malletKAT PRO

Manual

V. 7KS

Chapter Six:

Appendix:

Chapter One
malletKAT Pro Overview

The malletKAT Pro is a powerful MIDI controller that is designed to capture your playing gestures and performance. It transforms your performance into musical notes (MIDI data), capturing the details of dynamics, pressure, speed, dampening, etc., creating an incredible musical representation of your playing. It is this attention to nuance and detail that makes this instrument so enjoyable to play on. It is by far the most powerful percussion controller ever created.

The malletKAT is really several instruments in one. It is broken down into two basic keyboards, called Controller One and Controller Two. Each of these Controllers are independent from each other. They can have their own sounds, dynamic response, keyboard and octave range, etc. These sounds can be activated by stepping on a footswitch. They can be layered so that both play or they can be split or overlapped so that both sounds are active at the same time.

The malletKAT also has a third layer called a Reassignment Layer. Every note on this layer can be programmed by the User to play any note on any octave on any of the 16 MIDI channels simultaneously. MIDI notes do not have to be contiguous. This means that you can set up special arrangements of non pitched sounds on any pad, or you can set up your own scales etc. This Reassignment Layer can be used in combination with the other Controllers or it can replace them. There are 14 programmable Reassignments stored in memory that can be assigned into any of the 128 User Kits.

The malletKAT can also be used as an alternate MIDI controller that is designed to control notes instead of playing them. The "black" keys can be assigned to Continuous Controller Numbers and the "white" keys can send discreet values to these controllers. The malletKAT can use dynamics and note position to create X,Y sensing so that multiple parameters can be controlled by how hard you are playing and where you are playing on the keyboard at the same time.

There are special latch functions that can toggle notes on and off to loop at will. Pads can be assigned to send out program changes instead of notes. Combining these features in a User Setup is a powerful way to control things like MIDI Light Control or Loop Sequencers such as Ableton's LIVE or Spectrasonics STYLUS RMX.

The malletKAT has 2 Foot Controller Inputs, three momentary inputs, and a breath controller input. All of these inputs are user programmable, offering tremendous power to the performer. In any particular performance, one can add subtle vibrato, pitch bend, sustain and gate time variances, blending of sounds, filter control, etc. just by using these input controls while playing on the pads. It is possible to suddenly shift octaves, change sounds, sustain chords, etc. while the "main" sound is active on the keyboard.

You will notice that there are no buttons on the malletKAT for editing. We have created an interface that allows for total programming without having to put down your mallets. Notice the words underneath the "white" keys.

When stepping on the Edit , these pads turn into editing functions. This allows for instantaneous adjustments in playing such as octave range, gate time, velocity range, program change, volume change, etc. This makes for an incredibly easy interface. Once you get the hang of this approach, you will be able to quickly change parameters to your hearts content, even while you are playing live.

The malletKAT has 128 Factory Setups, 128 User Setups and 16 Chain Setups. Each Setup is a complete assignment of the sounds and functions. You can name your own User Kits, store bank and program change information, create your own MIDI mixer with stored volume change commands. Every User Kit has its own velocity response settings, gate time settings, octave range etc. Chains allow for non contiguous arrangements of your Setups. This is an extremely useful feature for setting up quick sound changes in a performance situation. These changes can be accessed by stepping on a footswitch or by hitting the backward/forward function pads.

The Factory Setups are pre-programmed for General MIDI. That means that if you have a sound source that responds to General MIDI (it should have a GM MIDI logo displayed on it), the malletKAT is ready to go without any programming involved. The instrument name that you see on the display is the sound that you will hear on your synth.

There are currently two versions of software available regarding pre-programming of the User Kits. One is for the Kurzweil Pc2R, and the other is for the Yamaha Motif ES. When the malletKAT is reinitialized with this software, 128 User Kits are installed for one of these instruments. In other words, we pre-programed the malletKAT especially for one of these sounds sources. You can alter any of these settings of course, but this is a great way to get started when using these instruments. You may never have to do any programming because we have done it for you. Please note that both the Yamaha and Kurzweil Sound Modules are also tweaked at our factory before they leave. If you have purchased one of these sound sources from somewhere else, you will have to go online to our website and download the free SYSEX file for these instruments in order to get a turn key environment on your malletKAT.

We are sure by now that as you read this introduction, you realize the incredible power that lies within the malletKAT. The real power however is not the bells and whistles that are inside it, but the expressiveness and musicality that is capable with this instrument.

One needs a fluid vocabulary to help articulate ideas and emotion. It is our passion to fill this instrument with a full set of features and functions to help the performer find the right articulation for self expression.

Here are just a few of these powerful features.

Individual Pad Training. Everyone plays differently. To help the performer get the full dynamic range of their playing, the malletKAT learns the players style. It converts the users softest & hardest hits into 128 discreet velocity dynamics tailored to the performers needs.

Dynamic Articulations. Every Kit stores a set of minimum and maximum velocity ranges along with velocity curves to get the instrument dynamics tailored to personal taste. Dynamics can be used to change a sound at a particular velocity point. Besides setting any "gate" length of a sound, dynamics can also control how long a sound speaks. These "gate time settings" can also be controlled by a foot or breath controller.

Acoustic Emulations. The malletKAT can recognize "dampen" strokes, a common vibraphone technique and now "dead" strokes, a common marimba style of articulation. Like Individual Pad Training, dampening and dead stroke articulations can be tailored to respond to your personal style of playing.

Special Mono Modes have been developed to allow the performer to play solo instruments such as flutes or lead lines without the "bleeding" of sounds heard when using a sustain pedal on a synth. Instead the sustain pedal in this mode creates a legato single line passage. It is now possible to create staccato / legato articulations effortlessly.

Auto Gate functions also help control the "bleeding" of sounds when playing fast passages. The length of a sound can vary depending on how fast you are playing. This can be extremely effective when playing an acoustic guitar sound for example.

Chapter Two
PLAY MODE SCREENS

We know that many of you do not want to read the entire manual. That's OK. If you purchased a Kurzweil PC2R or a Yamaha Motif ES from us, you probably won't need to do much programming anyway because we did that work for you.

It is important that you understand what "condition" your malletKAT is in at any particular moment, so please take the time to read THIS chapter. It will save you grief down the road!

If you want more detail on any of the topics that are being mentioned, refer to the INDEX. It will list all of the pages that refer to topic outlined in this chapter.

When you first turn on the malletKAT, the display tells you on the second line what version number of the software that's inside your malletKAT. Each new version of software adds new features that might change the way the display looks. This manual is written for version 6.x.

There are four lines of text on the display. The display changes its look as different features are called up. Let's begin with the first Line.

KIT NUMBERS
The very first character on Line one will either be:
F followed by a number. Example F 01 meaning Factory Kit 1 or
U followed by a number. Example U 89 meaning User Kit 89 or
C followed by a group of numbers. Example. C02-12 Meaning Chain Two, Setup 12.

 The F stands for FACTORY KITS. There are 128 Factory Kits that are in the malletKAT. These KITs are stored in memory. This means that any changes that you make to the FACTORY Kits are gone as soon as you leave the KIT going to another KIT number. If you want to make permanent changes to a FACTORY Kit, then you will need to save them in a USER KIT.

The name of the KIT displayed on line three is a GENERAL MIDI Name. These names will only line up with the names that are on your sound source if your module or keyboard has the GM logo on it. If you do not have a GM synth, the malletKAT has no way of knowing what sound source it is connected to. You will need to go to the User Kits to make your own KIT names.

If you see a U followed by a number on the first line, then you are in the USER KITS. There are also 128 USER KITS in the malletKAT. Here you can name your own kits, change any parameter and have them stored into permanent memory. If you see a number looking like C01-01, then you are in CHAIN MODE. CHAIN MODE allows you to arrange your KITS in a non-contiguous fashion. You can store 16 Chains, each having the ability to arrange 16 KITS in each Chain.

You can jump between these three modes by holding down the EDIT FOOTSTWITCH and hitting pad F (third octave). It says BANK SELECT under the pad. Use the DECrement, INCrement pads (C#-D#) on the highest octave to change modes.

If you are using a malletKAT EXPRESS, you will need to hold down the EDIT and the SUSTAIN ONE at the same time to tell the malletKAT that you are accessing third octave functions. Release the SUSTAIN once you enter the mode. If you have an EXPRESS with three octaves, you do not need to do this.

You can change KITS at any time by using the Backward /Forward Pads. (The little pads on the far right of the malletKAT). Strike the pad twice to get your direction going.

For more information regarding KITs and CHAINs, refer to the Index for specific pages on these subjects.

LAYER MODEs
Immediately following the KIT NUMBER, you will see on the first line of the display one of the following LAYER MODES on the screen.
Hang = Hang Mode
Splt = Split Mode
Doub = Double Mode
Mel1 = Melody Chord Mode 1
Mel2 = Melody Chord Mode 2
Mel3= Melody Chord Mode 3
VEL S = Velocity Shift Mode
Alt = Alternate Mode

Layer Modes tell the malletKAT how to control its sound layers. These layers are called CONTROLLER ONE AND CONTROLLER TWO. These Layers can be total independent, split on the keyboard, layered, velocity shifted or alternated as described below.

HANG In this mode, when you are playing on the malletKAT, you will hear the sounds being controlled by CONTROLLER ONE. When you step on the SUSTAIN TWO , the malletKAT switches to the sound being controlled by CONTROLLER TWO. In its default setting, CONTROLLER TWO sound plays INDEFINITELY (it HANGS) until you touch the SUSTAIN 2 again. This allows you to play suspended sounds underneath while you are playing on the sounds from CONTROLLER ONE.

You can access the HANG mode by stepping on the EDIT footswitch, and while held down, tap the C natural, second octave down from the top.

SPLIT MODE
The SPLIT Mode allows the malletKAT to play two sounds without having to step on the SUSTAIN TWO . Each of the sounds from CONTROLLER ONE and TWO can have their own SPLIT point on the keyboard. This means that the two sound layers can overlap or split. It is

even possible to have "dead" notes between the two SPLIT Zones.

You can access the Split mode by stepping on the EDIT footswitch, and while held down, tap the D natural, second octave down from the top. Both Controller One and Two need to have their own split points assigned in order for this function to work properly. Read about this in the EDIT Screens chapter.

DOUBLE MODE
When you see this on the first line on the display, it means that the malletKAT is in DOUBLE or layer mode. That means that both CONTROLLER ONE AND TWO are active across the entire malletKAT. Both sounds are layered on the instrument. You can step up Sustain One Footswitch to control the sustaining of both sounds at the same time in the KIT AUX Screens.

You can access the Doub mode by stepping on the EDIT footswitch, and while held down, tap the E natural, second octave down from the top.

Mel1, Mel2, Mel 3 When you see any of these on the first line, you are in Melody Chord Mode. These modes tell the malletKAT what sound to play (from Controller One or Controller Two) depending on how many notes are being played simultaneously. It gives one the ability to play one sound as a melody line and another as an accompaniment sound simply by playing individual notes or chords.

There are three variations (described in the Editing Chapter) of the Melody Chord Mode. Each Mode varies slightly on where to send the notes when it sees a chord. It is always best to experiment and listen to the differences and see which Mode will work best for you.

You can access the Mel1, Mel2 or Mel3 Melody Chord Modes by stepping on the EDIT , and while held down, tap the C natural pad (hang) TWICE, THREE times for FOUR Times respectively. This C is on the second octave from the top.

If you let go of the footswitch and start the process again, hitting C will start the Mode changes from the beginning showing you the HANG, then Mel1, then Mel 2 etc.

VELOCITY SHIFT MODE
When you see this on the screen, you are in Velocity Shift Mode. In this mode, the sound switches between CONTROLLER ONE and TWO by how hard you play. You can set up the exact velocity point that the switch happens in the KIT AUX SCREENs.

You can access the VELS mode by stepping on the EDIT , and while held down, tap the E natural pad (layer) TWICE, second octave down from the top.

Alt. The Alt stands for Alternate Mode. In this mode, every time you hit the keyboard, the sound switches between CONTROLLER ONE and CONTROLLER TWO.

You can access the ALT mode by stepping on the EDIT , and while held down, tap the E

natural pad (layer) THREE TIMES second octave down from the top.

PRESSURE MODES
The malletKAT can detect continuous pressure on a pad. This gesture of applying pad pressure can be interpreted by the malletKAT to perform specific functions such as mallet dampening, dead stroking or aftertouch.

On the first line of the display on the far right of the screen, there are several choices of Pressure Modes. They are:

Norml, Dampn, Aftch and DeadS

Norml This represents the NORMAL Pressure Mode, where applying continued pressure causes notes to be sustained. (this is like pressing down on a keyboard). The note will shut off after the pressure from the mallet is released (and the gate time lapses)

You can access the Norml mode by stepping on the EDIT , and while held down, tap the G natural pad. This is the third octave down from the top.

If you are using a malletKAT EXPRESS, you will need to hold down the EDIT and the SUSTAIN ONE at the same time to tell the malletKAT that you are accessing third octave functions. Release the SUSTAIN once you enter the mode. If you have an EXPRESS with three octaves, you do not need to do this.

Dampn This represents the Dampen Pressure Mode, where natural dampening techniques cause individual notes to be quieted. This is like the dampen technique used on a vibraphone/vibraharp.

There are settings in the GLOBAL AUX Screens that change the sensitivity and reactions to your dampening strokes.

You can access the Dampn mode by stepping on the EDIT , and while held down, tap the A natural pad. This is the third octave down from the top.

If you are using a malletKAT EXPRESS, you will need to hold down the EDIT and the SUSTAIN ONE at the same time to tell the malletKAT that you are accessing third octave functions. Release the SUSTAIN once you enter the mode. If you have an EXPRESS with three octaves, you do not need to do this.

Aftch This represents the Aftertouch Pressure Mode, where applying continued pressure causes Aftertouch commands to be sent to your sound source. Aftertouch is continuous controller data that can be routed to do many different things within the sound module.

You can access the Aftch mode by stepping on the EDIT , and while held down, tap the B natural pad. This is the third octave down from the top.

If you are using a malletKAT EXPRESS, you will need to hold down the EDIT and the SUSTAIN ONE at the same time to tell the malletKAT that you are accessing third octave functions. Release the SUSTAIN once you enter the mode. If you have an EXPRESS with three octaves, you do not need to do this.

DeadS This represents the Dead Stroke Mode. This is a new feature in 6.0 which simulates the common dead stoke technique that is used with marimba and vibraphone players.

