, Kinesis knows that adaption is possible for typists of all ages and experience levels, provided they follow the guidelines below.

Adapting your kinesthetic sense

If you are already a touch typist, adapting to the Kinesis contoured keyboard does not require "re-learning" to type in the traditional sense. Learning the Advantage2 layout is just about adapting your existing muscle memory or kinesthetic sense.

Typing with long fingernails

Typists with long fingernails (i.e., greater than 1/4") may have particular difficulty with the curvature of the key wells.

Typical adaptation period

You will need a little time to adjust to the new shape of the Advantage2 keyboard. Laboratory studies and real-world testing show that most new users are productive (i.e., 80% of full speed) within the first few hours of using a Kinesis contoured keyboard. Full speed is typically achieved gradually within 3-5 days but can take up to 2-4 weeks in some instances. We recommend not switching back to a traditional keyboard during this initial adaptation period as that can slow the retraining of your aforementioned kinesthetic sense. If possible, it can reduce frustration and fatigue if you can reduce your workload during the adaptation period.

Initial awkwardness, fatigue and even discomfort is possible

Many users report some awkwardness when first using a Kinesis contoured keyboard. Muscle fatigue and/or mild discomfort may also occur while your body is adjusting to new typing and resting postures and motions. *Note: If you experience severe pain, or symptoms persist for more than a few days, stop using the keyboard and see Section "If You Are Injured".*

After Adaptation

Once you have adapted to the Advantage2, you should have no problem switching back to a traditional keyboard, although you may not find a traditional keyboard comfortable any more. Many users report an increase in typing speed because of the efficiencies inherent in the Advantage2 design and the fact that it encourages you to use proper typing form.

9. If You Are Injured

The Advantage2 keyboard is designed to reduce the physical stress that *all* keyboard users experience– whether or not they are injured. Ergonomic keyboards are not medical treatments, and no keyboard can be guaranteed to cure injuries or prevent the occurrence of injuries. Always consult your health care professional if you notice discomfort or other physical problems when you use your computer.

Have you been diagnosed with RSI or CTD?

Have you ever been diagnosed with tendinitis, carpal tunnel syndromes, or some other form of repetitive strain injury ("RSI") or cumulative trauma disorder ("CTD")? If so, you should use special care when using a computer, regardless of your keyboard. Even if you simply experience discomfort when using a traditional keyboard you should use reasonable care when operating keyboard. To achieve the maximum ergonomic benefits when using the Advantage2 keyboard, it is important that you arrange your workstation in accordance with generally accepted ergonomic standards as described in Appendix: Ergonomic Guidelines for Computer Workstations" and take frequent "micro" breaks. For individuals with existing RSI conditions it may be advisable work with your health care provider to develop an adaptation schedule.

Establish realistic expectations

If you currently have an injury to your hands or arms, or have had such an injury in the past, it is important that you have realistic expectations of the Advantage2. You should not expect an immediate improvement in your physical condition simply by switching to the Advantage2, or any ergonomic keyboard for that matter. Your physical trauma has built up over months or years, and it may take a number of weeks before you notice difference. At first, you may feel some new fatigue or discomfort as you adapt to the Advantage2.

A keyboard is not a medical treatment!

The Advantage2 is not a medical treatment nor a substitute for appropriate medical treatment. If any information in this Manual contradicts 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 Advantage2 keyboard after you have a taken a break from traditional keyboarding–

perhaps after a weekend or a vacation, or at the very least first thing in the morning. This gives you body a change to rest and make a fresh start. If possible, Kinesis recommends starting with the Advantage2 during a period when you are not under a lot of work related stress or pressure. Trying to learn a new keyboard layout can be frustrating, and if you are working long hours or under a deadline that can make matters worse. Do not overtax yourself early on, and if you have not been using a keyboard regularly, build up slowly. Even if you are symptom free, you are still susceptible to injury. Do not dramatically increase your keyboard usage without first consulting your health care professional.

If your thumbs are sensitive

The Advantage2 keyboard is designed for increased thumb usage compared to a traditional keyboard which places more strain on the little fingers. Some new Kinesis contoured keyboard users initially experience fatigue or discomfort as their thumbs adapt to the increased workload. If you have a preexisting 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 option.

Guidelines for using your thumbs

Avoid stretching your thumbs to reach the furthest keys in the thumb clusters. Instead move your hands and arms slightly, being careful to stay relaxed, and keep your wrists straight. If you thumbs are especially 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 Advantage2 keyboard and contact your health care professional for advice.

Thumb-free typing options

If your thumbs are especially sensitive, your keyboard can be configured for minimal thumb use or even thumb-free typing if necessary. This approach is most effective when using one or more Kinesis foot switches in conjunction with the Advantage2 keyboard. Generally speaking, thumb-free typing is accomplished by remapping thumb key actions to the embedded layer, preferably accessed through an optional Kinesis foot pedal, where they can be typed with by your fingers. Personal preference will dictate the exact details of any custom layout but see Section: “Customizing Your Keyboard” for details.

10. Layout Selection: QWERTY & Dvorak

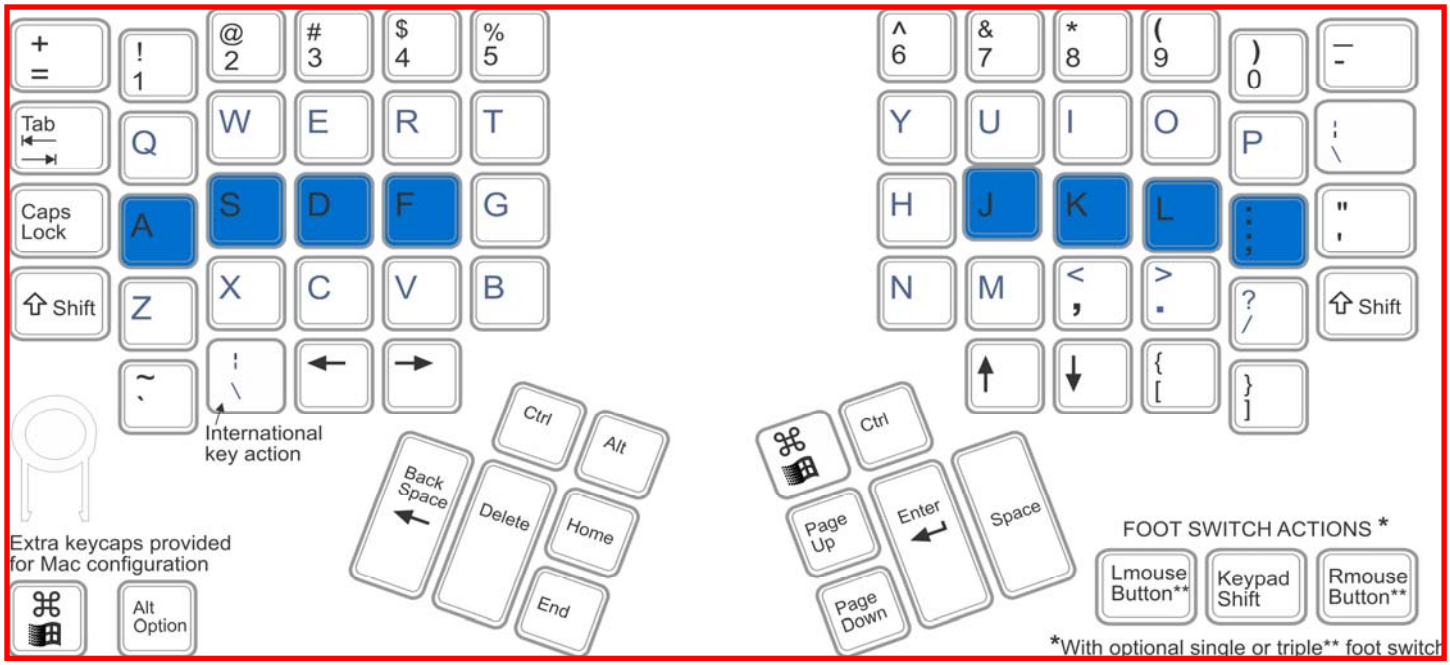
All Advantage2 keyboards come with two preinstalled layouts to choose from: the familiar QWERTY layout and the alternative Dvorak layout. All keyboards come configured from the factory with the QWERTY layout active. Users can quickly toggle between layouts with a touch of a button. Additional layouts, such as Colemak, can be downloaded from Kinesis.com.

