INSTRUCTIONS FOR PROGRAMMING SAVANT ELITE2 DEVICES
(Includes list of actions that can be copied to configuration file) *Nov 19, 2014*

Your Savant Elite2 device is factory programmed to perform mouse clicks (left, double click, and right mouse button actions), though not all devices will have access to all actions without editing the configuration file. The defaults for each device are shown below. If you want the default actions, just plug in your device to an available USB port and it should be ready to use in seconds. If you want to customize the actions of one or more pedals or jack inputs, edit the pedals.txt file and save as simple text or plain text. For help and a "dictionary" of available actions and sample macros, read **PROGRAMMING YOUR SAVANT ELITE2** below.

FIRST TIME USE (AUTO-INSTALLATION, PLAY MODE)
On the underside of all non-waterproof Savant Elite2 devices there is a "play/program" switch. The first time you connect to any particular USB port on an awake computer or tablet, be sure this switch is in the factory default "play" position. The red LED will come on briefly while the automatic installation process begins, and within a short time the steady green light will indicate installation is finished.

DEFAULT FACTORY PEDAL/JACK ACTIONS
Base-mounted dual (FP20A) and triple (FP30A) pedal models, and those with an input jack (FP20AJ, FP30AJ):

Left pedal: left mouse button
Middle pedal (if present): left mouse double click (macro)
Right pedal: right mouse button
Jack (if present): Left mouse button (Jack 1)

The single-pedal bundled with 2-port control module (FP10J), plus the stand-alone 2-port (FPMJ2) and 4-port (FPMJ4) control modules:

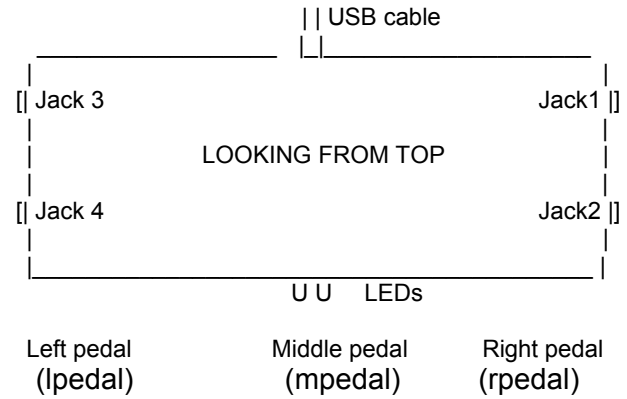
Jack 1: Left mouse button
Jack 2: Right mouse button
Jack 3 (if present): Backspace (Delete on a Mac)
Jack 4 (if present): Thank you. (macro)

Default configuration codes
This is what the configuration looks like in the default pedals.txt:

```
[lpedal]>[lmouse]
{mpedal}>{-lmouse}{+lmouse}{125}{-lmouse}{+lmouse}
[rpedal]>[rmouse]
[jack1]>[lmouse]
[jack2]>[rmouse]
[jack3]>[bspace]
{jack4}>{-shift}{-t}{+t}{+shift}{-h}{+h}{-a}{+a}{-n}{+n}{-k}{+k}{-space}{+space}{-y}{+y}{-o}{+o}{-u}{+u}{-.}{+.}
```

Note that the middle pedal and jack 4 are macros, so they use { } before and after the > and show the "down" (-) and "up" (+) action for every element. Also, the "double click" macro happens to requires a 125 millisecond delay so it includes {125} between the two actions of the macro.

Diagrammatic view of Savant Elite 2 control module and mounted pedals



HIGHLIGHTS OF PROGRAMMING SAVANT ELITE2 BY EDITING PEDALS.TXT

- No drivers are required for playing or programming the device.
- To program the device, a virtual flash drive is created within the Savant Elite2 device.
- The virtual flash drive holds a small configuration file named "pedals.txt" in the folder named "active."
- A pedal can produce single keyboard and mouse button action or combinations using a macro
- Actions are determined in the "ASSIGNED ACTIONS" area of pedals.txt.
- Asterisks at beginning of a line indicate a comment (no effect on pedal actions)
- Special features, a complete dictionary of available actions, and examples are listed below.
  You can copy & paste from this document to the "ASSIGNED ACTIONS" area in pedals.txt.