When a dead stroke gesture is detected, these notes are sent out on a different MIDI channel so that dead stroke samples can be accessed.

If you have a SAMPLER that has samples of marimba dead strokes, this mode will become invaluable. Unfortunately, this may be hard to come by. When an electronic instrument is made entirely on the dead stroke sound, this new feature in the malletKAT will be ready to represent this new articulation.

You can access the DeadS mode by stepping on the EDIT , and while held down, tap the A natural pad (dampen) TWICE. This is the third octave down from the top. The Dead Stroke gesture can also be creatively used to access different sounds on multiple channels that are transposed.

The Dead Stroke sends the note data to the actively kit assigned Reassignment Number (a Reassignment is a special keyboard layout arrangement where each note can be assigned to any note number along with it's own MIDI channel.

You can control the delay time before the Dead Stroke sounds in the Global Screens (Dead Stroke Count).

If you are using a malletKAT EXPRESS, you will need to hold down the EDIT and the SUSTAIN ONE at the same time to tell the malletKAT that you are accessing third octave functions. Release the SUSTAIN once you enter the mode. If you have an EXPRESS with three octaves, you do not need to do this.

CONTROLLER ONE and TWO CONTROLLER FUNCTIONS
On the second line of the Display, you will see the word "Controller" followed by 1 or 2. Whenever you edit the malletKAT, you will need to know what layer you are working on.

You can change what Controller you are using by stepping on the EDIT , and while held down, tap the INC or DEC pads (C# or D# on the highest octave). The display will show the current Controller Number.

You will also notice that to the right of the word Controller is yet another group of functions that tell the Controller how it is to function.

Every Setup has two Controller Layers, and each Layer can have its own assigned Function. Remember also that they can be layered in DOUBLE Mode or accessed independently in HANG Mode.

These are the Controller Functions:
Poly
Mono
RTC
RT+V
PTW
CTLA
CTLB
CTLC

Poly. This is the "standard default" Controller Function. This is for normal polyphonic playing. In this mode, you can play chords, melody, etc.

You can access the Poly mode by stepping on the EDIT , and while held down, tap the G natural pad. This G is on the second octave down from the top.

Mono. This setting is for Monophonic Playing. This mode is great for lead lines, or for simulating solo line instruments like flute or trumpet. Only one note will sound at a time in this mode.

There is also an Mono Overlap Setting for setting legato control (this overlaps notes together, programmed in milliseconds).

You can access the Mono mode by stepping on the EDIT , and while held down, tap the F natural pad. This F is on the second octave down from the top.

RTC. This stands for "Real Time Controller". This Mode turns the malletKAT into a massive knob turning machine. The "black" keys on the lower two octaves (one octave for the Express) are assigned a Continuous Controller Number. The "white" keys send out discreet values.

If you assign say C# as a volume control for your mixer, striking the white keys from left to right will raise the volume of that fader. This is a very powerful feature, and as of date, we are the only manufacturer implementing it on a keyboard controller.

You can access RTC by stepping on the EDIT , and while held down, tap the F natural (mono) pad TWICE. This is the second octave down from the top.

RTC + Velocity This stands for "Real Time Controller" plus Velocity. This is a special mode that allows for two controller numbers to be manipulated simultaneously. RTC is a horizontal control, meaning that values of a controller are affected by using the white keys, left to right.

Adding Velocity to this mode means that your playing dynamics, or vertical approach changes values to a controller. Playing soft or loud is interpreted as small or large controller values.

Details on this mode are in the "Editing the Screens" Chapter.

You can access RTC + V by stepping on the EDIT , and while held down, tap the F natural (mono) pad THREE times. This is the second octave down from the top.

You can get back to the other Modes on F natural by releasing the Edit , and then starting the process again.

The following Modes only function on CONTROLLER TWO. PTW / CTLA / CTLB / CTLC...

PTW. This mode is the PITCH WHEEL MODE. This turns CONTROLLER 2 into a massive pitch wheel. Unlike the RTC, the value of the white key returns to zero when the note is released. This simulates using a pitch wheel on a synthesizer. This mode is intended to be used in conjunction with CONTROLLER ONE, the actual sound, while CONTROLLER TWO imposes the pitch wheel effect on CONTROLLER ONE.

Details on this mode are in the "Editing the Screens" section.

You can access PTW by stepping on the EDIT , and while held down, tap the F natural (mono) pad FOUR times. This is the second octave down from the top. Remember that this setting only works on CONTROLLER TWO.

You can get back to the other Modes on F natural by releasing the Edit , and then starting the process again.

CTLA / CTLB and CTLC.
There are three VIRTUAL CONTROL WHEELS on the malletKAT. They are Control Wheels A, B and C.

These wheels can only be assigned to CONTROLLER TWO. Only one wheel can be activated per KIT. It is activated when the Sustain Two Footswitch is depressed. Like the PTW mode, the white keys on the malletKAT send out discreet wheel values.

Details on this mode are in the "Editing the Screens" Chapter.

You can access CTL by stepping on the EDIT , and while held down, tap the F natural (mono) pad FOUR, FIVE, SIX or SEVEN times respectively. This is the second octave down from the top.

You can get back to the other Modes on F natural by releasing the Edit , and then starting the process again.

INSTRUMENT NAMES / KIT NAMES / NONE
On the third line of the display, you can choose one of three options for what will be displayed on that line. This option is decided in the GLOBAL SETTINGS (screen #64, Program String Names). Choices are:

INSTRUMENT NAMES. These are the General MIDI Program Names. In the Factory Kits, you cannot change these names. The Instrument Names correspond to the Program Numbers that have been assigned to them.

If you have a General MIDI sound module, the INSTRUMENT NAMES on the malletKAT display will automatically correspond to the screen names and sounds of your synth.

If you are using a non standard sound source, or a different sound bank on a GM compatible synth, the names will NOT correspond. You should then go to the USER KITS and use the KIT NAME option, or just ignore the name of the KIT in the FACTORY KIT setting.

KIT NAMES In the USER KITS on the malletKAT, you can choose to name your own kits. This is helpful when creating a KIT that has combinations of sounds in them. This mode should be used if you are using a sound source that is not GM compatible.

This option is decided in the GLOBAL SETTINGS (screen #64, Program String Names).

The KIT NAME is the same for BOTH CONTROLLERS. The length of the name can be a total of 12 characters. It is programmed in the KIT AUX screens (#00) See "Editing the Screens" for details.

NONE It is also possible not to have any KIT name strings in a SETUP. This can be useful because screen lines 3 and 4 then display channel, volume and program number information for Both CONTROLLER ONE on line three and CONTROLLER TWO on line four.

If KIT NAMES or INSTRUMENT NAMES are chosen, line four displays information only for one CONTROLLER. You can decide which controller is being displayed by stepping on the EDIT and while held down hit the C# Decrement or D# Increment Pad on the highest octave. While in EDIT, you will see the words "Edit Controller One" or "Edit Controller Two" on the display. When you release the footswitch and are back in Play Mode, whatever CONTROLLER you chose will display its number on the second line. The data on the fourth line (explained below) will be information about that Controller.

THE FOURTH LINE **BANK, PROGRAM and VOLUME INFO**
There is much information packed on the fourth line of the display.

First, is the MSB, LSB Bank Change information. You will see a number like this: B 01-02. The B stands for BANK, the first number 01 is the MSB number. The dash separates the LSB number from the MSB.

Please read in the AUX Screens Chapter more information about Bank Change Commands.

Following the Bank Number Display is the letter P followed by a number. This is the PROGRAM CHANGE number. There are 127 Program Change numbers available, each number representing a sound on your synth.

Finally there is the letter V. This represents the Volume Number.

As you can see, each kit in the malletKAT stores a Bank, Program and Volume Number. It acts like a mixer, completely setting up your synth with the right sound and the right volume. You'll almost never need to touch the sound module.

Chapter Three
EDITING THE MALLETKAT

GENERAL EDITING CONCEPTS

The malletKAT PRO has no buttons or knobs for changing settings. All changes in the malletKAT PRO's settings are done with the Playing Pads. That is why the Pads have names like Setup, Octave, and Channel, etc. below them. You can make all of your changes without having to put your mallets down!

The malletKAT PRO has two main operating modes: PLAY MODE and EDIT MODE.

You are in PLAY MODE when you are not depressing the EDIT Footswitch. In PLAY MODE, your Pads play sounds. The screen says Play Mode on the display along with other important information.

You are in EDIT MODE whenever you are depressing the EDIT Footswitch. In EDIT MODE, your Pads all perform the Editing functions that are written below the Pads themselves.

HOW TO EDIT:

The process of Editing goes like this:
• Depress the EDIT and Keep it Down then..
• Select Controller 1 or 2 by hitting the INC/DEC Pads (C# - D# on top octave). This sets up what Layer you are Editing.
• Select the Function you want to edit by hitting a "white" key. The name of the function is underneath the white note.
• Use the INC/DEC Pads to change the Value or use the Black Keys as a numeric pad. (The numbers are under the black keys (not shown on Express).
• Release EDIT . That's it! Get into EDIT MODE with the EDIT , select a setting to change, change it, and release the EDIT . Now, for some examples.

EXAMPLE 1: Change the "Octave" setting for Controller 1.

1. Depress the EDIT . The Screen will look like:
   Setup 01 (01-127) Edit Controller1(or 2)

2. Use the C# or D# pads (INC/DEC) on the highest octave to change Controller number if it is not set to 1.

3. Hit "Octave" (the "E" of the highest octave of your 3-octave malletKAT PRO). Screen looks like this: Setup 01 Edit Controller 1 Octave 08 (00-14)

4. Hit the INC/DEC pads to set the octave range of the Kit. It can be set to any octave range from 00 to 14, depending on the sound selected. Each time you strike these value keys, the keyboard changes one octave up or down.

5. Release the EDIT . The Screen will return to the PLAY MODE screen. The sound of instrument will now sound an octave higher or lower.

EXAMPLE 2: Changing the MIDI CHANNEL from 01 to 02

1. Depress the EDIT . The Screen will look like: Setup 01 (01-127) Edit Controller1(or 2)

2. Hit B natural on the second octave from top (it says Channel on the bottom) Setup 01 Edit Controller1 Channel 01

3. Hit the INC Pad (D#) once. The bottom line changes to Setup 01 Edit Controller1 Channel 02

4. Release the EDIT . The Screen will return to the PLAY MODE screen – Controller One is now sending on MIDI CHANNEL 2.

EDITING PAD LAYOUT
Underneath the "white" keys of the malletKAT are the BASIC listings of FUNCTIONS. When you step on the Edit and hit one of these pads, the name of that FUNCTION appears. When it does, you simply use the INC/DEC pads to change the values.

On the EXPRESS, you will need two footswitches to get at the EDIT FUNCTIONS normally found on the third octave. See "Edit Mode on the malletKAT EXPRESS" in the "Good Things to Know" chapter.

On some "white" keys, repeated hits call up different functions. On the malletKAT PRO, you can also use the "black keys" as a numeric input instead of the INC/DEC pads. The EXPRESS has limited access to this feature.

FUNCTION LISTINGS HIGHEST OCTAVE
C = Setup Number
D = Gate Time Settings forward = (Roll Mode, Velocity Gate)
E = Octaves
F = Minimum Velocity Setting
G = Maximum Velocity Setting
A= Velocity Curve
B = Volume Setting
C (highest) = Program Change
C# = Decrement
D# = Increment
F# = Default
G# = S.Copy
A# = Cancel
Function Pad 1 = Backwards
Function Pad 2 = Forwards

MIDDLE OCTAVE
C = Hang Mode, Melody Chord 1, Melody Chord 2, Melody Chord 3 Modes
D = Split Mode
E = Double, VEL Shift, ALT Mode
F = Monophonic Mode , RTC, RTC+Velocity (Layer two PTW, CTLA,CTLB, CTLC
G = Polyphonic Mode
A= Transpose Mode
B = MIDI Channel
C# = 6 number
D# = 7 number
F# = 8 number
G# = 9 number
A# = 0 number

LOWER OCTAVE
C = All Notes Off, Individual All Notes Off
D = Global Auxiliary Functions
E = Kit Auxiliary Functions
F = Bank Select (Factory, User, Chain)
G = Normal Pressure Mode
A= Dampen Stroke, Dead Stroke
B = Aftertouch Mode
C# = 1 number
D# = 2 number
F# = 3 number
G# = 4 number
A# = 5 number

EDITING PAD DESCRIPTIONS
HIGHEST OCTAVE

CHANGING VALUES Use the C# pad (highest octave) for Decrement (lowering the value)
Use the D# pad (highest octave) for Increment (raising the value)

Use these two pads for changing the value of the function that is called up in Editing. Each strike of the pad increases or decreases the value of "blinking" value by one.

These pads also toggle between Controller One and Controller Two when you first enter EDIT Mode by stepping on the Edit footswitch .

You can also change the value of a function by using the numeric pads (black keys of middle and lower octaves). Just use these pads to enter the number. It automatically loads in.

DEFAULT = F# pad (highest octave)

The malletKAT PRO can automatically place in a default value for every function when you are editing. This means that when you call up a function, rather than having to guess what number to input, striking the F# pad while the function value is blinking will load in a basic "default" or normal value.

Using the Defaults will make using the malletKAT PRO even easier for you. Whenever you want to make a new Setup, you can dump in the Defaults so that you can start out with the Setup already close to your liking. This is especially true since you can even change the Defaults to whatever your preferences are.

The Default values (for Setup settings) themselves may be changed at any time. To do this, the "Default" pad must be the first pad hit after the Edit is depressed. From this point on, as long as the Edit is held down, the values that are being edited are the Default values instead of the Function settings themselves.

For Example: Let's change the Default value for Channel to 4.
1. Depress the Edit and keep it depressed during the following.
2. Hit the "Default" Pad, (F# on the highest octave).
3. Hit the "Channel" Pad, (D on the highest Octave).
4. Hit the "4" Pad, (G# on the lowest octave of the malletKAT PRO).
5. Release the Edit .

Note, you have not changed the value of Channel in any of your Setups. You have only changed the Default for Channel. From now on, when you hit Default while looking at a Channel setting, the value "4" will be put in for the Channel in that Setup. Let's continue the example by showing that:

1. Depress the Edit and keep it depressed during the following.
2. Hit the "Channel" Pad, (D on the highest Octave).
3. Hit the "Default" Pad, (F# on the highest octave). Note that the Channel has been changed to "4".
4. Release the Edit .