QWERTY Layout

The Advantage2 keyboard retains the familiar QWERTY key layout for the vast majority of keys (pictured below). Several changes have been made to secondary, non-letter keys in the QWERTY layout to transfer the typing workload from your overworked little fingers to your stronger thumbs. Despite the unique design of the Advantage2 keyboard, each alphanumeric key is still typed with the conventional finger so there is no need to re-learn to type.

Activation: The QWERTY Layout can be activated by hitting the Program Key in conjunction with F3 (labeled "qwerty")

Default QWERTY Layout (shown with the Windows Mode thumb keys)

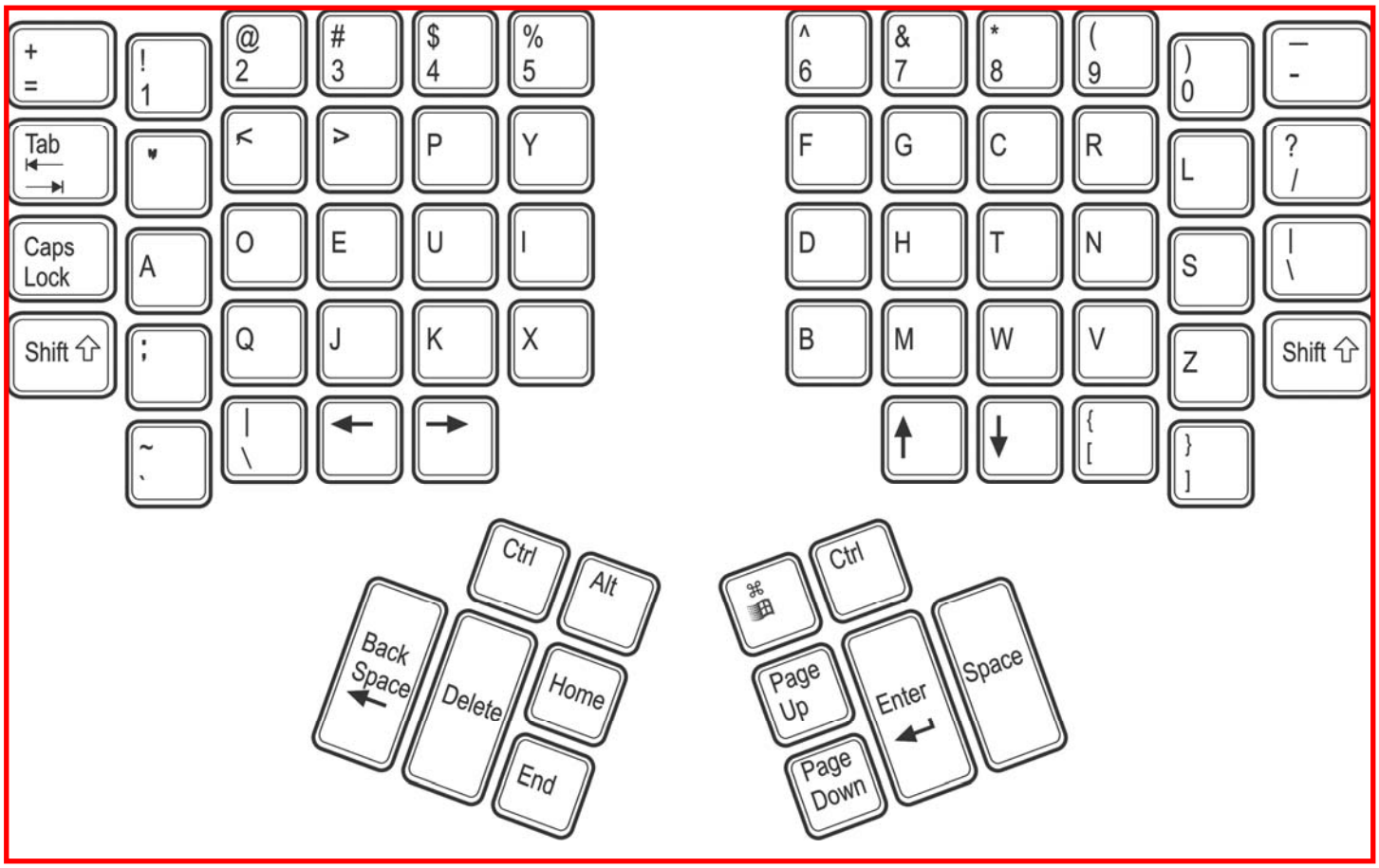


Dvorak Layout

The Dvorak layout was first developed in the 1930's by Dr. August Dvorak. Dr. Dvorak's goal was to develop a keyboard layout that would reduce finger movement in order to increase typing speed and decrease errors as compared to the traditional QWERTY layout.

Activation: The Dvorak layout can be activated by hitting the Program Key in conjunction with F4 (labeled "dvorak")

Optional Dvorak Layout (shown with the Windows Mode thumb keys)



Dvorak Keycaps

Although it is possible to remove the alphanumeric keycaps and rearrange them in the Dvorak layout, Kinesis does not recommend doing this, as the size and shape of each keycap is designed to fit a specific row and column in the key well. Changing the positions of the keycaps will make it difficult for your fingers to move across the keys. Kinesis recommends that Dvorak typists purchase the Advantage2 QD model (KB600QD) which features dual-legended QWERTY-Dvorak keycaps. The QWERTY-Dvorak keycap set (KC020DU-blk) can also be purchased separately to upgrade any Advantage2 model .

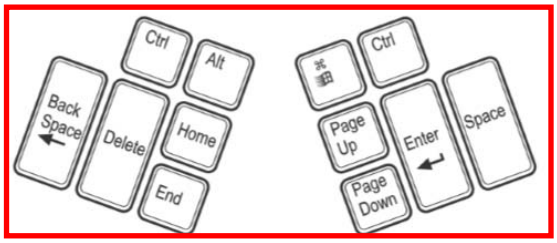
Thumb Key Mode Selection: Windows, PC & Mac

In addition to selecting between QWERTY and Dvorak layouts, Advantage2 users can select from one of three Thumb Key Modes to configure the four modifier keys in the Thumb Clusters to match their operating system. The three Thumb Key Modes are 1) Windows, 2) PC *(non-windows)*, and 3) Mac. The keys that change between modes are the top 2 keys in each of the two Thumb Clusters. All Advantage2 keyboards keyboards are shipped from the factory in Windows mode (international versions of the Advantage2 ship in PC mode).

Note: Four additional thumb key keycaps (corresponding to PC and Mac Mode) are provided with the keyboard for your convenience.

Windows Mode

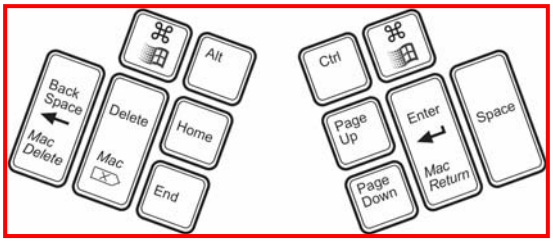
In Windows Mode, the modifier thumb keys are Ctrl, Alt, Windows, and Ctrl from left to right.