OVERVIEW OF THE PROGRAMMING PROCESS

If you wish to reprogram your device, you can do so without installing any special drivers. Each pedal or jack can produce one or more keyboard or mouse actions or combinations of mouse and keyboard actions. The assigned actions for pedals and jacks are determined in a plain text file named “pedals.txt.” Using a word processing program, you can edit one or more of the seven inputs available on various Savant Elite2 products. Just be sure to save it as “plain text” or “simple text.”

The pedals.txt file is located on a virtual flash drive in your Savant Elite2 device. This flash drive can be “opened” for editing and then “hidden” again for normal use. It contains a copy of this instruction file, plus a folder named “active” where pedals.txt located.

Only a simple text file named pedals.txt, located in the active folder, can serve as the configuration file for your device. Other files with different names may be placed in that folder and will not affect the operation of your device. In fact it is a good idea to make a copy of any edited file, either outside the active folder, or with a different name inside the active folder.

If pedals.txt is not present in the “active” folder when pedal unit is plugged in, it will be recreated automatically using default values. If you edit and re-save pedals.txt or copy a new pedals.txt file into the active folder, you must move the slide switch to “play mode” or unplug and reconnect your device to USB port to make the new actions active.

Note: when in “program mode” (virtual flash drive visible), the pedal will operate with its previously programmed keyboard actions but mouse button actions are temporarily disabled.

Play mode: When connected to an awake computer or tablet, the green LED will be on steadily after the device self-installs on the first use. The red LED turns on when a pedal is pressed and turns off when a pedal is released.

Programming mode: When in programming mode, the green LED will be flashing steadily. To enter programming mode, either slide the switch underneath from PLAY to PROGRAM, or hold down a pedal briefly while plugging in the USB cable or rebooting your computer. There will be a delay while your computer recognizes the virtual flash drive – don't press any pedals or hand triggers during this time. First you will see the green LED flashing slowly, then when fully activated, you will see the flash drive in your "my computer" screen (in Windows) or as it normally would appear if you had plugged in a separate USB flash drive. In OSX, the virtual flash drive will appear on the desktop.

Once the "active" folder is visible as a removable storage device on your computer, the file **pedals.txt** can be viewed and edited to change the programming (see editing guidelines below). Be sure to save as "plain text" or "simple text" if you used a word processing program to do the editing.

After editing and saving pedals.txt, the changes don't go into effect until you exit programming mode. To do this, slide the switch back to PLAY, wait a few seconds (your computer may play one or two "disconnect" tones). If you entered programming mode by holding a pedal down while plugging in your device, you must unplug and reconnect it, or restart your computer, to activate the changes you have made in the newly-saved pedals.txt file.

Language note: The 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 example, 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. In the future it should be possible to find conversion information for some non-US keyboard layouts on the virtual flash drive or at kinesis.com.

Compatible text editors for programming Savant Elite2 devices
Always use a plain text editor if possible, and if not, be sure to select the "plain text" or "simple text" format when saving the pedals.txt file. It is a good ideas to rename and save a backup outside the active folder or on your hard drive.

Commonly-available plain text editors
Windows: Notepad provides simple text only. If you use another text editor or word processor, save as plain text or simple text.
Mac OSX: TextEdit is the default editor. Select simple text as format when saving file.
***Linux*:** For Ubuntu the default text editor is Gedit, which is similar to Notepad.

BASIC PROGRAMMING OF YOUR SAVANT ELITE2 DEVICE
Below the instructions is a "dictionary" listing all available actions that can be copied and pasted to the pedals.txt file.

Programming a single key or mouse action
Use square brackets, [ ], around the pedal, then > (shifted period), then square brackets again around the desired keyboard or mouse button action.