Now you have changed the current Setup Channel setting (for one of your Controllers).

To put your Channel back to the Channel you want (and put Default setting to the Channel you want) do steps 1 to 9 above again, except at step 4 put in the Channel number you want to use. Now you should put in the Defaults for all the values you use. This will make all of your future Setup editing easier because you can set up most the of values quickly by using the Defaults.

If you put in a Default Setup when you start editing a Setup, all of your Personal Defaults will be inserted for you. To load in a Default Setup, simply:

1. Depress the Edit and keep it depressed during the following.
2. Hit the "Setup" Pad, (C on the highest octave).
3. Hit the "Default" Pad, (F# on the highest octave).
4. Release the Edit . Now this Setup has all of your defaults loaded into it.

The Default for Program Change is always the # of the Setup you are in. Therefore, you are unable to change the Default for Program Change.

The Default for Gate Time for Controller 2 in Hang Mode is always "Infinite." The Default Gate Time for Controller 1 and for Controller 2 in Split and Double (Layer) is user definable.

If you change one of your Defaults for a particular setting and want to get it back to the original Factory setting, the method is as follows: <Edit foot down> <Default> <setting> <Default> <Edit foot up>
For example, if you want to return the Default for Minimum Velocity to the original Factory setting:
1) Depress the Edit and keep it depressed during the following.
2) Hit the "Default" Pad, (F# on the highest octave).
3) Hit the "Minimum Velocity" Pad (F on the highest octave).
4) Hit the "Default" Pad again, (F# on the highest octave).
5) Release the Edit .

Now the Default for Minimum Velocity has been returned to the original Factory setting.

SETUP COPY = G# (highest octave)
This function allows you to copy the current FACTORY or USER Setup to any other USER SETUP number.

To do this, perform the following steps:
1. Hit the SETUP COPY pad (G# on the highest octave) while the Edit is pressed.
2. Enter the digits of the Setup Number to which you would like to copy the current setup by using the INC/DEC Keys.
3. Hit the SETUPCOPY pad again to see the confirmation screen.
4. Hit the SETUP COPY pad a third time to perform the copy. After the copy is performed, the SETUP that you copied to is the CURRENT Setup

Cancel = A# (highest octave)
To recover from unwanted changes, simply hit the CANCEL pad (A# on the Highest Octave). Changes that you have made to a Setup may be undone as long as you have not gone away from this Setup to another one.

Function Pad 1 = Backwards
Function Pad 2 = Forwards

These are the little pads on the far right of the malletKAT. In PLAY MODE, hitting the pads allow you to ADVANCE or go BACKWARDS to the next Setup. You need to hit them twice to start the Setup changing, but once you do, one hit moves the Setup one kit back or forwards.

When the TAP TEMPO / GROOVE is ENABLED, hitting the BACWARDS pad twice with the EDIT Footswitch down will determine the new Tempo. The screen will display the new tempo after the pad is struck twice.

When the TAP TEMPO/ GROOVE is Enabled, hitting the FORWARD pad toggles the GROOVE ON or OFF.

SEE the GROOVE Section in the Global Screen Chapter.

In EDIT MODE these pads allow you to advance backwards or forwards to the next cursor position on the screen and also to advance backwards or forwards to the next screen (examples; Global Aux Screens, Kit Aux Screens, Gate Time Screens, etc)

SETUP NUMBER = C (second highest C)
A SETUP is an entire collection of settings that defines one "kit" of the malletKAT Pro. There are 128 USER SETUPS and 128 FACTORY SETUPS in the malletKAT. A Setup consists of MIDI Channels, Gate Time Setting, Velocity Settings, Program Number, Etc.
GATE TIME CONTROL
GATE Time
VELOCITY Gate
ROLL Mode
AUTO Gate
FC Gate
INFINITE Gate LATCH Performance Mode

The many different ways to control GATE on a malletKAT makes this instrument incredibly expressive. Understanding these different settings will help you to create nuance in your performance.

GATE TIME Settings = D (highest octave) 10mS – 6.100 seconds. Gate Time is the amount of time the malletKAT holds down or sustain notes for you.

Generally, Gate Time is a measure of how long the sound should sustain. After the malletKAT Pro sends a "note on" command, the malletKAT will wait this length of time before sending a "note off" command. For synths, tone generators and samplers, this is an important setting. For many drum machines, this setting has no effect. When a Gate Time has no effect, it should be set to a fast value (0.015 milliseconds).

Different Gate Times will give you different lengths of time for the sustain of the notes. For very short Gates times, the value choices are in 5 mS increments. For medium times the resolution is 25 mS, while at long times (>2seconds), the resolution is in 100 mS increments. The varying resolution allows you to have accurate resolution where it counts most (short times) and also the ability to select very long times.

You can manually control individual sound sustain by continuing to hold down on a pad (except in Dampen/DeadStroke Mode). If you are going to do this, you should raise the minimum velocity of the pads up because dynamics on the pads are measured in the first 2 milliseconds of your contact with the pad. On a Staccto hit, this is fine. However, if you are trying to press down on a pad in a "sustaining way", your "push" has not amounted to much in the first 2mS.

You also control varying the sustain of the notes you play by using the Sustain footswitch. It is the most natural mechanism to use as it operates like a vibe pedal. The Gate Time sets the minimum sustain- which you can extend longer with the sustain pedal or by manually holding individual notes down.

AUTO VELOCITY TO GATE = D (highest octave)
You can control the Gate Time of a sound by how hard you hit the pad.

Hit the Gate Pad (d natural) and use the INC/DEC pads to find the VELOCITY Gate time setting (past 6.100 seconds)

After setting the Gate Time to VELOCITY, hit the RIGHT FUNCTION PAD (P2) Twice to get to the Min/Max Velocity Settings.

 If the gate is set to VELOCITY, the length of each note is determined by the velocity of each hit. The range of the gate is determined by this AUXiliary Screen which sets the Minimum and Maximum Range of the Gate Times. Reverse settings are legitimate (the harder the hit, the smaller the gate time). The range of the Velocity Gate time is .10 to 6.100 seconds.

ROLL MODE = D (highest octave) Enter the Gate Time Mode (edit footswitch and d natural), then hit the RIGHT FUNCTION PAD Once. You can then Toggle ON/OFF the ROLL MODE Feature.

When ROLL MODE is turned on, individual notes can be polyphonic if the same note is played rapidly (thus eliminating the "machine gun effect" of certain sounds. Six Seconds after the rapid playing stops, a note off message is sent and will shut off all of the individual note "on"s. Please note that some sound sources will not "like" this function. If notes get stuck on in this mode, you must keep the Toggle set to OFF.

Loop Latch/ Group Performance Mode. Set the gate time to Latch. The keys of the malletKAT do NOT play normally. The black keys turn on notes, while the white keys below the black ones turn OFF the black notes. In other words F# plays the note with no gate time.

The F natural below the F# turns that note off. Same for G#, A# with G and A shutting the sharp notes off.

GROUP LATCH. Hitting the Hi C will shut off ALL loops. Hit the Hi C again, and the loops toggle back on. If a sharp key is struck again, the Hi C resets and remembers only the sharp keys struck after hitting the Hi C.

AUTO GATE MODE This is found in the KIT AUX Screens # 60. When AUTOGATE is enabled, the gate time is affected by how fast you play by the amount programmed on this screen. The Overlap setting on the display is the amount of time the shortened note will play before being turned off, measured from when the last note was hit.

FOOT CONTROLLED GATE
The Gate Time of a sound can now be controlled by the position of the controller pedal.

When the Gate Time is set to GATE FC1 or GATE FC2, the position of the pedal determines the length of the sound. The range of the gate time (minimum and maximum) is set by first calling up the gate time screen in edit mode, setting the time GATE FC, then while holding down the edit , tap the right function pad twice (past the roll mode screen). It is here that the minimum and maximum ranges are set.

INFINITE MODE = D (highest octave) Enter the Gate Time Mode (edit footswitch and d natural), then use the INC/DEC pads to find the INFINITE setting (past 6.100 seconds).

This setting is specifically for Controller 2 when using HANG mode. When the gate time is set to INFinite, the Sustain 2 acts like a GATE TOGGLE. When the Sustain 2 is held down, the notes from CONTROLLER 2 are played. They will continue to play...to HANG, until the footswitch is held down again.

See also HANG MODE for more information on the use of INFINITE Gate.

OCTAVES = E (highest octave) Range 00-14 This function sets the pitch range of the Controller. Each time you raise or lower the number, the entire note range of the sound goes up or down one octave.

MINIMUM VELOCITY SETTING = F (highest octave) Range 00-127 This setting determines how loud your softest hits will sound. Lowering this number will make your soft hits sound softer. Raising this number will turn even soft hits into loud sounds (if the maximum velocity is set to max, 127)

MAXIMUM VELOCITY SETTING = G (highest octave) Range 00-127 This setting determines how loud your loudest hits will sound. Lowering this number will make your loud hits sound softer.

VELOCITY CURVE = A (highest octave) Range 01-11 This setting determines how the loudness of a sound varies as your hits go from soft to hard. It determines how fast a sound goes from the minimum velocity setting to the maximum velocity setting as you play from soft to hard.

Some curves work in reverse. The harder you play, the softer the sound gets. See the Appendix for Velocity Curve Documentation.

VOLUME SETTING =B (highest octave) Range 00-127 This setting determines the overall volume of a patch on your sound source. When you enter a KIT SETUP, the volume command is sent to your synth. This acts like a MIDI Mixer, so you can control the volume of sound from patch to patch.

The volume will be overridden by the Foot Controllers if you are using them to control volume.

PROGRAM CHANGE SETTING =C (highest octave) Range 00-127 This setting selects a sound or set of sounds on your sound source in conjunction with the BANK SELECT # command found in the KIT AUX SCREENS #3 and 4. There are usually 128 sounds in a BANK. This screen sends a program change within the Bank selected.

MIDDLE OCTAVE

HANG MODE =C (on MIDDLE OCTAVE) Hang Mode is one of the LAYER MODEs on the malletKAT. Layer Modes tell the malletKAT how to control its sound layers. These sound layers are called CONTROLLER ONE AND CONTROLLER TWO. Hang Mode is a default setting, because the main sound is generated by CONTROLLER ONE

In this mode, when you are normally playing on the malletKAT, you will hear the sound being controlled by CONTROLLER ONE. When you step on the SUSTAIN TWO , the malletKAT switches to the sound being controlled by CONTROLLER TWO. In its default setting, CONTROLLER TWO sound plays indefinitely, (it HANGS) until you step on the SUSTAIN 2 again. This allows you to play suspended sounds underneath while you are playing on the sounds from CONTROLLER TWO.

You can access the HANG mode by stepping on the EDIT Footswitch, and while held down, tap the C natural, second octave down from the top.

MELODY CHORD MODE =C twice...four times (on MIDDLE OCTAVE) Mode One, Mode Two, Mode Three. MELODY CHORD MODE is one of the LAYER MODEs on the malletKAT. Layer Modes tell the malletKAT how to control its sound layers. These sound layers are called CONTROLLER ONE AND CONTROLLER TWO. There are three MELODY CHORD MODE variations.

When you see any of these on the first line (Mel1, Mel2, Mel 3), you are in Melody Chord

Mode. These modes tell the malletKAT what sound to play (from Controller One or Controller Two) depending on how many notes are being played simultaneously. It gives one the ability to play one sound as a melody line and another as an accompaniment sound simply by playing individual notes or chords.

There are three variations of the Melody Chord Mode. Each Mode varies slightly on where to send the notes when it sees a chord. It is always best to experiment and listen to the differences and see which Mode will work best for you.

MODE ONE: MEL1
If a chord is detected (two notes played within the time set in Global Screen #77), the first note of the chord is played on both layers

Example: You have a marimba on Layer one and a vibe sound on Layer Two. As you start to play a single line, you hear the marimba sound. When you play a C chord, (the high C is the first note struck on the chord). The malletKAT will play the High C on both the vibes and marimba sound, and the rest of the chord is played on the marimba sound only.

MODE TWO: MEL2
If a chord is detected, all notes are played on both layers. The malletKAT temporarily jumps to DOUBLE or LAYERED MODE. As soon as a single note is played, only the first Layer will play. MODE THREE: MEL3 When a chord is detected, the first note of the chord will be played on Layer One. All subsequent notes of the chord will play on Layer Two.

You can access the Mel1, Mel2 or Mel3 Melody Chord Modes by stepping on the EDIT Footswitch , and while held down, tap the C natural pad (hang) TWICE, THREE times for FOUR times respectively. This C is on the Middle octave of a three octave malletKAT.

If you let go of the footswitch and start the process again, hitting C will start the Mode changes from the beginning showing you the HANG, then Mel1, then Mel 2 etc. This Mode is turned off when Double, Split or RTC Modes are selected.

A Sensitivity Control is provided in Global Screen #77. This parameter determines how close a pair of notes must be to be considered part of a chord. The lower the number, the lower the latency. This is because the malletKAT has to wait until the programmed time has elapsed to determine if you are playing a single note or chord.

This concept was first conceived on the Marimba Lumina, developed by programmer Mark Goldstein. Mark being the gentleman that he is, a true friend and lover for the advancement of electronic percussion, has allowed me to take his concept and use it on the malletKAT. Thank you again, Mark!

SPLIT MODE =D (on MIDDLE OCTAVE) Splt. The SPLIT Mode allows the malletKAT to play two sounds without having to step on the SUSTAIN Two . Each of the sounds from CONTROLLER ONE and TWO can have their own SPLIT point on the keyboard. This means

that the two sound layers can overlap or split. It is even possible to have "dead" notes between the two SPLIT Zones.

You can access the Splt mode by stepping on the EDIT Footswitch, and while held down, tap the D natural, second octave down from the top. Both Controller One and Two need to have their own split points assigned in order for this function to work properly.

Please note that each Controller must be on a different MIDI channel in order for the SPLIT function to have two different sounds. Each Controller should assign its own program change and octave range in order to get the full potential of this mode.

DOUBLE MODE =E (on MIDDLE OCTAVE)
Doub. Double is one of the LAYER MODEs on the malletKAT. Layer Modes tell the malletKAT how to control its sound layers. These sound layers are called CONTROLLER ONE AND CONTROLLER TWO.

Double Mode means that both CONTROLLER ONE AND TWO are active across the entire malletKAT. Both sounds are layered on the instrument at the same time.