Activation: Windows Mode can be activated at any time by hitting the Program Key in conjunction with F7 (labeled "win")

Mac Mode

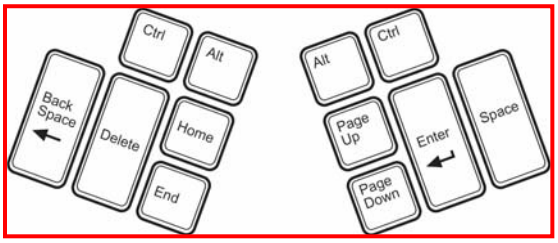
In Mac Mode, the modifier thumb keys are command, alt Option, control (aka "Ctrl") and command from left to right.



Activation: Mac Mode can be activated at any time by hitting the Program Key in conjunction with F5 (labeled "mac")

PC Mode

In PC Mode, the modifier thumb keys are Ctrl, Alt, Alt, and Ctrl from left to right. Non-windows PCs do not support the Windows Key so we replaced it with an additional Alt key for your convenience.



Activation: PC Mode can be activated at any time by hitting the Program Key in conjunction with F6 (labeled "pc")

12. Function Row

The Advantage2 features 18 half-size mechanical "function" keys located in the Function Row. The Function Row is conveniently located at the top of the keyboard, closer to the home row than on a conventional keyboard. Kinesis recommends accessing these keys by moving your hands and arms slightly, rather than trying to stretch your fingers.

When used in isolation, the Esc Key and the standard function keys (F1-F12), Print Screen, Scroll Lock, and Pause Break perform their traditional action, which is dependent on your operating system and your active application. When used in conjunction with the Program Key (far right), the Function keys access the SmartSet Onboard Programming features.

Keypad Key

The Keypad Key (labeled "keypad" in blue) is a special key that acts as a "toggle" key to activate a second virtual keyboard layer (known as the "embedded layer" or the "keypad layer"). Each Layout (QWERTY & Dvorak) has its own embedded keypad layer that can be used to remap keys and store macros. The keypad layer also includes the blue-legended multimedia keys and the front-legended embedded numeric 10-key in the right key well.

Program Key

The Program Key (labeled "progrm") is a special key that, when used in conjunction with other keys, allows users to access the onboard SmartSet programming actions. When using the Program Key, it should be pressed first and held, before activating other programming key(s). Basic SmartSet program actions are legended on the top of Function Row Keys (Esc and F3-F12). Basic SmartSet Actions labeled in lower case (e.g., status) require only the simultaneous press of the Program Key to trigger the special action. Basic SmartSet Actions labeled in ALL CAPITAL LETTERS (i.e., TONE and RESET) require the simultaneous press of the Program Key and the Shift Key to trigger the special action. For detailed instructions on SmartSet custom programming actions please refer to the following Sections of this Manual: "SmartSet Onboard Programming Technology", "Basic Programming Features" and "Advanced Programming Features".

Multimedia Keys

The blue-labeled multimedia keys reside in the keypad layer and perform Mute, Volume Down and Volume Up (from left to right).

13. Mac Usage & International Usage

Mac Usage

When installing the Advantage2 for the first time a Mac computer, you will likely be prompted with the Keyboard Setup Assistant. Follow the on-screen prompts to complete the Setup Assistant or close the window.

Mac users should configure their thumb keys for Mac-specific modifiers and install the included keycaps on the appropriate keys. For specific instructions, see Section "Thumb Key Mode Selection: Mac, PC & Windows".

Regardless of your selected Layout or Thumb Key Mode, certain keys on the Advantage2 keyboard will behave differently in a Mac operating environment, just like any standard PC-based 3rd party keyboard. On the Advantage2, most of these keys have the appropriate PC legend

These keys are summarized below:

Advantage2 Legend	PC Action	Mac Action
Backspace	Backspace	Delete
Delete	Delete	Forward Delete
Enter	Enter	Return
Ctrl	Ctrl	Control
Alt	Alt	alt-option
scroll lock	Scroll Lock	Shut-down Sequence
Keypad =	N/A	Keypad =
|	|	§

International Usage

An "International Key" is located near the Left arrow key. The action of this key changes depending on which language drivers are installed on your computer. When the Keypad layer is active, this key becomes *Insert* on PCs and *Help* on Macs.

14. SmartSet Onboard Programming

Kinesis contoured keyboards have long featured a fully-programmable architecture that allowed users to record macros, remap keys, and create custom layouts and settings. The Advantage2 keyboard takes that legacy to the next level with the new SmartSet onboard programming architecture which adds powerful programming features and new ways to build, visualize and share custom layouts. Virtually any key (168 top level and embedded level key actions) can be copied, moved, or inactivated. In addition, up to hundreds of macros of 200+ characters can be stored in the keyboards' memory chip, to be assigned to one more custom layouts and triggered by a single key or key combination.

What is SmartSet

SmartSet technology is the foundation of all the "next generation" Kinesis programmable computer peripherals. The technology was implemented in our popular Savant Elite2 programmable foot pedals in 2015 and then adapted for use in the Advantage2 keyboard. The basis of SmartSet is using a virtual flash drive (the "Kinesis KB" v-drive ™) inside the keyboard to store custom configuration settings. For basic users of the keyboard, the saving and storing of these layout files to the Kinesis KB drive happens behind-the-scenes. Advanced users can elect to enter **Power User Mode** to "mount" the Kinesis KB drive to their computer and access the underlying Layout files, to either edit existing macros/remaps, build custom macros from scratch, or to simply see a visual representation of various layouts.

Each Layout is saved to a separate .txt file that can be opened and viewed with any basic text editor program, regardless of your operating system (e.g., notepad for Windows). Layouts can even be shared with other users via email or saved to your computer as a backup. The days of having to rebuild your custom keyboard layout after a Hard Reset are over. SmartSet also includes "bootloader" functionality which means that you can update the firmware on your Advantage2 to stay up to date with the latest releases from Kinesis, and ensure compatibility with the newest operating systems.

15. Customizing Your Keyboard: Basic SmartSet Programming Features

The Advantage2 keyboard has a number of Basic Programming Features that even those who have never used a programmable keyboard can learn to use and benefit from. Basic Programming Features are accessed using The Program Key (labeled "progm") in conjunction with one or more keys in the new Function Row. Basic Programming Actions have been labeled for your convenience. Basic Programming Actions labeled in lower case letters require only the Program Key to activate, whereas those actions labeled in CAPITAL letters require the Program Key and Shift Key to activate. Black legends correspond to the top keyboard layer and blue legends refer to the embedded keypad layer.

Run Configuration Status Report: **Program + Esc**

The Configuration Status Report is a handy features which allows Advantage2 users to quickly check the active settings on their keyboard. *Important Note: Before running a Status Report, open any text editing program so that keyboard can print the Status Report to the screen.*

Example Status Report:

Model name> Advantage2 Keyboard

Firmware version> 0.0.3149.us (2MB), 05/20/2016

Current keyboard config file> qwerty.txt

Current thumb keys mode> win

Macro playback status> active

Macro playback speed> slow=1, normal=3, fast=9> 3

Keyclick status> clicks on

Toggle action tone status> tones on

Number of stored macros> 0

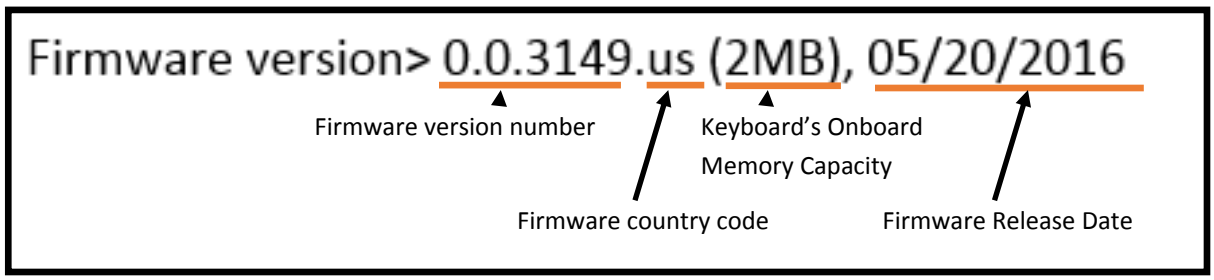
Number of keys remapped> 0

How to read a Status Report

The Status Report provides 10 important details about the current status of your Advantage2 keyboard.