Example: The left pedal will perform the letter "a."
[lpedal]>[a] Note: [lpedal]>[A] and [LPEDAL]>a both produce the same "a" output.

Example: The middle pedal will perform the "shift" action.
[mpedal]>[shift]

***Usage note**: After the pedal has been programmed, the lower case action of letter keys will always be produced unless keyboard's Capslock is on when pedal is pressed. For all alphanumeric keys, the unshifted action will be produced unless keyboard's Shift key is held while pedal is pressed. 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 actions)
When programming a macro, each input and action are surrounded by braces { } and each press and release of a key or mouse button must be defined, using a "-" for the down action (press) and a "+" for up action (release). Longer macros can be tedious to write so take advantage of existing macros and examples as templates which can be edited.

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

***Mac OSX note**: Modifier keys by themselves are not useful to assign to a pedal because one USB device cannot modify another (modifiers are shift, command, option, control).*

Example: Left pedal plays the word "go."
{lpedal}>{-g}{+g}(-o}{+o}

Example: Mouse double click (this macro normally requires a 125 millisecond delay):
{lpedal}>{-lmouse}{+lmouse}{125}{-lmouse}{+lmouse}

You may have to adjust the double click timing in your control panel, or use two delays.

Example using modifiers within macros, playing "Hi Joy!" by pressing the right foot pedal:
{rpedal}>{-shift}{-h}{+h}{+shift}{-i}{+i}{-space}{+space}{-shift}{-j}{+j}{+shift}{-o}{+o}{-y}{+y}{-shift}{-1}{+1}{+sh
ift}

Note: The above macro "word-wrapped" to the next line. In your pedals.txt file, but sure that there are no spaces or "Enter" actions embedded unintentionally within the macro contents.

Example of macro to play "1+2=3" using the right pedal:
{rpedal}>{-1}{+1}{-shift}{-=}{+=}{+shift}{-2}{+2}{-=}{+=}{-3}{+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 pedal. Also delays can be programmed within a macro, and slower output can be selected if necessary.

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

Example: Press produces F1 function key and release produces F2 function key.
{lpedal}>{-F1}{+F1}{ }{-F2}{+F2}

Example: Pressing pedal acts just like pressing and holding ctrl-alt-4, and releasing is just like releasing ctrl-alt-4.
{lpedal}>{-ctrl}{-alt}{-4}{ }{+4}{+ctrl}{+alt}

Fast (normal) and Slow output
Macro playback is normally fast. Slower playback can be created placing “{slow}” just before the macro commands where you want the playback speed to slow down. Using “{fast}” returns output to the normal fast rate if {slow} has been used previously in that macro.

Example: Macro plays back the phrase "fast & slow" where the word “slow” is typed at the slow speed. The {slow} output command only affects the macro in which it is placed. If you want to speed up output in the same macro after the slow command, insert a {fast} command.

{lpedal}>{-f}{+f}{-a}{+a}{-s}{+s}{-t}{+t}{-space}{+space}{-&}{+&}{-space}{+space}{slow}{-s}{+s}{-l}{+l}{-o}{+o}{-w}{+w}

Note: The above macro “word-wrapped” to the next line. In your pedals.txt file, but sure that there are no spaces or “Enter” actions embedded unintentionally within the macro contents.

Adding delays to macros
Macros can have one or more internal delays. Both 125 and 500 millisecond (ms) delays are available and either or both can be combined. To insert a delay, use braces around the delay time: {125} or {500}.

Example: Middle pedal macro plays “a” then delays 500 ms, then plays “b”.
{mpedal}>{-a}{+a}{500}{-b}{+b}

Example: Middle pedal macro plays “F1” then delays one second (1000 ms), then plays "F2".
{mpedal}>{-F1}{+F2}{500}{500}{-F2}{+F2}

TROUBLESHOOTING
If a pedal is pressed while programming mode is being established, the device may become inactive. If that happens, it may be necessary to unplug and reconnect the device.