You can step on the Sustain One to control the sustaining of both sounds at the same time in the KIT AUX Screens.

You can access the Doub mode by stepping on the EDIT Footswitch, and while held down, tap the E natural, second octave down from the top.

VELOCITY SHIFT MODE=E twice (MIDDLE OCTAVE)
VEL S. This screen informs you that you are in Velocity Switch Mode. In this mode, the sound switches between CONTROLLER ONE and TWO by how hard you play. You can set up the exact velocity point that the switch happens in the KIT AUX SCREENs, Velocity Switch Point Screen 63.

You can access the VEL S mode by stepping on the EDIT Footswitch, and while held down, tap the E natural pad (layer) TWICE, second octave down from the top.

ALTERNATE MODE =E three times (on MIDDLE OCTAVE)
Alt. The Alt stands for Alternate Mode. In this mode, every time you hit the keyboard, the sound switches between CONTROLLER ONE and CONTROLLER TWO.

You can access the ALT mode by stepping on the EDIT Footswitch , and while held down, tap the E natural pad (layer) THREE TIMES, second octave down from the top.

MONOPHONIC MODE =F (on MIDDLE OCTAVE)
Mono. This setting is for Monophonic Playing. This mode is great for lead lines, or for simulating solo line instruments like flute or trumpet. Only one note will sound at a time in this mode.

You can access the Mono mode by stepping on the EDIT Footswitch, and while held down, tap the F natural pad. This F is on the second octave down from the top.

MONO NOTE OVERLAP Short Cut = # 6 Parameters = Disabled, .010 - .310 second Mono Note Overlap is a setting in the KIT AUX Screens.

When using a monophonic sound, sometimes the monophonic effect doesn't sound as smooth as you like. To get more of a legato effect, this setting allows the old note to play for a short time after the new note has been struck. The old note will finally get shut off after the NOTE OVERLAP times elapses. This enhances the authenticity of playing single line instruments, such as the flute.

Some synths do not respond well to this setting. If notes get stuck on, lower the overlap time. If notes still get stuck on, you will need to disable this feature for your particular synth.

RTC REAL TIME CONTROL MODE =F twice (on MIDDLE OCTAVE)

RTC. This stands for "Real Time Controller". This Mode turns the malletKAT into a massive knob turning machine. The "black" keys on the lower two octaves (one octave for the Express) are assigned a Continuous Controller Number. The "white" keys send out discreet values.

If you assign say C# as a volume control for your mixer, striking the white keys from left to right will raise the volume of that fader. This is a very powerful feature, and as of date, we are the only manufacturer implementing it on a keyboard controller.

You can access RTC by stepping on the EDIT , and while held down, tap the F natural (mono) pad TWICE. This is the second octave down from the top.

RTC + VELOCITY =F three times (on MIDDLE OCTAVE)
RTC + Velocity This stands for 'Real Time Controller plus Velocity. This is a special mode that allows for two controller numbers to be manipulated simultaneously. RTC is a horizontal control, meaning that values of a controller are affected by using the white keys, left to right. Adding Velocity to this mode means that your dynamics, or vertical approach changes values to a controller. Playing soft or loud is interpreted as small or large controller values.

You can access RTC + V by stepping on the EDIT Footswitch, and while held down, tap the F natural (mono) pad THREE times. This is the second octave down from the top.

You can get back to the other Modes on F natural by releasing the Edit , and then starting the process again.

The following Modes only function on CONTROLLER TWO.

PITCH WHEEL MODE = F four times (on MIDDLE OCTAVE)

PTW. This mode is the PITCH WHEEL MODE. This turns CONTROLLER 2 into a massive pitch wheel. Unlike the RTC, the value of the white key returns to zero when the note is released. This simulates using a pitch wheel on a synthesizer. This mode is intended to be used in conjunction with CONTROLLER ONE, the actual sound, while CONTROLLER TWO imposes the pitch wheel effect on CONTROLLER ONE.

You can access PTW by stepping on the EDIT Footswitch.
While held down, tap the F natural (mono) pad FOUR times. This is the second octave down from the top. Remember that this setting only works on CONTROLLER TWO.

You can get back to the other Modes on F natural by releasing the Edit , and then starting the process again.

Layer #2 (only) can be set to PTW mode by hitting the MONO key four times with the EDIT depressed. The PTW functionality is accessed by pressing FSW #2 (HANG pedal) and striking or pressing the keys.

The Master Octave is reserved for Special Functions F#3 (slew speed) G#3 (portamento mode) A#3 (reset) C#3 decrement key D#3 increment key

When the F#3 (slew speed) pad is struck (with Hang Pedal Down), the slew value is displayed, and remains there until the F#3 pad is struck again. This acts like a toggle. The idea here is that after you strike the F#3 pad, you will then use the C#3 and D#3 pads to program your slew rate. Once you have finished, hit the F#3 pad again to begin playing.

The white keys are each assigindividual notes offned a Pitch Wheel controller value from 0-127 in the following manner.
C0 = 0 (min. controller value)
F1 = 64 (neutral controller value)
G1 = 64 (neutral controller value)
C3 = 127 (max controller value)

Keys positioned between those described above are assigned intermediate values.

If Portamento is OFF, striking a key will immediately send the controller value assigned to that key. The neutral Pitch Wheel value is sent when both the pad and the HANG pedal are released.

If Portamento mode is ON, striking or holding a key will slew up or down to the value assigned to that key for as long as the key is pressed OR until the Gate Time Value has expired. If the key pressure is released or when the gate time ends, the controller values will slew back to the neutral value.

When a white key is struck with the mallet, the malletKAT holds that pad down as determined by the GATE TIME. After the gate time has expired, the slew returns back to "0" at the determined slew rate when the HANG pedal is released. If the HANG pedal is still pressed when the max/min value is reached, the return slew sequence will not occur until it is released. Whenever the HANG pedal is released, the slew sequence returns to the neutral value (determined by gate time)

PTW TIPS
In order to hear the sustain sound, you must have sustain one pedal down. When you release the Hang pedal, the slew sequence returns to the neutral value at a duration of the programmed gate time of controller 2. Make the gate time settings small so that when you release the Hang Pedal, you will have normal pitches being played on controller one.

If you continue to press on a white key after releasing the HANG PEDAL, the pitch bend continues until that key is released.

Holding the pad down has the same effect as holding the HANG pedal down.

VIRTUAL CONTROL WHEEL = F 5...7 times (on MIDDLE OCTAVE)
Control Wheel A / Control Wheel B / Control Wheel C
There are three VIRTUAL CONTROL WHEELS on the malletKAT. They are Control Wheels A, B and C. In the Global Screens, you assign what controller number (1-127) you want to assign onto the Virtual Wheel.

VIRTUAL CONTROL WHEEL A,B,C CONTROLLER NUMBER
Short Cut = # 63, 17, 18 Parameters = CC#00-127
The Virtual Control Wheel Function on the malletKAT turns Controller Layer 2 into a Programmable Control Wheel. Unlike RTC, the value of the white keys return to zero when the note is released. This simulates using a Pitch Wheel on a Synthesizer. This Mode is intended to be used in conjunction with Layer One, the actual sound, while Layer 2 imposes the Controller effect on Layer One.

Layer #2 can be set to CTLC mode by hitting the MONO key Five times with the EDIT Footswitch depressed. The CTLC functionality is accessed by pressing Footswitch #2 (Hang pedal) and striking or pressing the keys.

The Master Octave is reserved for Special Functions
F#3 (slew speed)
G#3 (portamento mode)
A#3 (reset)
C#3 decrement key
D#3 increment key

When the F#3 (slew speed) pad is struck (with Hang Pedal Down), the slew value is displayed, and remains there until the F#3 pad is struck again. This acts like a toggle. The idea here is

that after you strike the F#3 pad, you will then use the C#3 and D#3 pads to program your slew rate. Once you have finished, hit the F#3 pad again to begin playing. The white keys are each assigned a Pitch Wheel controller value from 0-127 in the following manner.
C0 = 0 (min. controller value)
F1 = 64 (neutral controller value)
G1 = 64 (neutral controller value)
C3 = 127 (max controller value)

Keys positioned between those described above are assigned intermediate values.

If Portamento is OFF, striking a key will immediately send the controller value assigned to that key. The neutral Pitch Wheel value is sent when both the pad and the HANG pedal are released.

If Portamento mode is ON, striking or holding a key will slew up or down to the value assigned to that key for as long as the key is pressed OR until the Gate Time Value has expired. If the key pressure is released or when the gate time ends, the controller values will slew back to the neutral value.

After the gate time has expired, the slew returns back to "0" at the determined slew rate when the HANG pedal is released. If the HANG pedal is still pressed when the max/min value is reached, the return slew sequence will not occur until it is released. Whenever the HANG pedal is released, the slew sequence returns to the neutral value (determined by gate time)

These wheels can only be assigned to CONTROLLER TWO. Only one wheel can be activated per KIT. It is activated when the Sustain Two Footswitch is depressed. Like the PTW mode, the white keys on the malletKAT send out discreet wheel values.

You can access CTL by stepping on the EDIT , and while held down, tap the F natural (mono) pad, FIVE, SIX or SEVEN times respectively. This is the second octave down from the top.

You can get back to the other Modes on F natural by releasing the Edit , and then starting the process again.

POLYPHONIC MODE = G (on MIDDLE OCTAVE)
Poly. This is the "standard default" Controller Function. This is for normal polyphonic playing. In this mode, you can play chords, melody, etc.

You can access the Poly mode by stepping on the EDIT Footswitch, and while held down, tap the G natural pad. This G is on the second octave down from the top.

TRANSPOSE MODE = A (on MIDDLE OCTAVE)
You can change the pitch range of either controller -12 to +12 semitones. This changes the pitch in half steps.

NUMERIC INPUT VALUES

Use these pads (the "black" keys) to quickly input a number into a function.

C# = 6 number
D# = 7 number
F# = 8 number
G# = 9 number
A# = 0 number

Octave Lower
C# = 1 number
D# = 2 number
F# = 3 number
G# = 4 number
A# = 5 number

LOWER OCTAVE (3rd Octave)

ALL NOTES OFF, INDIVIDUAL ALL NOTES OFF =C

There are two kinds of ALL NOTES OFF in the malletKAT. The first is an abbreviated version of all notes off. Press the Edit Footswitch and the Low C ONCE, to initiate the all NOTES off.

If any notes are still stuck on, hit the Low C TWICE. This will send an individual **ALL NOTES OFF** to every note on every channel. This will take several seconds to complete.

GLOBAL AUXILIARY FUNCTIONS =D There are many Global Function Parameters that are in the malletKAT. There is an entire chapter "GLOBAL AUXILLARY SCREENS" that will describe each of these functions. These functions effect the entire instrument, regardless of what SETUP you are using.

There are three ways to get into the "tunnel" of screens
1. Press the Edit Footswitch , press the D natural pad, then use the Backwards, Forwards pad to navigate to the function that you are looking for.
2. Press the Edit Footswitch , press the D natural pad, then enter the screen page number using the number pads (black keys). There is a SCREEN SHORTCUT chapter that lists all of the shortcut numbers.
3. Press the Edit Footswitch , press the D natural pad TWICE. In most cases it will automatically go to the last Global Screen that you were editing.

KIT AUXILIARY FUNCTIONS = E

There are many KIT Function Parameters that are in the malletKAT. There is an entire chapter "KIT AUXILLARY SCREENS" that will describe each of these functions. These functions affect only the SETUP that you are editing. Every SETUP has its own values for each KIT AUXILLIARY Function.
There are three ways to get into the "tunnel" of screens
1. Press the Edit Footswitch, press the E natural pad, then use the Backwards, Forwards pad

to navigate to the function that you are looking for.

2. Press the Edit Footswitch, press the E natural pad, then enter the screen page number using the number pads (black keys). There is a SCREEN SHORTCUT chapter that lists all of the shortcut numbers.

3. Press the Edit Footswitch , press the E natural pad TWICE. In most cases it will automatically go to the last Global Screen that you were editing.

BANK SELECT = F

The Bank Select Function allows you to alternate between the FACTORY KITS, the USER KITS and the CHAIN FUNCTION. When you first press on the F pad with the Edit Footswitch held down, you will see the current KIT or Chain selection. To change to KIT types or to go to CHAIN, use the INC/DEC keys. When you see the KIT type that you want, release the footswitch.

On the Screen in Play Mode, you will see on the first line on the far left an 'F' followed by a number. i.e. F01, a 'U' followed by a number. i.e. U21 or a 'C' followed by a number. These letters represent that you are in F for Factory Kits, U for User Kits and C for Chains.

FACTORY KITS

There are 128 FACTORY KITS in the malletKAT. These are factory presets that can not be permanently edited unless you copy them to a User KIT. These kits adhere to the GENERAL MIDI PROGRAM Mapping. This means that if your sound module has a GM LOGO on it, then the instrument names on the malletKAT will match the names on your synthesizer.

Use the FORWARDs / BACKWARDS pads to find the KIT you want, or input the Kit Number you want by using the SETUP pad and number.

USER KITS

There are 128 USER KITS in the malletKAT. You can name these kits to whatever description you like. You can also change any parameter and save them as your own.

At Alternate Mode, these Kits have been preset to work with the Kurzweil PC2R, theYamaha Motif ES or the Ketron SD2. When you turn on the malletKAT, look at the version number. If you see a K in there, its for Kurzweil. If you see a Y, it's been preset for the Yamaha.

You can load in SYSEX presets into the USER KITS. We have them on our website in the download section. You can also load in your own USER KITS.

Use the FORWARDs / BACKWARDS pads to find the KIT you want, or input the Kit Number you want by using the SETUP pad and number.

CHAINS

There are 16 Chains in the malletKAT. Each Chain is a collection of USER KIT Setups that you can arrange in any order that you like. This is a great way to organize your sounds in groups.

There are 16 Setups per CHAIN. You can move from CHAIN to CHAIN by Stepping on the Edit Footswitch, Press on the Global D natural pad, then use the INC/DEC pad to find the chain that you want.

Use the FORWARDs / BACKWARDS pads to find the KIT you want within that CHAIN.

If you input the Kit Number by using the SETUP pad and number pads, you can temporarily play on a USER KIT OUTSIDE of the CHAIN. As soon as you use the INC/DEC pads, the next USER KIT within the CHAIN will cue. Read more about CHAINS in the GLOBAL AUX Chapter.