1. **Model Name**– Indicates the name of the keyboard.

2. **Firmware Version**– Indicates the current version of Advantage2 firmware your keyboard is running. Unlike previous iterations of Kinesis contoured keyboards, the firmware of the Advantage2 can be updated to ensure maximum compatibility with current and future operating systems. Your Advantage2 keyboard comes from the factory with the most up to date version of the firmware as of its build date. Kinesis may at times release new versions of firmware to add features or fix bugs. If you purchased your Advantage2 from one of Kinesis's authorized resellers (as opposed to from the Kinesis store), its possible that your keyboard has an older version of firmware. To enquire about newer versions of Advantage2 firmware please visit Kinesis.com or contact tech@kinesis.com.



3. **Current Keyboard Configuration File**– Indicates which Layout file is currently active. QWERTY (qwerty.txt) and Dvorak (dvorak.txt) Layouts are the two factory configured options. Alternate "Hotkey" layouts can be created. For additional information on Hotkey layouts and file naming conventions see Section "Advanced Programming Features".

4. **Current Thumb Key Mode**— Indicates which of the three Thumb Key Modes are presently activated– PC, Windows ("win"), or Mac.

5. **Macro Playback Status**— Indicates whether macro playback has been disabled. "Active" means macro playback is enabled, "disabled" means that macro playback has been temporarily disabled.

6. **Macro Playback Speed**— Indicates the current speed setting for global macro playback. The Advantage2 plays macros back at "Speed 3" by default, but that speed can be adjusted on a scale of 1 to 9.

7. **Keyclick Status**— Indicates whether key "clicks" are enabled. The Advantage2 is equipped with a unique feature

that provides a subtle electronic click each time a key press is registered. The purpose of the key click is to provide feedback to the user regarding when a given key press has been registered by the computer to discourage "bottoming out" on the keys, which if done repeatedly can cause finger pain.

8. **Tone Status**— Indicates whether special feedback "tones" are enabled. The Advantage2 provides a feedback tone to alert the user when they "toggle" the keyboard into a special mode: Keypad, Num Lock, Caps Lock and Scroll Lock.

9. **Number of Stored Macros**— Indicates how many custom macros have been programmed and assigned to the active layout.

10. **Number of Stored Remaps**— Indicates how many custom key remaps have been assigned to the active layout. *Note: The Remap count is affected by the Thumb Key Mode. Windows Mode is set as the default so it reports 0 remaps. Mac Mode has 8 remapped keys relative to Windows Mode and PC Mode has 2 remapped keys relative to Windows* Mode.

Activate QWERTY Layout **Program + F3**

Loads the QWERTY.txt configuration file which corresponds to the default QWERTY Layout (see page XX) plus any key remaps and or macros that you have previously saved to this layout. *Note: No change to Thumb Key Mode or other settings.*

Activate Dvorak Layout **Program + F4**

Loads the Dvorak.txt configuration file which corresponds to the default Dvorak Layout (see page XX) plus any key remaps and or macros that you have previously saved to this layout. *Note: No change to Thumb Key Mode or other settings.*

Activate Mac Thumb Key Mode **Program + F5**

Activates Mac Thumb Key Mode (see page XX). *Note: No change to the Layout or other basic settings.*

Activate PC Thumb Key Mode **Program + F6**

Activates PC Thumb Key Mode (see page XX). *Note: No change to the Layout or other basic settings.*

Activate Windows Thumb Key Mode **Program + F7**

Activates Windows Thumb Key Mode (see page XX). *Note: No change to the Layout or other basic settings.*

Disable (Enable) Key Clicks **Program + F8**

The Advantage2 is equipped with a unique feature that provides a subtle electronic "click" each time a key press is registered. The purpose of the key click is to provide auditory feedback to the user regarding when a given key press has been registered by the computer to discourage "bottoming out", which if done repeatedly can cause finger pain. Key Clicks are enabled from the factory but they can be toggled off (or back on).

Disable (Enable) Special Action Tones **Program + Shift + F8**

The Advantage2 provides a feedback "tone" to alert the user when they have "toggled" the keyboard into special modes such as Keypad, Num Lock, Caps Lock and Scroll Lock. The tone sounds twice when the special mode has been activated and once when the mode has been deactivated. Special Action Action Tones are enabled from the factory but they can be toggled off (or back on).

Soft Reset **Program + Shift + F9**

Soft Reset erases all macros and remaps from the currently active layout and re-enables macro playback if it was disabled. *Note: Thumb Key Mode, Clicks/Tones and other basic settings are not affected.*

Disable Macro Playback **Program + F10**

Temporarily disables the playback off all saved macros until Macro Playback is toggled back on.

Program/Record Macro **Program + F11**

A macro is any string of characters or sequence key actions that are trigged by a single action. Macros are powerful productivity tools that allow users to save time and eliminate repetitive key strokes associated with common keyboarding tasks. The Advantage2 can be programmed to playback macros triggered by either a single key or a combination of keys. Individual macros can comprise more than 200 individual keystrokes and dozens of macros can be saved to the keyboard's onboard memory. *Note: When a macro is recorded, it is only assigned to the layout that was active during recording.*

To program a macro, hold Program and tap F11 to enter Macro Record Mode. The Num Lock LED will flash rapidly prompting you to select a single trigger key or key combination to trigger the macro. *Note: The Program Key, the Keypad*

Key and Modifier Keys (e.g., Ctrl, Alt, Shift etc) cannot be used as a single key macro trigger. Once you have selected a valid trigger key (or key combination), the Num Lock LED indicator will begin to flash slowly while you type your macro content for recording. When you are finished recording your macro, tap the Program Key to exit from program macro mode.

Note: When recording a macro, the keyboard layout will represent the active layout including any custom remapped keys, but macro playback will be temporarily disabled. You cannot program a macro within another macro. While recording a macro, the characters will be output to the computer so you can see what you are recording if you have a text editing application open.

To erase a macro in the active layout, enter Program Macro Mode, select the appropriate trigger key(s) for the macro you wish to erase, and then tap the Program Key *before* recording any additional keystrokes.

Advanced features like individual macro playback speed, different press and release functionality and delays can be added to macros via the Advanced Macro programming tools. See Section "Advanced Programming Features" for details.

Note: If you are using long macros and want to execute them quickly in conjunction with other keyboard commands, we recommend increasing your macro playback speed. While a macro is playing back, other keystrokes on the keyboard are not registered.

Remap a Key **Program + F12**

In addition to macros, the Advantage2 also lets you move (aka "remap") keys from one location on the keyboard to another so that the layout can be customized for the user. Virtually any key on the keyboard can be remapped in 2 easy steps. *Note: When a key is remapped, it is only remapped in the layout that was active during remapping. Remapping affects both the unshifted and shifted actions for a given key.*

To remap a key, hold Program and tap F12 to enter Remap Key Mode. When you enter Remap Mode the Scroll Lock LED will flash rapidly prompting you to select a source key/action. Once you have selected a valid source key, the Scroll Lock LED will be to flash slowly until you select the destination waiting for the destination key to be selected.