If the red LED is on continuously even though a pedal is not pressed, the unit is not working correctly. Try unplugging, waiting 30 seconds, then reconnecting the unit.

If incorrect syntax or language is used, the pedal will usually resort to its default action (a left, right, or middle mouse button action). In some cases pressing a pedal that has invalid programming may disable the unit and cause the red LED come on. If unplugging and reconnecting the unit fixes the problem but pressing a pedal causes it to re-occur, it is most likely due to an error in the pedals.txt file.

LIST OF AVAILABLE MOUSE & KEYBOARD ACTIONS
Numbers and letters are sorted in alphanumeric sequence, other are listed in keyboard groupings. You can copy/paste from this list directly to your pedals.txt file (just remember to change [ ] to { } if you are pasting to create a macro).

Note: The text shown below must be copy/pasted or typed (inside square brackets) into the “Assigned Actions” section of the pedals.txt file. For example, use [pdown] for the “Page Down” key and [down] for the “Down” arrow key.

[lmouse]	Left mouse button click
[mmouse]	Middle mouse button click
[rmouse]	Right mouse button click
Double click	See macros, Mouse double click

[escape]
[F1] Function keys, F1 through F12
[F2]
[F3]
[F4]
[F5]
[F6]
[F8]
[F7]
[F9]
[F10]
[F11]
[F12]
[pause] Pause/break
[prtscr] Print screen
[scroll] Scroll lock

[1] Number row key actions. To perform the shifted action, hold the Shift key on keyboard
[2] while pressing the pedal. To make a pedal perform the shifted action without holding Shift,
[3] use a macro combining Shift with the number row key (see “Sample Macros” below).
[4]
[5]
[6]
[7]
[8]
[9]
[0]
[=] The = + key in the number row
[hyphen] This is the number row hypen (the shifted action is _).

[a] Letter key actions (both a and A produce the same lower case output).
[b] To get the shifted version to play after programming the pedal, either turn on Capslock
[c] or hold the Shift key on your keyboard while pressing the pedal. To make a pedal perform
[d] the shifted action without holding a Shift key, use a macro combining Shift with the
[e] letter key (see “Sample Macros” below).
[f]
[g]
[h]
[i]
[j]
[k]
[l]
[m]
[n]
[o]
[p]
[q]
[r]
[s]
[t]
[u]

[v]
[w]
[x]
[y]
[z]

[tab]
[caps] Capslock
[space]
[/] Forward slash (the shifted action is ?)
['] Apostrophe (the shifted action is ")
[`] Accent (the shifted action is tilde, ~)
[;] Semi colon (the shifted action is colon :)
[,] Comma (the shifted action is <)
[.] Period (the shifted action is >)
[cbrack] Close bracket] (the shifted action is close brace })
[obrack] Open bracket [(the shifted action is open brace {)

[bspace] Backspace (called “Delete” on Mac)
[enter] Enter is called “Return” on Mac (different code than keypad Enter)
[insert] Insert performs “Help” on Mac
[delete] Delete (called “Forward Delete” on Mac)
[home]
[end]
[pdown] Page down
[pup] Page up
[right] Right arrow
[left] Left arrow
[up] Up arrow
[down] Down arrow
[alt]
[ctrl]
[shift]
[win]
[lalt] Left Alt (Location-specific modifiers can be used but is simpler to just use [ctrl], for example)
[lctrl] Left Ctrl key
[lshift] Left Shift key
[lwin] Left Windows key
[ralt] Right Alt key
[rctrl] Right Ctrl key
[rshift] Right Shift key
[rwin] Right Windows key

NUMERIC KEYPAD ACTIONS
[kp=mac] Mac keypad = key (this key does nothing on a PC, use PC number row = instead)
[numlk] Numlock
[kppdiv] Keypad divide
[kpmult] Keypad multiply
[kpmin] Keypad minus
[kpplus] Keypad plus
[kpenter] Keypad Enter
[kp1] Keypad 1

[kp2] Keypad 2
[kp3] Keypad 3
[kp4] Keypad 4
[kp5] Keypad 5
[kp6] Keypad 6
[kp7] Keypad 7
[kp8] Keypad 8
[kp9] Keypad 9
[kp0] Keypad 0

SAMPLE MACROS

A macro is a multi-action sequence triggered by a single pedal action. Typically these are keyboard action sequences, but multiple mouse actions can be combined also (see Default double click macro sample below). Even keyboard and mouse actions can be combined where supported by the operating system (e.g. ctrl-click).