NORMAL PRESSURE MODE = G This is the normal default setting in the malletKAT. When you apply pressure to the pad, it plays and sustains the sound normally until you release the pressure.

DAMPEN STROKE, DEAD STROKE =A When you play a note, then apply pressure to that pad in DAMPEN MODE, this will shut off the note. This mimics dampening on a mallet instrument. There are settings in the GLOBAL and KIT AUX screens that vary how quickly and how sensitive the dampening occurs.

If you press on the Edit Footswitch and hit the A pad twice, the Dampen Mode switches to DEAD STROKE. DEAD STROKE is like Dampen, but instead of just shutting off the note on, it also plays another note. This mimics a Dead Stroke in that this motion initiates another sound. Read about DEAD STROKE in the PLAY SCREEN Chapter.

AFTERTOUCH MODE =B
When this Pressure Mode is activated, Aftertouch Data is sent when pressure is applied to the pad.

NUMERIC INPUT VALUES
C# = 1 number; D# = 2 number; F# = 3 number, G# = 4 number , A# = 5 number

FOURTH OCTAVE (not EXPRESS)
Three pads on the fourth octave have been set up to control an external sequencer. Step on the Edit Footswitch and press:
G = Sequence Start; A= Sequence Continue; B= Sequence Stop

OTHER EDITING TIPS:
Several settings can be changed during one time of depressing the EDIT Footswitch.

• All changes you make to your Setups are saved immediately when you change them. You do not need to do any specific action to "save" your changes - it happens automatically.

• To recover from unwanted changes, simply hit "Cancel" (A# on the highest octave). Changes that you have made to a Setup may be undone as long as you have not gone away from this Setup to another one.

• You are able to copy the current Setup to any other Setup using the "Setup Copy" pad. To do this, perform the following steps:

1. Hit the "Setup Copy" pad (G# on the highest octave) while the Edit is pressed.
2. Enter the digits of the Setup number to which you would like to copy the current setup.
3. Hit the "Setup Copy" pad again to see the confirmation screen.
4. Hit the "Setup Copy" pad a third time to perform the copy. After the copy is performed, the Setup that you copied to is the current Setup.

Chapter Four
KIT AUXILLARY FUNCTIONS/ SCREENS

AFTERTOUCH TYPE IS
Short Cut = # 5
Parameters = Channel Pressure, Key Pressure
There are two types of Aftertouch messages that may be selected. One type is Channel Pressure and will affect notes playing on the current channel. The other type is Polyphonic Key Pressure and this affects only the note that is associated with the pad that is currently being pressed. Channel Pressure is the one most often used.

AUTOGATE Control
Short Cut = # 59
Parameters = Disabled, Enabled
When Enabled, the gate time is affected by how fast you play.

AUTOGATE CONTROL OVERLAP
Short Cut = # 60
Parameters = .010-6.200 sec
When AUTOGATE is enabled, the gate time is affected by how fast you play by the amount programmed on this screen. The Overlap setting on this screen is the amount of time the shortened note will play before being turned off, measured from when the last note was hit.

BANK MSB BANK LSB
Short Cut = # 3,4
Parameters = MSB 00-127, LSB 00-127
The MSB, LSB settings tell the sound module what BANK of sounds to call up. Refer to your sound module's instrument listings to find the right MSB, LSB combination for the Bank of sounds that you are looking for.

If only one bank number is present, set the MSB to 00 then set the LSB to Bank number listed. If your sound module does not respond correctly, you many need to set the MSB to 01 instead.

Please note that the MIDI Spec calls for the Bank range from 1128. Some manufacturers prefer to use the numbers 0-127. For this reason, it might be necessary to adjust your Bank

(and Program Change) settings by one number.

BREATH CONTROLLER ASSIGNMENT
Short Cut = # 19
Parameters = CC# 00-128 (including some individually named CC Functions)
This function routes the incoming Breath Control data to the specified Continuous Controller function.

BREATH CONTROLLER CHANNEL
Short Cut = # 23
Parameters = Same as CNTRL1, Same as CNTRL2, Both Controllers, 01-16.
Assigns the incoming Breath Control data to MIDI channels 1-16, the MIDI channel assigned to Controller 1 or 2 or Both.

BREATH CONTROLLER CURVE
Short Cut = # 22
Parameters = 00-11
This parameter controls the response of the breath controller by assigning a curved response to the incoming breath input. (linear, exponential, etc)

BREATH CONTROLLER MAXIMUN EFFECT
Short Cut = # 21
Parameters = 00-127
This parameter establishes the maximum controller effect from the incoming breath control data.

BREATH MINIMUM EFFECT
Short Cut = # 20
Parameters = 00-127
Established the minimum controller effect from the incoming breath control data.

EDIT CONTROLLER INTERFACE MODE
Short Cut = # 25
Parameters = Both, Internal and External, Neither, External MIDI only, Internal Only. This function turns on and off Controller 1 or 2. For malletKAT's with built in sounds, data can be sent to the internal sound only or external device or be sent to both.

FOOT CONTROLLER ONE ASSIGNMENT
Short Cut = # 9
Parameters = CC# 00-128 (including some individual
Continuous Controller Names) Foot Controller One may be assigned to any CC#. Some commonly used functions have been named such as volume, modulation, pitch bend, chorus depth, pan, expression, etc. for convenience. Special malletKAT Foot Controller functions are also assigned here such as Warp Volume, Blend, etc.

FOOT CONROLLER ONE CHANNEL

Short Cut = # 13

Parameters = Same as CNTRL1, Same as CNTRL2, Both Controllers, 01-16

The MIDI channel for the effect of Foot Controller 1 can be assigned to the same channel as Controller one or two. It can also be assigned to Both the MIDI channels of Both Controllers or it can be assigned to any individual MIDI channel.

FOOT CONTROLLER ONE CURVE

Short Cut = # 12

Parameters = 00-11

The response curve for Foot Controller One may be selected from any of the Curves available in the malletKAT Pro. Curve 8 was made specially to be used as the curve for Foot Control.

FOOT CONTROLLER ONE MAXIMUM EFFECT

Short Cut = # 11

Parameters = 00-127

The Maximum MIDI value that will be sent for the effect selected (CC#) for the Foot Controller. The value setting can be between 0 and 127. Adjust this so that the full depression of the Foot Controller's pedal will be at the number set here.

FOOT CONTROLLER ONE MINIMUM EFFECT

Short Cut = # 10

Parameters = 00-127

The Minimum MIDI value that will be sent for the effect selected (CC#) for the Foot Controller. The value setting can be between 0 and 127. Adjust this so that the backward release of the Foot Controller's pedal will be at the number set here.

FOOT CONTROLLER TWO ASSIGNMENT

Short Cut = # 14

Parameters = CC# 00-128 (including some individual Continuous Controller Names) Foot Controller Two may be assigned to any CC#. Some commonly used functions have been named such as volume, modulation, pitch bend, chorus depth, pan, expression, etc. for convenience. Special malletKAT Foot Controller functions are also assigned here such as Warp Volume, Blend, etc.

FOOT CONROLLER TWO CHANNEL

Short Cut = # 18

Parameters = Same as CNTRL1, Same as CNTRL2, Both Controllers, 01-16

The MIDI channel for the effect of Foot Controller Two can be assigned to the same channel as Controller one or two. It can also be assigned to Both the MIDI channels of Both Controllers or it can be assigned to any individual MIDI channel.

FOOT CONTROLLER TWO CURVE

Short Cut = # 17

Parameters = 00-11

The response curve for Foot Controller Two may be selected from any of the Curves available in the malletKAT Pro. Curve 8 was made specially to be used as the curve for Foot Control.

FOOT CONTROLLER TWO MINIMUM EFFECT

Short Cut = # 15
Parameters = 00-127
The Minimum MIDI value that will be sent for the effect selected (CC#) for the Foot Controller. The value setting can be between 0 and 127. Adjust this so that the backward release of the Foot Controller's pedal will be at the number set here.

FOOT CONTROLLER TWO MAXIMUM EFFECT

Short Cut = # 16
Parameters = 00-127
The Maximum MIDI value that will be sent for the effect selected (CC#) for the Foot Controller. The value setting can be between 0 and 127. Adjust this so that the full depression of the Foot Controller's pedal will be at the number set here.

KIT CONTROLLER PRESET CC#

Short Cut = # 64
Parameters = 00-127
Every User Kit on the malletKAT Pro can send a preset value on any Controller Number. This is useful when a desired effect needs to be present upon entering a kit such as a specific reverb setting or a modulation value. This is where you set up the Controller number.

KIT CONTROLLER CHANNEL

Short Cut = # 65
Parameters = 01-16
Every User Kit on the malletKAT Pro can send a preset value on any Controller Number. This is useful when a desired effect needs to be present upon entering a kit such as a spefic reverb setting or a modulation value. This is where you set up the Controller numbers MIDI channel.

KIT CONTROLLER PRESET CC# VALUE

Short Cut = # 66
Parameters = 00-127
Every User Kit on the malletKAT Pro can send a preset value on any Controller Number. This is useful when a desired effect needs to be present upon entering a kit such as a specific reverb setting or a modulation value. This is where you set up the exact value for the Controller number assigned.

KIT NAMES

Short Cut = # 44 or 00
Parameters = 12 characters A-Z, numbers and symbols
User defined KIT names can be assigned for the USER KITS (not Factory). There are a total of 12 character slots available for each kit. The KIT NAME is the same for both Controllers.

The characters that make up the KIT NAME string can be changed using the Increment or Decrement pads. The Forward and Backward pads select which character location to change. Hitting the number pads (black keys "1" through "0") provide quick access to ten different characters as follows.

"1" pad: "A"	"4" pad: "m"	"7" pad: "*"	"0" pad: "{"
"2" pad: "M"	"5" pad: "0"	"8" pad: ":"	
"3" pad: "a"	"6" pad: " " (space)	"9" pad: "["	

There is a Global Setting (shortcut 64) that allows for three types of displays on the screen. Select KIT NAMES to display the names you program for each kit. Select INSTRUMENT NAMES if you want the General MIDI sound map. These are the names that are displayed on the FACTORY Kits as well.

If you don't have sounds in the malletKAT, these names are still useful if you are using a GENERAL MIDI Sound source because the program changes adhere to the GM spec.

Select NONE for No string naming on the display. Selecting NONE allows for more KIT information to be displayed such as channel information, etc. If you are using an external sound source, and look at the sound source's display for the instrument name, selecting NONE allows information about both controllers to be displayed.

Selecting None has no effect on Factory Kits. These non Programmable factory kits automatically display the General MIDI program names.

MONO NOTE OVERLAP
Short Cut = # 6
Parameters = Disabled, .010 - .310 second
When using a monophonic sound, sometimes the monophonic effect doesn't sound as smooth as you like. To get more of a legato effect, this setting allows the old note to play for a short time after the new note has been struck. The old note will finally get shut off after the NOTE OVERLAP times elapses. This enhances the authenticity of playing single line instruments, such as the flute.

Some synths do not respond well to this setting. If notes get stuck on, lower the overlap time. If notes still get stuck on, you will need to disable this feature for your particular synth.

MULTIPLE HIT SMOOTHING (DAMPEN MODE)
Short Cut = # 7
Parameters = Is Not Active, Mode 1 Active, Mode 11 Active
This parameter enhances the DAMPEN features of the malletKAT. Manufacturers of Synth modules handle MIDI Note Off Commands differently. Because of this, some sound modules (such as Korg) would get "stuck notes" if two notes were played on at the same time with the sustain pedal down and the DAMPEN mode turned on.

The normal Dampen Mode is TYPE ONE. This will create the most natural dampening effect. This is the same type that has been implemented on all previous versions of the malletKAT.

If notes intermittently get stuck, change the Dampen Mode to TYPE TWO. This will solve the problem. Please note that the millisecond overlap screens do not have an effect on TYPE TWO. This is because TYPE TWO prevents momentary polyphony on the dampened note. This is the hidden feature in TYPE ONE that makes it sound so natural.

PITCH BEND SENSITIVITY
Short Cut = # 28
Parameters = OFF, ON, Channel 00-16, semitones 01-12
You can set the pitch bend sensitivity (range) in semitones on every kit. Each kit is assigned an ON/OFF condition and a MIDI Channel.

PITCH BEND SENSITIVITY and CHANNEL
Short Cut = # 28,41
Parameters = OFF, ON, Channel 00-16, semitones 01-12
You can set the pitch bend sensitivity (range) in semitones on every kit. Each kit is assigned an ON/OFF condition and a MIDI Channel.

PITCH BEND ROUTING
Short Cut = # 42
Parameters = Both Internal and External, Neither, External MIDI only and Internal Only. For malletKAT's with sounds, Pitch Bend Sensitivity can be routed to the Internal Sound Engine. If set to External, your sound module may respond to these Pitch Bend Settings.

POLYPHONY COUNT
Short Cut = # 08
Parameters = 1 Note, 2 Note
The malletKAT Pro may be set to 1 note polyphony or 2 note polyphony. If one note polyphony is selected, a note currently sounding will be turned off by the malletKAT PRO before the same note is played again. If two note polyphony is selected, two notes of the same pitch will be allowed to sound at the same time before a third note of the same pitch causes one of them to be turned off by the malletKAT.

One note polyphony is different than monophonic in that only one sound of any pitch plays at one time. If notes get stuck on in two note polyphony Mode, then your sound module is not compatible with this feature. You will then need to set this parameter to one note polyphony.

PITCH BEND SENSITIVITY and CHANNEL
Short Cut = # 28,41,42
Parameters = OFF, ON, Channel 00-16, semitones 01-12
You can set the pitch bend sensitivity (range) in semitones on every kit. Each kit is assigned an ON/OFF condition and a MIDI Channel. These settings can be assigned to the Internal

Sounds (only with malletKAT WS) or to the EXTernal sound source, or Neither.

REASSIGNMENT MODE
Short Cut = # 29
Parameters = OFF, COMBINE, REPLACE
Reassignments are assigned in the GLOBAL Screens. There are 14 Reassignment Groups available. Each Reassignment Group allows the malletKAT to play any MIDI note number on any MIDI channel. Each Group shares a minimum and maximum velocity setting, a velocity curve setting, and a gate time. These 14 Group Reassigments are stored in the Global Screens but are accessed in the Kit Auxiliary Screens.

The Reassignment Mode can be turned OFF (malletKAT plays the normal Controller One and Controller Two data). It can be set to COMBINE, which then plays the notes assigned to the Reassignment Group number along with the data from Controllers One and Two.