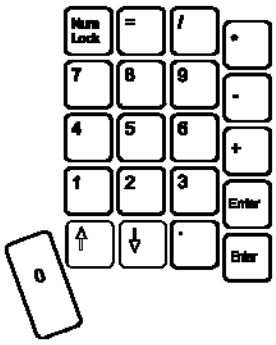
Note: Key Remap Mode remains active and will continue to accept key remapping "pairs" until the Program Key is tapped to exit Key Remap Mode. Key Remap Mode moves one key at a time, it does not swap keys. To swap the location of two keys you must complete two separate remap actions.

Unlike Macro Record Mode, during Key Remap Mode the keyboard will revert to the original underlying layout (i.e., QWERTY or Dvorak) for key reassignments. So you cannot remap a remapped key. During Key Remap mode, the keys will not output to the computer.

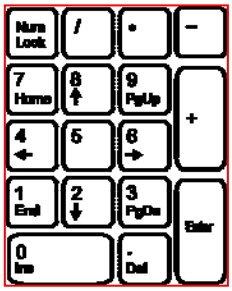
Keypad Layer (aka the "embedded layer") Keypad Key

Each Layout on the Advantage2 features a second virtual keyboard layer that can be used to be used to remap keys, store macros, access an embedded numeric 10-key (Num Lock on) or access a traditional arrow key cluster in the right key well. The Keypad Layer can be "toggled" on or off with the Keypad Key; or an optional Advantage foot switch can be used to "shift" the Keypad Layer on by pressing and holding the appropriate foot pedal. To access the embedded 10-key, tap the Keypad Key and then tap "7" key to activate Num Lock. *Note:10-key commands (pictured below) are labeled on the front side of the Advantage2 keys.* When used in conjunction with a foot switch, the embedded 10-Key increases productivity because the hands never have to leave the home row.

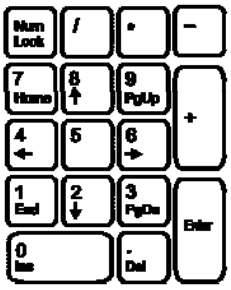
Advantage2 Embedded 10-Key
(PC: Num Lock On, Mac: All)



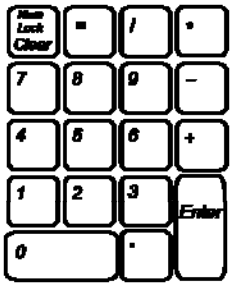
Advantage2 Arrow Cluster
(PC: Num Lock Off. Mac: N/A)



Traditional PC 10-Key



Traditional Mac 10-Key



Num Lock

Most PC computers boot up with Num Lock. To manually turn Num Lock on or off, first activate the Keypad Layer by tapping the Keypad key. Then press the 7 key in the number row, which has Num Lock printed on the front face.

The Num Lock function can be confusing because on a desktop PC it totally changes the actions performed by most keys in the numeric keypad. With Num Lock off, the number actions change to directional actions. More confusion is caused by laptop PCs, which may use Num or Numlock to activate their embedded keypads, rather than as the traditional Numlock action.On a Mac computer, there is no Num Lock key equivalent and the Num Lock indicator LED will not typically illuminate.

16. Customizing Your Keyboard: Advanced SmartSet Programming Features

In addition to the Basic Programming Features described in the previous section, the Advantage2 also has a number of powerful Advanced Programming Features designed for those looking to get the most out of their Advantage2 programmable keyboard. To access most of the features listed below, it is first necessary to activate "Power User Mode". Those features are denoted with "PUM". *Note: Advanced Programming Features utilize functions that are not labeled on the keys and can radically change the performance of your keyboard so proceed with caution. Even those users familiar with programmable keyboards in general, or a Kinesis Advantage keyboard, should read this manual in full before attempting to access any of the Advanced Programming Features.*

Global Macro Playback Speed Adjustment **Program + Pause + (1-9)**

All Advantage2 macros default to a playback speed of "Speed3" on the Advantage2 which is equivalent to 12.5 characters per second (CPS) or approximately 150 words per minute (WPM). However, users can adjust the playback speed for all macros "globally" with a single programming shortcut.

To change the Global Macro Playback speed, hold the Program Key and tap the Pause Key to enter Global Macro Playback Speed Adjustment Mode. All four LED indicator lights will flash to alert you that you are in an active programming mode. Then select a playback speed from 1 to 9 (1 being the slowest and 9 being the fastest) by tapping a key in the number row. Global Playback Speed Adjustment Mode will exit and the LEDs will stop flashing even if you select an invalid key (i.e., any key besides 1-9). We recommend running a Status Report after changing the playback speed to confirm the change has taken effect. This Global playback speed setting can be overridden for individual macros by direct editing of the corresponding Layout configuration file. Read below for detailed information on Direct Editing.

Note: Before attempting to adjust Global playback speed, turn off the keypad layer. If you have remapped the desired number to another location on the keyboard, you must use the current location for speed assignment, not the original location. Macro trigger keys will not affect programming.

Speed1	4.2 Characters per Second	~50 Words per Minute
Speed2	8.4 CPS	~100 WPM
Speed3 (Default)	**12.5 CPS**	**~150 WPM**
Speed4	22.7 CPS	~270 WPM
Speed5	34.2 CPS	~400 WPM
Speed6	62.5 CPS	~750 WPM
Speed7	84 CPS	~1,000 WPM
Speed8	125 CPS	~1,500 WPM
Speed9	250 CPS	~3,000 WPM

Hard Reset **Ctrl + F9 While Plugging in Keyboard**

A Hard Reset erases all of the saved keyboard settings and erases all changes made to the default QWERTY and Dvorak Layouts. The keyboard will revert to its original factory settings and the QWERTY Layout. To initiate a Hard Reset, hold Ctrl and F9 while plugging the keyboard. All four LED Indicator Lights will flash four times to signal that the Hard Reset is complete. Hold the CTRL and F9 until the LED's have stopped flashing.

Note: If you wish to save your changes to either the QWERTY or Dvorak Layouts for future use, we recommend backing up the configuration files before performing a Hard Reset. See below for information in Subsection Backing Up Configuration Files.

Note: Hotkey layouts are not deleted during a Hard Reset. To delete those Configuration Files you must manually delete the .txt files. See below for information in Subsection Hotkey Layouts.

Note: If Ctrl is released too quickly during a Hard Reset, it is possible for the Ctrl key to become stuck. If this happens, simply tap the Ctrl key you used to perform the Hard Reset.

Power User Mode ("PUM") **Program + Shift + Esc**

Before accessing any of the Advanced Programming Features described below, it its first necessary to active Power User Mode on the keyboard. If you attempt to activate one of the features below without having first activated Power User Mode, nothing will happen. Once activated, Power User Mode will stay on until it is manually deactivated or a Hard Reset is performed. Unplugging the keyboard or performing a Soft Rest will <u>not</u> disable Power User Mode. To activate/toggle Power User Mode press and hold the Program Key and the Shift Key, and then tap the Escape key. All four LED indicator lights will flash four times to indicate Power User Mode has been activated, and two times to indicate when it has been deactivated.

Note: When Power User Mode is activate, it will show up as the 11th line of the Status Report.

Opening the "Kinesis KB" V-Drive (PUM Required) **Program + F1**

As described in the SmartSet Onboard Programming Section, the Advantage2 contains a virtual flash drive (named "Kinesis KB") where the keyboards layout files (e.g., QWERTY and Dvorak) and firmware files are stored. This flash drive is normally hidden from your computer and for basic keyboard usage (including Basic Programming Features) it is not ever necessary to access the v-drive. The primary reasons to access the V-drive would be to perform direct editing of a Layout configuration

file (visualize the layout, edit existing macros/remaps, and/or create new macros/remaps), or to perform a firmware update.