Note: If the pedal is held down, macros do not repeat like a single key would.

Default double click macro (middle pedal, "mpedal")

This left mouse button double-click macro is in the default pedals.txt file, assigned to Jack 4. It requires a 125 millisecond delay. For more information on inserting delays into macros, see "ADVANCED PROGRAMMING FEATURES FOR MACROS" above.

{mpedal}>{-lmouse}{+lmouse}{125}{-lmouse}{+lmouse}

Macros for standard shifted actions of keys

Number row shifted actions for US keyboard layout. Examples shown are for left pedal. The "Shift" action is placed on either side of the key action to be shifted. You can copy and paste these examples to the pedals.txt file.

Note: Either the number row "hyphen" and "+" keys or the keypad minus and plus keys may be used as the "down action" and "release" indicator.

~ Tilde (Shifted accent, `)
Macro: {lpedal}>{-shift}{-`}{+`}{+shift}

! Exclamation point (Shifted 1)
Macro: {lpedal}>{-shift}{-1}{+1}{+shift}

@ @ symbol (Shifted 2)
Macro: {lpedal}>{-shift}{-2}{+2}{+shift}

symbol (Shifted 3)
Macro: {lpedal}>{-shift}{-3}{+3}{+shift}

$ $ symbol (Shifted 4)
Macro: {lpedal}>{-shift}{-4}{+4}{+shift}

% Percentage symbol (Shifted 5)
Macro: {lpedal}>{-shift}{-5}{+5}}{+shift}

^ ^ symbol (Shifted 6)
Macro: {lpedal}>{-shift}{-6}{+6}{+shift}

& & symbol (Shifted 7)
Macro: {lpedal}>{-shift}{-7}{+7}}{+shift}

* Asterisk symbol (Shifted 8)
Macro: {lpedal}>{-shift}{-8}{+8}}{+shift}

(Open parenthesis (Shifted 9)
Macro: {lpedal}>{-shift}{-9}{+9}}{+shift}

) Close parenthesis (Shifted 0)
Macro: {lpedal}>{-shift}{-0}{+0}{+shift}

_ Underscore (Shifted hyphen, -)
Macro: {lpedal}>{-shift}{--}{+-}}{+shift}
Note: this macro contains a hyphen followed immediately by a number row +

+ Number row + (Shifted equals,=)
Macro: {lpedal}>{-shift}{-=}{+=}}{+shift} Note: this contains - followed immediately by =).

{ Left curly bracket or left brace (Shifted left square bracket)
Macro: {lpedal}>{-shift}{-[}{+[}{+shift} Note: this contains] followed immediately by }.

} Right curly bracket or right brace (Shifted right square bracket)
Macro: {lpedal}>{-shift}{-]}{+]}}{+shift} Note: this contains] followed immediately by }.

| Pipes character (Shifted forward slash, \, near the Enter key)
Macro: {lpedal}>{-shift}{-\}{+\}}{+shift}

“ Quotation marks (Shifted apostrophe)
Macro: {lpedal}>{-shift}{-‘}{+’}}{+shift}

: Colon (Shifted semi-colon)
Macro: {lpedal}>{-shift}{-;}{+;}}{+shift}

< Less than symbol (Shifted comma)
Macro: {lpedal}>{-shift}{-,}{+,}}{+shift}

> Greater than symbol (Shifted period)
Macro: {lpedal}>{-shift}{-.}{+.}}{+shift}

? Question mark (Shifted backslash, /)
Macro: {lpedal}>{-shift}{-/}{+/}}{+shift}