When the Reassignment Mode is set to REPLACE, the KIT plays the Reassignment Groups MIDI note numbers instead of Controller One and Two.

REASSIGNMENT POLYPHONY SETTING
Short Cut = # 30
Parameters = Monophonic, Polyphonic
This determines whether the Reassignment Group plays in Monophonic or Polyphonic mode.

REASSIGNMENT NUMBER
Short Cut = # 31
Parameters = 01-14
Here is where you select one of the 14 Reassignment Groups stored in the Global Settings (screen 50) to be Used in the current Kit number.

REASSIGNMENT OCTAVE OFFSET
Short Cut = # 32
Parameters = 00-14
You can transpose the octave of the entire Reassignment Group Number assigned to this Kit. This Octave Offset applies only to this User Kit.

REASSIGNMENT FORCED GATE
Short Cut = # 34
Parameters = OFF, Latch, 0.10 – 6.000 sec.
You can override the gate settings of the Reassignment Group to the Parameter Choices assigned to this User Kit.

REASSIGNMENT TRANSPOSE AMT
Short Cut = # 33
Parameters = -12 - +12
You can transpose the notes of the Reassignment Group up or down one octave in

semitones.

REASSIGNMENT EXTRA PROGRAM /VOLUME SENDS
Short Cut = # 35,36,37,38
Parameters = PC no, 00-127
Reassignment Channel 01-16 Bank MSB, LSB 00-127, 00-127 Vol no 00-127
On this screen you assign the Bank, Program Change, MIDI Channel and Volume Settings.

REASSIGNMENT POLYPHONY and INTERFACE
Short Cut = # 39,40
Parameters = Polyphony 1,2
Interface INTernal, EXTernal, Neither, BOTH
This screen sets the polyphony of the reassignment and the routing. Internal assignment is for malletKAT's with sounds built in.

SLEW DATA STRIP RATE
Short Cut = # 43
Parameters = 00-127
When using the RTC Mode, there is lots of control data being sent to the sound module. This screen allows the data to be stripped (thinned) out. Raising the value decreases the amount of data being sent.

WARP MODE
Short Cut = # 55,56, 57,58
Parameters = P1 & P2 -12 to +12 semitones, Repetitions 1-3, Patterns 1-8, Volume 10-100%
Warp Mode gives the malletKAT the ability to repeat any pattern in real time. The amount of repeats is controllable, along with the tempo. Besides the echo being repeated, it is also possible to change the pitch of each of the echo's by plus or minus 12 semitones.

This means that each note struck can create a short musical sequence. To make this even more interesting, instead of just playing back the notes evenly, we have added 8 rhythm8 patterns that superimpose themselves over the real notes played.

On screen 55, you can turn ON and OFF the WARP function. On this line of the display you also set the REPeats (1-3). On the second line, the P stands for the echo's note pitch. A value of 0 plays the note without any pitch change. Inserting a value (-12 +12) changes the note played in semitones. P1,P2 and P3 allow for three programmed pitch changes.

The fourth line is for applying a PATtern to the notes.
The pattern are as follows:

1: Straight eight notes in groupings of two
2: Quarter note followed by 2 eight notes.
3: Two eight notes followed by a quarter note.
4: Eight note, quarter note, eight note.

5: Eight note triplets
6-8: Various other patterns.
A repeat count of 1 plays two notes. A repeat count of 2 plays 4 notes, etc.

If in Double Mode, only Controller One Warp will operate. Reassignments also do not respond to Warp Mode.

You can change the tempo of the Echo by
1. Stepping on the Edit Footswitch , (held down)
2. Tap the Backward Pad twice (for Tempo)
3. The GROOVE ENABLED (Global Aux screen # 58) must be turned on for this to function.

It is also possible to control the repeats of the echo with a Foot Controller. Assign Foot Controller One (screen # 9) or Foot Controller Two (screen # 14) to WARP VOLUME.

Chapter Five
GLOBAL AUXILLARY FUNCTIONS/SCREENS

ADJUST THRESHOLD BACKWARDS / FORWARDS
Short Cut = # 83,84
Parameters = 01-48
The pads on the malletKAT have programmable sensitivity settings. The BACKWARD and FORWARD pads have their own sensitivity setting usually set higher because these are function keys not note keys. These screens allow one to manually change the sensitivity setting. The default is set at 45.

AFTERTOUCH DEPTH
Short Cut = # 22
Parameters = 00-64
Aftertouch is a MIDI controller effect created when pressure is applied to the pad. Since different mallets have various degrees of stiffness, you need to be able to adjust how much pressure is needed to produce the Aftertouch effect you want. The larger the Aftertouch Depth setting is, the easier it is to get a large Aftertouch effect. Experimentation might be needed for finding the proper setting that is most natural to you.

AFTERTOUCH MASH COUNT
Short Cut = # 21
Parameters = 00-64
Performing Aftertouch with mallets can be a bit tricky because of the flexibility of the mallet shafts causing double triggers and somewhat "bouncy" readings.

To give you the ability to tweak this, the Aftertouch Mask Count allows you to specify a time window within which the malletKAT Pro will look for an Aftertouch gesture. This count time is the time within which the malletKAT will regard a re-strike or pressure on a previously hit pad as Aftertouch instead of seeing it as a soft hit.

Basically, the bigger this count is, the easier it is to get Aftertouch to be recognized. The trade off is that the larger the Aftertouch Mask Count, the less you can trill on a pad in Aftertouch mode. The smaller the Aftertouch Mask Count, the "cleaner" you must be in your Aftertouch gestures, but you will also be able to more easily roll on a single note.

BANK SELECT
Short Cut = # 23 Parameters = Enable, Disable You can choose to disable BANK Change Commands in your malletKAT Pro. This will prevent any Bank Messages from being sent to your sound source.

BEEPER
Short Cut = # 11
Parameters = On/Off
You can turn on or off the internal beeper that is heard whenever you are editing or changing

Kits. Use the INCrement or DECrement pads to change this setting.

BREATH CONTROLLER TRAINING

Short Cut = # 10

The response of the breath controller may be set at this screen by "training" the breath controller. Your first step is to adjust the trim pots on the BC2 itself. To Train the breath controller, strike any pad one more time and release the Edit . The malletKAT Pro will sound a continuous beep. You should respond by blowing through the breath controller and then hitting a pad (while still blowing). The malletKAT PRO will again sound a continuous beep. You should now hit a pad again while blowing. The breath controller is now trained.

You can jump right to the training screen by hitting Global Shortcut # 10

CHAIN MODE

Short Cut = # 46-49

Parameters = #46 Chain Number 01-16, #47 Chain Step 0-16, #48 Chain Step, #49 Chain Enable Enable/Disable

A CHAIN allows you to arrange User Setups (Kits) in any order. You can either step through the Chain's Steps by using a Footswitch, or you change it by hitting the Forward or Backward function pads. This function is very useful in live situations because you can organize in advance what sounds you might need in a song or performance.

There are 6 Chains in total. Each Chain can have up to 16 User Setups. You can also link Chains together or set up a Chain as a Loop.

In the Global Edit, you determine What Chain you are editing (#46), which one of the 16 Steps you are editing (#47), and what User Kit (#48) you want in the slot. After you choose one of the 128 User Kits, you can also tell the malletKAT to advance to the NEXT CHAIN or to LOOP the Chain that you are editing.

In Play Mode, if you have the CHAIN ENABLED in the Globals (#49), striking the Backwards or Forward pad will automatically take you to the next programmed User Kit assigned to that Chain. You can also set one of the FOOT CONTROLLER inputs (Global Screen #19,20) to Setup Advance or Setup Backwards your Steps (User Kits) within that Chain.

When you Enable the Chain Mode, the first character on the display in Play Mode tells you what Chain you are in and what Step you are in. For example, C02-03 means that you are in Chain number 2, and that you are in the Third Step. If you want to know what User Kit you are in, step on the Edit Footswitch and hit the Setup Pad (low C on the highest octave). The screen will display the current Setup Number.

In Play Mode, if the Chain Mode is Enabled, it is possible to quickly change Chain Numbers. If you want to go to a different Chain, hold down the Edit , hit the Global Pad (d natural on third octave) then hit the INCREMENT (D#) Pad to advance through the Chains or hit the DECREMENT (C#) pad to go back through the Chains. Release the Footswitch to play.

CHORD MODE WINDOW
Short Cut = # 77
Parameters = 01-20 milliseconds
This is a Sensitivity control function when using the MELODY CHORD MODE. The parameters in this screen control how close together a pair of notes must be to be considered a chord. The lower the number, the lower the latency because the malletKAT has to wait until the programmed time has elapsed to determine if you are playing a single note or chord.

DAMPEN CONTROL SCREENS
Dampening Control Screens include Dampen Count, Dampen Scan Count, Dampen Ratio and Dampen Threshold. These parameters help the malletKAT to interpret acoustic dampening gestures. Because mallet players use different sticks and apply pressure to the mallet pad differently, adjustments must be made in the software to help mimic and interpret these strokes.

DAMPEN COUNT
Short Cut = # 16
Parameters = 0-255
 This setting is used to adjust the time between striking a pad and when the pad may be dampened when in DAMPEN MODE. Making this setting greater makes dampening more difficult, lowering it makes dampening easier. If the value is too low, slight bounces of your mallet on the pads may dampen notes when you don't want them to.

DAMPEN MODE SCAN COUNT
Short Cut = # 43
Parameters = 0-16
This setting is the amount of time the processor takes to scan the signal to decide if the gesture on the pad is a dampen stroke. The higher the number, the more accurate the dampening stroke will be. The higher the number also adds delay. Experiment with the right setting for you.

DAMPEN RATIO
Short Cut = # 45
Parameters = 0-255
This screen sets a ratio between the dampen signal and the normal signal. When you apply pressure to the pad, a rise is detected in the signal. Changing this parameter helps the malletKAT to evaluate the difference between a stroke and a pressured dampen stroke.

DAMPEN THRESHOLD
Short Cut = # 15
Parameters = 00-255
This setting is used to adjust the dampening characteristics of the malletKAT when played in DAMPEN Mode. The Dampen Threshold is a measure of how much pressure is required to get damping to occur. Raising this value decreases the likelihood of dampening, lowering it

makes dampening easier.

DATA DUMP RECEIVE
Short Cut = # 4
Parameters = Enabled, Disabled
You make choose to Enable or Disable the receiving of Data Dumps back into your malletKAT Pro. The normal setting is Enable.

DEBOUNCE COUNT
Short Cut = # 14
Parameters = 01-120
Debounce time is the time immediately after a hit has been recognized, where the malletKAT PRO ignores the signal from the pad as that signal settles down. Too short of a debounce time may result in notes double triggering on one hit. Too long of a debounce time may result in fast double strokes being missed.

DEAD STROKE COUNT
Increasing the value adds a delay time before the Dead Stroke Sounds.

FINE TUNING ROUTING
Short Cut = # 65
Parameters = Both Int & Ext, Neither, External MIDI only, Internal Only.
This function routes a FINE TUNING command to the external sound source, or for the sound source built into the malletKAT PRO. Note that not all sound modules respond to this command. Fine Tuning of the sound source is performed on screen # 42 "Tune Instruments to 440" page.

FOOT CONTROL ONE PERFORMS
Short Cut = # 19
Parameters = Controller, Setup Advance, Setup Backup, MIDI Note
If you don't intend to use the Foot Control Inputs for Volume or other Expression Settings, you may choose to Globally reassign your Foot Control input to ADVANCE or BACKUP through your Setups.

The FTC Performs choices are:
CONTROLLER: (use settings definable in each Each Setup- see Setup Auxiliary Settings

SETUP ADVANCE / SETUP BACKUP
If Setup Advance or Backup has been selected, either a foot pedal or a footswitch will work in moving you through your Setups.

FOOTSWITCH MIDI NOTES.
Up to Four Notes can be assigned to the Footswitch. A Velocity value is also available. When the Footswitch is, depressed, a note on is sent. When the switch is released, a note off is sent.

FOOT CONTROL TWO PERFORMS
Short Cut = # 20
Parameters = Controller, Setup Advance, Setup Backup, MIDI Note.
If you don't intend to use the Foot Control Inputs for Volume or other Expression Settings, you may choose to Globally reassign your Foot Control input to ADVANCE or BACKUP through your Setups.

The FC Perform choices are:
CONTROLLER: (use settings definable in each Each Setup- see Setup Auxiliary Settings)

SETUP ADVANCE / SETUP BACKUP If Setup Advance or Backup has been selected, either a foot pedal or a footswitch will work in moving you through your Setups.

FOOTSWITCH MIDI NOTES: Up to Four Notes can be assigned to the Footswitch. A velocity value is also assignable. When the Footswitch is depressed, a note on is sent. When the switch is released, a note off is sent.

GROOVE WITH TAP TEMPO CONTROL Single note patterns are available when the metronome is activated. The right function pad acts as a Start/Stop for the metronome and 2 hits on the left function pad established the tempo. On the malletKAT Pro WS (with sounds) model, the sounds for the built in grooves can either come from the internal or an external sound source. Metronome sounds for the standard malletKAT PRO are produced from an external sound source

In the GLOBAL AUX Screens described below, there are two screens where you can assign the Groove parameters. On the first screen you can

1- Select the note pattern that you want to play. There are many single note patterns in different time signatures to choose from

 2- Select the tempo of the Groove. Besides manually setting the tempo, you can use the tap tempo control to set the tempo on the fly.

3- Select the Volume of the Groove.

4 Select if the note pattern is routed internally or sent to an external synth or routed to both.

On the very next screen, you select the NOTE NUMBER and MIDI CHANNEL for the note pattern.

To start a Groove, hold down the EDIT Footswitch and hit the RIGHT Function Pad (forward pad). To stop a groove from playing, repeat the same procedure.

To access the TAP TEMPO feature, hold down the EDIT Footswitch and hit the LEFT Function

Pad (backward pad) twice. The time in between the two hits is the new Tempo that the Groove will play at.

GROOVE PATTERN
Short Cut = # 59
Parameters = Various Groove Patterns.
Use the Inc/Dec pads to scroll through the list of patterns available.

GROOVE ENABLE
Short Cut = # 58
Parameters = Disable / Enable
This screen determines whether the Groove Metronome is active or not.

GROOVE ROUTING
Short Cut = # 62
Parameters = Both Int & Ext, Neither, External MIDI only, Internal Only
Groove Routing sends the Groove pattern to the external sound source on the assigned MIDI channel or to the internal sounds of a malletKAT PRO WS.