There are two ways to open the V-drive. If the keyboard is already plugged in, activate Power User Mode (See instructions in the Subsection above) and then hold the Program Key and tap F1. The Caps Lock LED indicator light will flash four times and there will be a slight delay from the operating system as the V-drive enumerates. If the keyboard is not plugged in or you are unable to access the V-drive using the method just described, you can force the V-drive open upon the enumeration of the keyboard. To force the V-drive open, hold F8 briefly while plugging in the keyboard or booting up your computer.

Note: If you wish to have the V-Drive enumerate every time your computer boots up, open the "state.txt" in the Active Folder (see next section) and add the following line of case-sensitive text to the file: "v_drive_open_on_startup=ON", and then save the file.

The appearance of the KINESIS FP v-drive will vary by device and operating system. On most computers running a Windows operating system, the Kinesis KB drive will usually "pop-up" automatically as a removable disk. If you do not see an AutoPlay popup, look in "My Computer" for a removable disk named "Kinesis KB". On Mac operating systems, the V-drive will usally appear on your desktop. If it does not appear on your desktop look in Finder > Devices for "Kinesis KB". In Android look in computer settings. In Chrome look in "files." In Linux look in "my computer

To close the V-drive, you can either unplug the keyboard or press Program + F1 in which case the LED indicator lights will flash two times upon closing the V-drive. If you get a message from your operating system that the device was not ejected properly, you may ignore it, the Advantage2 was designed to be unplugged without following any specific ejection protocol.

V-Drive Contents

The V-drive contains two very important folders, named: "Active" and "Firmware". *Note: If you have access the V-drive on a Windows computer and the your Advantage2 was previously connected to a Mac, you may see some additional "hidden" folders that can be disregarded.*

By default, the Active folder contains 5 files, all of which are basic ".txt" files that can be opened and edited with any text editing program (e.g., Notepad, Microsoft Word etc,).

1. qwerty.txt– The qwerty.txt file contains the configuration instructions for the default QWERTY Layout. Only custom remaps and macros created in (or otherwise assigned to) the QWERTY Layout will appear in the qwerty.txt file. If no

custom actions have been saved to the QWERTY Layout, then the qwerty.txt file will be blank.

2. dvorak.txt– The dvorak.txt file contains the configuration instructions for the default Dvorak Layout. Only custom remaps and macros created in (or otherwise assigned to) the Dvorak Layout will appear in the dvorak.txt file. If no custom actions have been saved to the Dvorak Layout, then the dvorak.txt file will be blank.
3. do_not_edit.txt- ?????
4. state.txt– The state.txt file contains and displays information about the active settings of the keyboard. In general this file should not be deleted or altered and should be used only for reference when the Status Report function in inconvenient. *Note: If you wish to have the V-Drive enumerate every time your computer boots up, you may insert and save the following line of case-sensitive text to the state.txt file: "v_drive_open_on_startup=ON".*
5. version.txt– The version.txt contains information about the firmware currently running on the keyboard. This file should not be deleted or altered, and should be used only for reference when the Status Report function in inconvenient.

Note: If you have created custom hotkey layouts you will see additional .txt files in the Active Folder, one for each hotkey layout you have created. Hotkey layout files are based on either the underlying QWERTY or Dvorak Layout and are named so that the hotkey assigned to trigger the layout appears before the base layout. For example, a QWERTY hotkey layout assigned to trigger key Q will be named "q_qwerty.txt" and Dvorak hotkey layout assigned to trigger key 5 will be named "5_dvorak.txt".

Creating a Hotkey Layout (PUM Required) **Program + F2**

A Hotkey layout is an alterative layout, based either on the default QWERTY or Dvorak layouts, which can be used to store custom macros and remaps. Hotkey layouts are accessed through a convenient key combination that you select. QWERTY and Dvorak hotkey layouts are saved separately, and the same hotkey can be assigned to trigger a different layout for both QWERTY and Dvorak.

To create a hotkey layout, first enter Power User Mode (Program + Shift + Esc). Then hold Program and tap F2. The Num Lock LED will begin flashing rapidly, prompting you to select a "hotkey" that you will use to access your new hotkey layout. Only alphanumeric keys can be used activate a hotkey layout. Tap the desired hotkey and the LED will stop flashing.

Note: If you attempt to create a new hotkey layout assigned to a key which already has a hotkey layout for that layout

family (QWERTY or Dvorak), then you will lose any saved key remaps but macros will remain.

Note: When you first create a new hotkey layout, that layout will exactly mirror the active layout at that time. If you wish to build a hotkey layout from scratch, immediately after creating the hotkey layout perform a Soft Reset (Program + Shift + F9) to erase the existing remaps and macros.

Note: Hotkey layouts are assigned to either the QWERTY or Dvorak family. QWERTY hotkey layouts can only be accessed while in another QWERTY layout and vice versa. As such, the same hotkey can be assigned to both a QWERTY and Dvorak hotkey layout without creating any conflict.

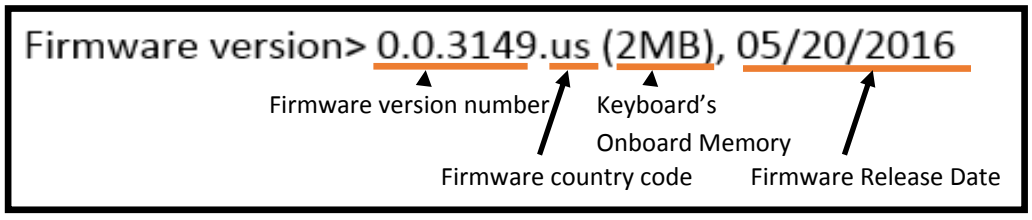
Accessing an Existing Hotkey Layout **Program + ___**

Once a hotkey layout has been created, you do not need to be in Power User Mode to access it. Simply hold Program and tap the appropriate hotkey to activate the layout.

Firmware Update **Program + Shift + U**

Your Advantage2 keyboard comes from the factory with the most up to date version of the firmware as of its build date. Kinesis may at times release new versions of firmware to add features or fix bugs. If you purchased your Advantage2 from one of Kinesis's authorized resellers (as opposed to from the Kinesis store), its possible that your keyboard has an older version of firmware. The SmartSet technology on your Advantage2 allows you to update the keyboard's firmware yourself so you can stay up to date with the latest releases from Kinesis and ensure compatibility with the newest operating systems.

Note: We recommend that you consult with Kinesis tech support before attempting to perform any firmware updates.



Before performing a firmware update, run a Status Report to confirm the version of firmware your keyboard is currently running.

To update the firmware, perform the following steps:

1. Obtain the appropriate version of Advantage2 firmware from Kinesis tech support (".upd" file)
2. Activate Power User Mode (Program + Shift + Esc)
3. Open the V-drive (Program + F1)
4. Open the Firmware Folder
5. Copy and paste the new firmware file to the Firmware Folder
6. Rename the new firmware file "update.upd"
7. Initiate Firmware Update (Hold Program + Shift + U)

If you have a valid firmware file named "update.upd" saved to the Firmware Folder, the LED's will flash four times and the keyboard will become unresponsive for a moment. After 10-12 seconds the keyboard will re-enumerate with the new firmware installed and the "update.upd" will be gone. Run a Status Report to confirm the update was successful.

Note: After a successful firmware update, the update.upd file will be deleted. If you wish to save a copy of this file for backup purposes, created a second copy of the file in the firmware folder after step 5 above.