GROOVE TEMPO
Short Cut = # 60
Parameters = 40-240
You can manually set the tempo of the Groove here or you can Use the Tap Tempo Function by holding down the EDIT Footswitch and hitting the backwards pad twice. The Groove Enabled must be active.

GROOVE VOLUME
Short Cut = # 61
Parameters = 00-10
You can set the volume of the GROOVE from softest 00 to loudest 10.

INCOMING CHANNEL (1 to 16) ROUTE TO
Short Cut = # 24-39 (channel 1=#24...channel 16=#39)
Parameters = Both Int and Ext, Neither, External MIDI only, Internal Only
When the malletKAT "sees" MIDI Channel information on the MIDI IN Port, that data can be routed to the Internal Sounds of the malletKAT WS or to the MIDI OUT Port or can be filtered so that MIDI data from that channel is blocked.

INCOMING PROGRAM CHANGE RECEIVE
Short Cut = # 6
Parameters = All Channels, OFF, 1-16
The malletKAT PRO maybe set to accept or ignore Program Changes at this screen using the INCREMENT / DECREMENT pads. You may set the malletKAT PRO to accept all Program Changes, ignore all Program Changes, or accept only Program Changes transmitted on a

particular channel.

INCOMING SYSTEM MESSAGE ROUTE TO
Short Cut = # 40
Parameters = Both Int and Ext, Neither, External MIDI only, Internal Only
This screen lets you select how incoming MIDI SYSTEM MESSAGES appearing at your MIDI IN are routed. The malletKAT PRO maybe set to accept or ignore SYSTEM MESSAGES at this screen using the INCREMENT / DECREMENT pads. You may set the malletKAT PRO to route these messages to the Internal Sound Card, the External Sound Source, Both, or they can be filtered out using NEITHER. Common SYSTEM MESSAGES are MIDI Clock, Sequence Start/ Stop / Continue, Active Sensing, MIDI Time Code, Song Position Pointer/ Song Select).

UNIVERSAL ID
Short Cut = # 13
Parameters = Universal ID, 01-127
The "Individual Instrument ID" for the malletKAT PRO can be assigned at this screen. This setting is used to allow external devices to selectively send data dump information to the malletKAT Pro. This number is really useful if you have more than one malletKAT PRO. If not, leave it set to UNIVERSAL ID. Data dump information that is meant for a malletKAT PRO with a different ID than assigned at this screen will not be accepted by the malletKAT PRO. (except if set at Universal ID, which accepts all).

MIDI IN PROGRAM CHANGE SOUND MAP
Short Cut = # 41
Parameters = SETUPS MAP, GENERAL MIDI MAP
When the malletKAT receives a Program Change Command, this data can be routed to change the Program within the Active Setup (GENERAL MIDI MAP) or it can change the SETUP ITSELF (SETUP MAP).

 If you are using a malletKAT WS in a Multi Mode Configuration (more than one sound at once) or if you are using the internal sound source for another controller, using the setting GENERAL MIDI MAP sends program changes to any of the 16 MIDI channels when receiving Program Change Data from an External Source from the MIDI IN.

MIDI IN to MIDI OUT MERGE
Short Cut = # 2
Parameters = ON / OFF
MIDI data coming into the MIDI IN of the malletKAT may be passed through to the MIDI OUT if MIDI Merge is set to ON.

NORMAL MODE SCAN COUNT
Short Cut = # 44
Parameters = 3..16
This setting tells the malletKAT how long to scan or examine the pads before sending out a

note. The higher the setting, the more accurate the dynamics, but the more latency it adds. The default value of 5 is the normal setting.

PERMANENT MEMORY IS
Short Cut = # 1
Parameters = ON/OFF
You can protect changes made to your USER KITS when you turn ON the PERMANENT MEMORY setting. If the PERMANENT MEMORY is set to OFF (the default setting) changes made to your USER Kits are automatically saved. There is no SAVE Procedure on the malletKAT.

TIPS:
The Factory KITS can not be Permanently Saved unless copied to the USER KITs. Global Settings can still be altered when MEMORY PROTECT is turned ON.
The malletKAT PRO will also accept a SYSEX Dump regardless of this setting.

PROGRAM STRING NAMES
Short Cut = # 64
Parameters = KIT NAMES, NONE, INSTRUMENT NAME
You can customize the way the malletKAT screen displays data. A setting of KIT NAMES, allows one to customize the names of their USER KITS. Every User Kit can have its own unique name. Once this setting is active, the malletKAT will display in PLAY mode on the third line, the KIT Name that you programmed in the KIT AUX Screens. If no name was programmed, the screen will display ****************.

A setting of INSTRUMENT NAME automatically calls up the General MIDI Instrument name nomenclature. This means that the Instrument Name is connected to the program change number, not the User Kit name. You can NOT modify these names.

The Factory Kits automatically operate in the INSTRUMENT NAME Setting. Only the USER KITS reflect this choice.

A setting of NONE eliminates all instrument names on the display. Instead, the third line shows key parameter information of Controller One, and the fourth line displays parameter information of Controller Two.

REASSIGNMENT MODE
Reassignment Mode in the malletKAT allows User definable notes to be played on the keyboard. You can play any MIDI Note on ANY pad on the malletKAT. Each pad can have its own MIDI Channel. An entire User Layout of these prearranged MIDI notes are called an Reassignment Layer.

There are 14 Layers that can be assigned. Each USER KIT can have one Reassignment Layer assigned. In the Kit Auxiliary Screens you decide if you want to COMBINE this Layer with the Controller's Sound or if you want to REPLACE the Controller's sound with this new MIDI note

assignment. Each pad shares a Minimum and Maximum Velocity setting, a Velocity Curve and a Gate Time.

REASSIGNMENT NUMBER

Short Cut = # 50

Parameters = 01...14

On the first line of the display, select which one of the 14 Reassignments you wish to Edit.

REASSIGN K NUMBER

Short Cut = # 51

Parameters = 01-61

The next selection on the first line is "k" followed by a number up to three digits. The "k" stands for which KAT pad on the malletKAT you want to reassign to a different sound. The highest note on the malletKAT is the high C, number k61. The lowest note on a 5 octave malletKAT is the low C, the number is k01.

You can use the INC/DEC pads to get to the pad number that you want to Edit OR you can quickly jump to the pad you want by stepping on the Sustain One (when the Reassign Screen is visible) then while both Footswitches are held down, hit the pad on the malletKAT that you want to edit. You will see the "k" number change as you tap on the different pads on the malletKAT.

REASSIGN M NUMBER

Short Cut = # 52

Parameters = C-2 – G8

On the second line of the display, you can select the MIDI NOTE that you want to assign to the pad selected on the first line. Notice that both the MIDI NOTE NUMBER and the Actual Note name are displayed at the same time.

You can use the INC/DEC pads to change the note that you want to reassign here or you can use the shortcut. When in this editing screen, step on the Sustain Two (the Edit Footswitch should already be depressed). While these pedals are down, when you strike a pad, it reflects the note that will sound on the "k" pad. You can change the octave in KIT EDIT to get at lower or higher note numbers.

REASSIGN CHANNEL

Short Cut = # 53

Parameters = 01-16

On the second line of the display, you can change the MIDI Channel for the "k" pad number that is visible. Every pad on the malletKAT can be assigned to any of the 16 MIDI channels separately.

REASSIGN MINIMUM VELOCITY

Short Cut = # 54

Parameters = 00-127

On this screen you establish the MINIMUM Velocity Setting. This setting is for the entire Reassignment Layer, not for the one MIDI note number. Each Reassignment Layer Receives one MINIMUM, one MAXIMUM and one GATE TIME setting.

REASSIGN MAXIMUM VELOCITY
Short Cut = # 55
Parameters = 00-127
On this screen you establish the MAXIMUM Velocity Setting. This setting is for the entire Reassignment Layer, not for the one MIDI note number. Each Reassignment Layer Receives one MINIMUM, one MAXIMUM and one GATE TIME Setting.

REASSIGNMENT DEFAULTS
The following is a listing of default values of the REASIGNMENT numbers set for a Five Octave malletKAT.
Reassignment # 1 C-2 to C 2
Reassignment # 2 C-1 to C 3
Reassignment # 3 C-0 to C 4
Reassignment # 4 C 1 to C 5
Reassignment # 5 C 2 to C 6
Reassignment # 6 C 3 to C 7
Reassignment # 7....14 all keys set of OFF

REASSIGNMENT LOOP MODE You can assign the notes in the Reassignment Layer Mode to function as a LATCH, where the first strike sends a note on, and a second strike on the same pad shuts it off. If the Reassignment is set to MONOPHONIC MODE in the Kit Edit Screen, only one loop will play at a time. If the Reassignment is set to POLYPHONIC MODE in the Kit Edit Screen, it is possible to independently control multiple loops. The Hi C on the malletKAT is reserved to shut off ALL active Loops in the Reassignment.

Set the Forced GATE to LATCH in the Kit Auxiliary Reassignment screen and the notes played by the assignment layer will toggle (i.e. 1st time a pad is hit, a NOTE ON will be send and the 2nd time a pad is hit, a NOTE OFF will be sent). The reassignment layer will operate in polyphonic and monophonic modes. If a note is assigned to reassignment pad #61 (hi C), striking this pad will send a NOTE OFF for all pads for which no NOTE OFF has been sent. It will not send a NOTE ON for this pad. If note number 128 (OFF) has been reassigned to reassignment pad #61 (hi C), to this pad will not play a reassignment note (normal) BUT will also NOT turn off notes for the other reassignment pads. This gives the user the ability to decide if one pad is capable of controlling all reassignment note offs and also allows the hi C pad to be a playable note in COMBINE mode, without turning off all active reassignment pads.

REASSIGNMENT QUICK COPY
A fast copy function has been added to the reassignment mode so that the user can either auto increment or copy the value of one reassignment pad to the next right adjacent pad.

Copying the data from one reassignment pad to the next adjacent pad...
While in the Global Reassignment Edit Screen, Hold down the edit AND the Sustain ONE together, use the RIGHT (forward) function pad to copy the existing assignment to the next. The malletKAT will copy the existing data to the adjacent pad.

Auto incrementing the data from one reassignment pad to the next adjacent pad... While in the Global Reassignment Edit Screen, Hold down the edit and AND the Sustain ONE together. Use the LEFT function pads to AUTO INCREMENT the existing assignment to the next. The malletKAT will copy the existing data to the adjacent pad AND add that value by one.

MODIFIED REASSIGNMENT NOTE ASSIGNMENTS
Midi Note 128 is now an OFF pad. When this is assigned to a pad, no sound will be produced. This allows the ability to assign only the notes you want to sound. This is especially useful in COMBINE mode when both the Reassignment and Controllers One, Two or Both are also active. The default note is NO NOTE.

Using Midi Note 128 on the Hi C in the reassignment layer prevents that pad to perform an ALL LOOP OFF function for that layer. No sound will play on that pad. Please refer to the Reassignment Section in the KIT AUXILLARY SCREENS for more information regarding the Reassignment Mode.

Real Time Controller Mode and RTC+Velocity Mode

Real Time Controller Mode
Real Time Controller Mode turns the malletKAT into a massive knob turning machine. Each black key on the lower two octaves of the malletKAT is assigned a channel, controller number, minimum value, maximum value, and reset value.

Once a black key is struck, the white keys act as individual values (like the position of a fader or knob on your synth). The lowest C is the minimum value, and the highest C is the maximum value. As you play on the "white key" pads of the malletKAT, the malletKAT instantly translates your last hit to the controller "knob" of your synth. The knob turning can be instantaneous, or can slide "slew" to the next value. This can create some incredible interesting effects that are not possible with real time knob tweaking. Complex rhythms can be imposed on any controller number.

Entering and leaving a black key can also create an effect. When you leave a black key (by striking another black key), one has the option of resetting the last value and/or presetting the new value of the black key just struck.

The last (highest) octave of the malletKAT's black keys are reserved for special functions. C# and D# are "slew" pads that automatically send continuous data in one direction. (C# slews down, and D# slews up).

The Real Time Control Mode also has a variation mode called RTC+Velocity

The RTC mode is selected by striking the MONO pad TWICE while the Edit Footswitch is pressed.

RTC Mode
The RTC mode is selected by striking the MONO pad (F1 on the malletKAT, second octave) TWICE. Normally the first strike of the MONO pad with the edit Footswitch down is MONO, meaning that the active controller is in MONO mode. Hitting the pad twice turns the malletKAT into RTC Mode. The display now reads RTC. To return to MONO Mode, release the Edit Footswitch and start the process again.

Three modes are available for controller one (MONO, RTC, and RTC + velocity). Controller two has another mode named PTW. This is activated by striking the MONO pad four times when controller 2 is displayed.

With the exception of the PTW mode, both controllers can select any of these modes simultaneously, so that a KIT can use these modes in Normal, Split or Double Mode.

Assigning Controller Numbers
Controller Number assignments to the black keys in RTC Mode is a Global Assignment, meaning that there is only ONE RTC assignment in the malletKAT.

There are four screens for data entry. Global Edit Screens (67,68, & 69) will all take you to the first screen.

RTC KEY NUMBER
Short Cut = # 67
Parameters = A#-1---A#+1
This represents which black key on the malletKAT you are working on. On a three octave malletKAT, a screen display of C# represents your lowest C# on the instrument. Change the value by hitting the increment, decrement keys. Your options are C#,D#, F#, G# and A#. If a second value is present, i.e C#+1, this represents the second C# on the instrument. C#-1 is the lowest note on a four octave malletKAT, and C#-2 is the lowest note on a five octave malletKAT. Notice that the highest octave is not available. That is because the "master" octave's black keys are reserved for special functions.

RTC CHANNEL
Short Cut = # 68
Parameters = 01—16
This is where you assign the channel for the "black" key.

RTC CONTROLLER#
Short Cut = # 69
Parameters = 00-128
This is where you assign the controller number. Choices are NO, 0-128. Number 128 is a Pitch

wheel assignment. The last line on the display will show the name of the controller number assigned.

RTC MIN VALUE
Short Cut = # 70
Parameters = 00-127

RTC MAX VALUE
Short Cut = # 71
Parameters = 00-127

RTC RESET VALUE
Short Cut = # 72
Parameters = 00-128

The Global Edit Screens (70,71, and 72) is where you assign the MIN VALUE, MAXIMUM VALUE and RESET values.