Customizing Your Keyboard: Direct Programming Guide

The Advantage2 is a powerful programmable keyboard. Most of the Advantage2's functions can be access via the SmartSet onboard programming shortcuts using the Program Key. Most users will find that the onboard programming shortcuts are sufficient for their purposes but power users may wish to access one or more configuration files to directly edit macros and/or key remaps for one or more custom layouts. This Programming Guide covers direct programming and includes a "dictionary" of available actions and sample macros for your convenience.

Layouts

As described in earlier sections of this Manual, the configuration settings for each custom Layout are stored in a separate ".txt" file which is saved to the keyboard's onboard memory. When a user toggles between Layouts the keyboard calls up the appropriate .txt file to determine the active keyboard configuration. Each of these individual .txt Layout files can be accessed from the Kinesis KB V-drive (see Section XX) inside of the "Active" folder. Each Layout file contains two types of custom configurations: 1) Macros and 2) Key Remaps. Each Layout file contains lines of "code" corresponding to each key remap and/or macro custom programmed to that Layout. For simplicity, the .txt file only displays changes to the respective default layout, either Qwerty or Dvorak. Any given layout can be modified by both onboard programming commands and through direct editing.

Note: For best results, ensure that do not perform onboard editing while the Kinesis KB drive is open.

Accessing the Layout Configuration Files

As described in Section X, enter Power User Mode (Program+Shift+Esc) and then mount the Kinesis KB V-drive (Program+F1). Open the Kinesis KB drive and open the "active folder". Always use a plain text editor if possible, and if not, be sure to select the "plain text" or "simple text" format when saving a Layout configuration file. It is a good idea to rename and save a backup outside the active folder or on your hard drive. Listed below are commonly-available text editors for different operating systems:

- Windows: Notepad provides simple text only. If you use another text editor or word processor, save as plain text or simple text.
- Mac OS X: TextEdit is the default editor. Under TextEdit "Preferences" select "plain text" as the format. Normally if you

open a plain text file, it will save it in the same format by default.

- Linux: For Ubuntu the default text editor is Gedit, which is similar to Microsoft Notepad.

File Naming Conventions

Qwerty.txt and Dvorak.txt represent the two default layouts which are activated by hitting Program+F3 and Program+F4 respectively. Hotkey layouts are named with the designated hotkey preceding the layout family, either QWERTY or Dvorak. Examples:

- "a_qwerty.txt" (Qwerty hotkey layout assigned to the hotkey "a")
- "1_dvorak.txt" (Dvorak hotkey layout assign to hotkey "1"

Direct Editing

Each line of characters in the .txt represents an individual remap or macro. Macros are denoted with "curly brackets" (i.e., { and }) and macros are denoted by "square brackets" (i.e., [and]). Basic keys are denoted by a single character but modifier keys and other special actions have longer Kinesis-defined "tokens", which are used to identify the key. In most cases the appropriate USB hex code can be used in place of the Kinesis tokens if users find that preferable.

A default Qwerty or Dvorak Layout configured for Windows Mode will have an empty .txt file. If PC or Mac Mode has been activated, then the appropriate key remaps will have been automatically added to the .txt file. PC Mode has 2 remapped keys where as Mac Mode features 8 remapped keys.

Note: Your computer must be using the English (US) keyboard layout to edit the pedals.txt file. Other language drivers use different codes/positions for certain keys important for programming, such as [ ] and { }. If you want to use the pedal to produce text output using a different language, you will need to translate certain keys in the "dictionary" below in order to get the desired output. For keys that change between English and your desired language, type that key with both drivers to make yourself a custom language dictionary. Then use the English version of that key in the pedals.txt file. If macros are played while a different keyboard layout is active, some key actions will be changed.

Programming or Editing a Remap

Remaps are denoted with square brackets [ ] around the desired "Destination Key" then > (shifted period), then square brackets again around the desired "Source Key".

Example 1: The Q key will perform the letter "a".

[Q]>[A]

Note: [Q]>[A] and [Q]>[a] both produce the same lower case "a" output.

Example 2: The Right Windows key will perform the "shift" action.

[rwin]>[shift]

Note: After the keyboards has been programmed, the lower case action of letter keys will always be produced unless the keyboard's Caps lock is on when pedal is pressed. For all alphanumeric keys, the un-shifted action will be produced unless the keyboard's Shift key is held. However, a macro can be created which combines Shift and another key to produce the shifted action automatically (see Programming a macro below).

Programming a Macro (sequence of multiple key strokes)

When programming a macro, each input and action must be surrounded by "curly brackets"(i.e., "{ }"). Longer macros can be tedious to write from scratch so onboard programming is recommended. Direct editing can be a useful tool for creating shorter macros or editing/fine-tuning longer macros. Take advantage of existing macros and examples as templates which can be edited.

Note: Macros normally play when the trigger key is depressed, without waiting for release. If you want the macro to play only when the key is released, use the special feature below, "Different actions on press & release."

Example 1. Caps Lock key plays the word "go":

{Capslock}>{g}{o}

Example 2. The Escape key in the keypad layer plays the word hello

{kp-escape}>{h}{e}{l}{l}{o}

Example 3. Using modifiers within macros, playing "Hi Joy!" by pressing the pause key:

{pause}>{-shift}{h}{+shift}{i}{space}{-shift}{j}{+shift}{o}{y}{-shift}{1}{+shift}

Example 4. Macro plays "1+2=3" using the F12 key:

{F12}>{1}{-shift}{=}{+shift}{2}{=}{3}

ADVANCED PROGRAMMING FEATURES FOR MACROS

Several special features can be incorporated into macros. A different action can be produced on the press and on the release of the key. Also a faster or slower output speed can be selected which will override the Global Macro Playback speed as set using Program+Pause. Also delays can be programmed within a macro.

Different actions on press and release

Place braces with a single space, { } (not {}) in between the "press" and "release" actions.

Example 1. Press produces F1 function key and release produces F2 function key:

{W}>{F1}{ }{F2}

Example 2. Pressing tab acts just like pressing and holding ctrl-alt-4, and releasing is just like releasing ctrl-alt-4:

{tab}>{ctrl}{alt}{4}{ }{4}{ctrl}{alt}

Macro playback Speed

The Advantage2 supports nine different playback speeds. Macros will automatically playback at the default speed which is "speed3". Speed3 was chosen to provide optimal results for the widest array of macros but your custom macros may require a different speed to achieve the desired results. As such, macros can also be set to play back faster (speed4 - speed9) or slower (speed1 and speed2). To modify a macro's playback speed, simply input the desired speed in braces before the characters/actions whose speed you wish to modify. Multiple speed modifiers can be included in a single macro.

Speed1	4.2 Characters per Second	~50 Words per Minute
Speed2	8.4 CPS	~100 WPM
Speed3 (Default)	**12.5 CPS**	**~150 WPM**
Speed4	22.7 CPS	~270 WPM
Speed5	34.2 CPS	~400 WPM
Speed6	62.5 CPS	~750 WPM
Speed7	84 CPS	~1,000 WPM
Speed8	125 CPS	~1,500 WPM
Speed9	250 CPS	~3,000 WPM

Example 1. This left pedal macro below plays back the phrase "fast slow" where the word “fast” is typed at speed5 and the word “slow” is typed at the speed9.

{lpedal}>{speed5}{f}{a}{s}{t}{space}{speed9}{s}{l}{o}{w}

Adding delays to macros

Macros can have one or more internal delays. Delays are most commonly used to support a double click action but you may find other applications for them. Your Savant Elite2 device supports two different delays: 125ms and 500ms (milliseconds). These delays can be used separately or in combination to create a delay of any length in increments of 125ms. To insert a delay, use braces around the delay time and a “d” in front of the chosen increment: “{d125}” or “{d500}”. Attempting to insert a delay other than 125ms or 500ms will cause an error.

Example 1. Middle pedal macro plays “a” then delays 500 ms, then plays “b”:

{mpedal}>{a}{d500}{b}

Example 2. This Hyphen key macro plays “F1” then delays one second (1000 ms = 500ms +500ms), then plays "F2":

{hyphen}>{F1}{d500}{d500}{F2}

Incorrect syntax or language

If incorrect syntax or language is used, the keyboard will usually resort to a default key action. In some cases pressing a key that has invalid programming may not produce any key action. If problems arise, remaps and macros can be erased manually in the Layout Configuration file or by reversing any custom programming on the keyboard itself.

To restore a key to original action, press Program+F12 to enter Program Remap Mode, and tap the corrupted key twice– once to set it as the Source and once more to set it as the Destination.

To erase an existing macro, Press Program+F11 to enter Program Macro Mode, then tap the trigger key followed by the Program Key.

If the above methods don’t fix the problem a ″hard reset “ may be necessary.

Commenting Out

If you wish to temporarily disable macros or remaps in a given Layout, it is possible to simply add an asterisk in front of the appropriate line of code in the .txt file. The asterisk will cause that macro or remap to be bypassed by the keyboard. To reactivate that macro or remap simply remove the asterisk.

Saving Changes

Any changes made to a Layout Configuration file will not take effect until the .txt file is saved to the Active folder and the Kinesis KB drive is closed/unmounted. The drive can be unmounted either by using the shortcut Program+F1 or by replugging the keyboard. Make sure to save any changes to the .txt file before unmounting the drive.

"DICTIONARY" OF TOKENS FOR AVAILABLE MOUSE & KEYBOARD ACTIONS & COMMON SHORT MACROS

Key Description	Token (Top Layer)	Token (Keypad Layer)	Notes
F1	F1	kp-F1	
F2	F2	kp-F2	
F3	F3	kp-F3	
F4	F4	kp-F4	
F5	F5	kp-F5	
F6	F6	kp-F6	
F7	F7	kp-F7	
F8	F8	kp-F8	
F9	F9	kp-F9	
F10	F10	kp-F10	
F11	F11	kp-F11	
F12	F12	kp-F12	
print screen	prtscr	mute	
scroll lock	scroll	vol-	
pause	pause	vol+	
=+	=	kp-=	
1!	1	kp-1	
2@	2	kp-2	
3#	3	kp-3	
4$	4	kp-4	
5%	5	kp-5	
6^	6	kp-6	
7&	7	kpnumlk	
8*	8	kp=	
9(	9	kpdiv	
0)	0	kpmult	
hyphen	hyphen	kpminus	
tab	tab	kp-tab	
Q	Q	kp-Q	
W	W	kp-W	
E	E	kp-E	
R	R	kp-R	
T	T	kp-T	
Y	Y	kp-Y	
U	U	kp7	
I	I	kp8	
O	O	kp9	
P	P	kpmin	
|	\	kp-\	
Capslock	caps	kp-caps	
A	A	kp-A	
S	S	kp-S	
D	D	kp-D	
F	F	kp-F	
G	G	kp-G	
H	H	kp-H	
J	J	kp4	
K	K	kp5	
L	L	kp6	
; :	;	kpplus	
' "	'	kp-'	

Key Description	Token (Top Layer)	Token (Keypad Layer)	Notes
Z	Z	kp-Z	
X	X	kp-X	
C	C	kp-C	
V	V	kp-V	
B	B	kp-B	
N	N	kp-N	
M	M	kp1	
,<	,	kp2	
.>	.	kp3	
/?	/	kpenter	
accent/tilde	`	kp-`	
International (near to L Shift)	intl-\	kp-insert	
left arrow	left	kp-left	
right arrow	right	kp-right	
up arrow	up	kp-up	
down arrow	down	kp-down	
open brack [	obrack	kp.	
close bracket]	cbrack	kpenter	
Left Shift	lshift	kp-lshift	
Right shift	rshift	kp-rshift	
Left ctrl	lctrl	kp-lctrl	
Right ctrl	rctrl	kp-rctrl	
Windows menu (application)	menu	kp-menu	
enter	enter	kp-enter	
space	space	kp0	
home	home	kp-home	
end	end	kp-end	
page up	pup	kp-pup	
page down	pdown	kp-pdown	
Delete (Mac fwd delete)	delete	kp-delete	
Backspace (Mac Delete)	bspace	kp-bspace	
play/pause		play	
next track		next	
previous track		prev	
calculator (pc only)		calc	
shutdown (probably wrong)		shutdn	
Mac power (on pc, does shutdown)	macpow	kp-macpow	
Mac keypad =	kp=mac	kp=mac	

Keyboard Care & Maintenance

The Advantage2 keyboard is designed for increased thumb usage compared to a traditional keyboard which places more strain on the little fingers. Some new Kinesis contoured keyboard users initially experience fatigure or discomfort as their thumbs adapt

Troubleshooting, Technical Support & Repairs

For troubleshooting tips and to download the latest Advantage2 firmware, visit:

https://www.kinesis-ergo.com/support/technical-support/manuals-drivers/

Contacting Kinesis Technical Support

Kinesis offers free, lifetime technical support from trained agents based in our US headquarters. Kinesis has a commitment to deliver best-in-class customer service and we look forward to helping if you experience any problems with your Advantage2 keyboard or other Kinesis products.

Kinesis Technical Support is available Monday through Friday (excluding US Holidays) between the hours of 8:30—11:30am and 12:30—4:30pm (pacific), by calling 800-454-6374 (US only) or 425-402-8100. You can also email technical support at tech@kinesis.com. Basic support questions can also be submitted via Twitter at @KinesisErgo.

To obtain the fastest possible service when contacting Kinesis Technical Support, please be prepared to document your purchase date, as well as your product model number, and your serial number. Also, please have the brand, model and operating system of your computer system handy.

Return Merchandise Authorizations ("RMAs")

For any repair, regardless of warranty coverage, you must first contact Kinesis Technical Support to explain the problem and obtain a Return Merchandise Authorization ("RMA") number to write on your package. Packages sent to Kinesis without an RMA number may be refused. Keyboards will not be repaired without information and instructions from the owner.

Repairs

This product must be repaired by authorized, qualified personnel only. Unauthorized or inexpertly carried-out repairs may seriously jeopardize the safety of the user (such as from fire danger) and may invalidate your warranty.

Packaging and Shipping

In you need to ship a product back to Kinesis, use its original packaging or other suitable packaging that protects the device against impact and shock. You should insure the package with your carrier as Kinesis is not responsible for items until they are received at the Kinesis repair center.

Accessories & Upgrades

The Advantage2 keyboard is designed for increased thumb usage compared to a traditional keyboard which places more strain on the little fingers. Some new Kinesis contoured keyboard users initially experience fatigure or discomfort as their thumbs adapt

Warranty

Kinesis Limited Warranty

Kinesis Corporation ("Kinesis") warrants to the original retail purchaser that this Kinesis product ("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 is not transferrable and does not apply to any software 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

Subject to your retailer's return policy, 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. Customer will be responsible for all duties and/or taxes on international shipments which must be prepaid. Repair parts and replacement Product will be either reconditioned or new, at Kinesis' discretion.

Disclaimer of Other Warranties

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 limita□on, warranties of merchantability and fitness for a par□cular 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.

Appendix– Configuring Your Workstation

The Advantage2 keyboard is designed for increased thumb usage compared to a traditional keyboard which places more strain on the little fingers. Some new Kinesis contoured keyboard users initially experience fatigure or discomfort as their thumbs adapt

Appendix– Tech Notes

Firmware Version 3263