Setting the Min and Max values gives the range of the "white key" pads on the malletKAT. Since there are 127 controller values available, and only 21 "white pads" on a three octave instrument, the malletKAT averages the total value of the assigned range over these pads. The min and max settings affect the total range of controller values that are averaged across the white pads. The RESET value is the controller value sent when the RESET PAD is struck or when Exiting and Entering a new controller pad (see below).

Notice that the top line of the display is not editable. It is for your reference to remind you of what black key you are working on.

RTC PREV CNTRL VALUE
Short Cut = # 73
Parameters = Reset, None

RTC NEXT CNTRL VALUE
Short Cut = # 74
Parameters = Reset, None, Last

Screens 73/74 are for editing the RESET Value.
When you enter (strike a black key) or leave (strike another black key), the controller's value can be reset to the value set in the RESET parameter on the previous page. This parameter can also be set to NONE, which means that the controller number will not be changed when entering or leaving a "black" key setting. It is also possible to set this parameter to LAST, meaning that the value from this black key will be remembered when you enter it again.

"Prev Ctrl Value" means the Control Number value of the last black key or the control function that you are leaving from. "Next Ctrl Value" means the Control Number value of the black key

that you are going to.

Here are some examples of settings and the results.

Example One:
Prev Ctrl Value: RESET
Next Ctrl Value: NONE

This means that when a black key is hit, the reset value for the last controller command will be sent. If you are striking a black key for the first time, no controller value will be sent until you hit a white key. If you have been "working" this controller, then decide to move to another black key, the original black keys controller value will be reset as you leave this controller. When you enter the new controller number, no initial value will be sent until you hit a white key.

Example Two:
Prev Ctrl Value: NONE
Next Ctrl Value: RESET

This means that when a black key is hit, the reset value for this newly selected controller command will be sent. When you first enter this controller number by striking a black key, the RESET value is sent out. When you leave this controller number by hitting another black key, the original black keys value is NOT RESET, but if you strike another black key, the new controllers value will automatically send out the RESET value.

Example Three:
Prev Ctrl Value: NONE
Next Ctrl Value: LAST

This means that when a black key is hit, the value that is sent is the value that was sent the last time a value was sent for this black key. If the last value was due to a reset operation, the reset value is not sent. Only the last value sent as a result of striking a white key. This means that the malletKAT remembers what was the last value this particular black key sent out, and returns to this value when this black key is struck again.

SPECIAL FUNCTION BLACK KEYS
The five black keys on the Master (top) octave has been reserved for special functions that effect all of the Controller Black keys. It is possible to SLEW from one value to another in RTC mode. This means that when you strike a white key, then another, you have a choice of instantly going from one value to another or allowing a "portamento" effect to take place between these values. Portamento or slewing means that the value from one white key gradually changes to the next value. The time that it takes to get from one value to another can be set using these keys.

When in RTC mode, strike the F#3 pad. The screen displays the Slew Speed in Milliseconds.

This is the time it takes to get from one value to the other. This pad is a toggle. Re-strike F#3 to leave this mode.

To change the time of the slew effect, first strike F#3, then use the C#3 and D#3 pads (INC+DEC pads) to increase or decrease the values. Re-strike the F#-3 pad to return to Play Mode.

When Increasing the Slew Rate, (the numbers get higher) it means that the effect is slower. The higher the value, the longer it takes to get from value to value. A value of 255 is about 1/4 of a second. By decreasing the value to 125, it means that it will get from value to value faster, twice as fast as the 255 setting.

The G#3 pad is the PORTAMENTO ON AND OFF Key. Strike this pad while in RTC mode and in PLAY mode. The screen will "burst" a message of being on or off, then resume back to PLAY mode. It is a toggle pad. Re-strike the pad to activate or deactivate this feature. Having PORTAMENTO OFF means that the values will instantaneously switch to whatever white key value is struck.

The A#3 pad is the RESET PAD. When this pad is struck in PLAY mode, it will RESET the value of the active controller to whatever value was set in the GLOBAL screen.

Extras
The Pitch Wheel has been added as a 128th "controller" and the A# pad will reset it to the neutral value. There is also a special mode, Pitch Wheel Mode, PTW MODE, described later.

RTC+ VELOCITY MODE This is a special mode that allows for two controller numbers to be manipulated simultaneously. RTC is a horizontal control, meaning that values of a controller are affected by using the white keys, left to right.

Adding VELOCITY to this mode means that your dynamics, or vertical approach changes values to a controller. Playing soft or loud is interpreted as small or large controller values.

This mode is analogous to turning TWO knobs of a synth module at the same time. By thinking left to right and soft to loud at the same time, incredible effects can happen in real time, with just two sticks in your hands.

In order to properly activate this mode, the basic controller settings must first be set in the GLOBAL AUX Screens. Global Screen numbers 75 and 76.

RTC CONTROLLER #
Short Cut = # 75
Parameters = 00-127
Global Screen #75 is where you set the MIDI Channel and Controller Number that will be affected by the velocity or the playing dynamic.

RTC RESET VALUE
Short Cut = # 76
Parameters = 00-127
Use Global Screen #76 to set the reset value. There are not min/max settings for this mode because the extremes are determined by the min/max velocity settings.

SLEW DATA STRIP RATE
When using the RTC Mode, there is lots of control data being sent to the sound module. In the Kit Screen Aux (Screen #43), a screen has been provided that strips or thins out some of the data. Raising the value (between 1 and 127) decreases the amount of data being sent.

SCREEN ANGLE
Short Cut = # 12
Parameters = Straight View, Edge View
You can change the viewing angle of the screen from Straight View to Edge View.

SELECT DATA DUMP TYPE
Short Cut = # 03
Parameters = Global, All Memory, All Kits, Chains & Reassignments, User KITS K01-128
Use the Inc/Dec pads to decide which Type of Memory Dump you want to send. Strike the Global Pad again (D natural). The malletKAT will immediately send out the data dump. The malletKAT will automatically accept a data dump without any setup from the user as long as the Data Dump Receive Enable (screen #04) is set to Enable. This is the default setting.

PAD THRESHOLDS / PAD TRAINING
One of the most important design features of the malletKAT is its ability to have the pads be trained by the user for personal dynamic response. Every player has their own idea of what a soft hit is and how hard they ultimately want to play. By teaching the malletKAT your playing style, the instrument learns the way you play and provides the widest dynamic response possible for you.

There are three ways that the malletKAT can be trained.
GLOBAL TRAIN, where you hit one pad soft, then hard to give the overall dynamic response for the entire instrument.
GROUP TRAINING Each octave on the malletKAT is trained separately. INDIVIDUAL PAD TRAINING Individual pads can be trained separately from the rest of instrument.

These last two features can be invaluable if one note starts to behave differently or if an expander octave was purchased at a different time from the original and its sensitivity characteristics are slightly different from the rest of the unit.

Sensors can vary slightly from each other. Also over time, the sensors response can vary as well. The pad training provided on the malletKAT eliminates the problem. The reason for this is because the malletKAT can "see" 255 levels of dynamics. MIDI only has 127 levels. When you hit the pad soft and hard in the training process, you set the minimum and maximum levels.

These values are then imposed over the MIDI dynamic response curves. The slight variations possible from sensors are masked because the malletKAT is twice as dynamic as MIDI.

GLOBAL PAD TRAINING (TO TRAIN PADS)
Short Cut = # 07
Parameters = 00-255
You can train the entire instrument for your personal dynamic response. This training affects the entire instrument, and all pads receive the same response values. Once you enter Screen #7, the malletKAT will prompt you to hit any pad to continue with the training process. When you do, the malletKAT will ask you to hit any pad soft, then after a moment will ask you to hit any pad hard. This completes the dynamic training.

GROUP OCTAVE PAD TRAINING
Short Cut = # 79
Parameters = 00-255
Each octave of the malletKAT can be trained separately. When you enter screen #79, the malletKAT will direct you to each octave for individual training. C0 is the lowest C on a three octave malletKAT. C2 is the lowest C on the MASTER octave (second to highest C on the malletKAT). On a four octave malletKAT, the lowest C is named C-1. On a five octave malletKAT, the lowest C is named C-2.

*The malletKAT EXPRESS does not have C0. The octave names on a two octave Express are C+1 (lowest C) and C+2 (second down from top). Expanders are C-1 for a three octave and C-2 for a four octave.

Each octave is assigned a GROUP letter. After training, you can look at the values from each Group on Screen #80.

Groups are assigned as follows:
GROUP A = C-2
GROUP B = C-1
GROUP C = C0
GROUP D = C+1
GROUP E = C+2

On Global Screen #79, the malletKAT asks you to hit any pad to train octave groups. After striking any pad, a Group Letter appears along with the appropriate "C" note to train. If you want to train a different Group, tap on the Function Key (the little pads on the right) until the Group letter that you want to train appears.

The malletKAT will ask you to play a soft hit and then a hard hit on the "C" of the octave that you chose. After the malletKAT finishes calculating the results, it automatically moves to the next Group and asks you to hit the next C for training. This process will continue repeatedly until you hit the Footswitch to stop the training process.

The malletKAT will ask to train ALL five octaves even if you do not have them attached. Skip that Group if you only have a three or four octave malletKAT.

NOTE: It is possible to use the F# key instead of the C key in each octave.

Trust your ears and your playing dynamics. The values may look different from octave to octave, but the response can be the same. This is because there is a different sensor on each octave (and a different section of circuitry controlling it). By training each octave separately, the 128 MIDI velocity response levels should be about the same. This function dramatically increases the evenness across the entire malletKAT.

INDIVIDUAL PAD TRAINING

It is also possible to train up to sixteen individual pads. These pad training values are stored in "INDIV Pad Train A, B, C.........H". Go to Global Screen #79, keep the Footswitch down and use the right function pad to scroll through these 16 INV PAD TRAIN Letters.

Pick a letter for storage, then tap the pad that you want to train. The malletKAT will ask you to hit the pad soft, then hard. These values will be stored in that INV PAD Letter for the mallet pad that you just played. Go to Global Screen #80 and use the function pad to find the training values in the PAD Letter. The name of the pad (the key) that has been individually trained is now displayed in that Pad slot.

If the same pad is trained in more than one slot, only the training data from the last slot is used.

An individually trained pad will revert to the octave training results if the user releases footswitch #2 before striking the pad to elect it for individual training AND the pad that is struck is the pad assigned to the slot currently displayed on the training screen. If the pad that is struck is NOT the pad assigned to the slot currently displayed on the training screen AND Footswitch #2 is not pressed, training will be aborted. To select a pad for individual training, the Footswitch MUST be held while striking the pad. The user should release the Footswitch once the pad has been selected for training so it is not pressed when the actual training is performed.

If the individual slot has not been assigned a pad, the training results will display "----".

TO TRAIN INDIV PAD A.....N

Short Cut = # 85...98
This is the shortcut to get to the IND Pad Training Screen described above.

TRAINING RESULTS

Screen # 80 Low Level;   Screen # 81 High Level;   Screen # 82 Individual Pad
This is the shortcut to see the results of a Training Session. You can manually change the results by using the INC/DEC keys.

PAD THRESHOLD ADJUSTMENT

Short Cut = # 05

The Threshold of each individual pad may be adjusted at this screen by hitting the pad you wish to alter. When the pad has been selected, you may increase or decrease the threshold using the BACKWARD / FORWARD (F1&F2) pads. The lower the threshold, the more sensitive the pad (& more likely to false trigger).

ADJUST THRESHOLD MARGIN BACKWARD FUNCTION PAD

Short Cut = # 83

The Function Pads F1, F2 (Backwards/Forwards) are set to a higher threshold level than the rest of the instrument. The default setting is 45. You can adjust the threshold here by using the INC/DEC pads.

ADJUST THRESHOLD MARGIN FORWARD FUNCTION PAD

Short Cut = # 84

The Function Pads F1, F2 (Backwards/Forwards) are set to a higher threshold level than the rest of the instrument. The default setting is 45. You can adjust the threshold here by using the INC/DEC pads.

GLOBAL THRESHOLD ADJUST

If you are playing your malletKAT in a high altitude area, you may need to raise the thresholds levels of the entire instrument because the sensors are sensitive to pressure above sea levels. If your malletKAT begins to false trigger (playing itself, rapid fire pitches), you simply need to raise the thresholds.

This feature is also used to increase or decrease the general sensitivity of the entire instrument.

When the malletKAT is reinitialized, a sensitivity Margin of "10" is automatically placed under every pad. You can raise or lower this setting by performing the procedure below. You can see the results of adjustments by going back to Global Screen #5 and hitting any pad. Be careful not to go too low, or the instrument may start playing itself. If you raise it up too high, it will take a harder hit in order to get the instrument to respond.

To Change the THRESHOLDS

Step on the Edit and Sustain 2 at the same time. The display changes and says Threshold Adjust Use the BACKWARDS pad (left function pad F1) to lower the threshold to make the instrument MORE sensitive. Use the FORWARD pad (right function pad F2) to raise the threshold to make the instrument LESS sensitive.

AUTOMATIC PAD THRESHOLD

By simply pressing and releasing the Edit , the malletKAT Pro performs a Pad Threshold Recalibration. This temporarily adjusts the pad thresholds (as if you just turned on the malletKAT). This setting is not permanent. If you want to save a new permanent threshold level, perform the Global Threshold Adjust procedure described above.

Don't lean on the pads when you step on the edit footswitch as this will raise the thresholds of the pads, making them very in-sensitive. If this should happen, press and release the Edit again (without touching any pads) and this will make the pads playable again.

REINITIALIZING YOUR PAD SENSITIVITY THRESHOLDS
To REINITIALIZE your malletKAT Pro pad sensitivity Thresholds back to safe settings, simply hold the EDIT and the Sustain 2 BOTH down, and while they are depressed hold down both the "Backward" and Forward" small Function pads. Your malletKAT PRO will read the present idle levels of your Pads and put your Thresholds at safe settings for you.

TO TRAIN BREATH CONTROLLER
Short Cut = # 10
The response of the breath controller may be set at this screen by training the breath controller. Your first step is to adjust the trimpots on the BC itself. This may require experimentation.

To train the breath controller, strike any pad one more time and release the Edit . The malletKAT PRO will sound a continuous beep. You should respond by blowing through the breath controller and then hitting a pad (while still blowing). The malletKAT PRO will again sound a continuous beep. You should now hit a pad again without blowing. The breath controller is now trained.

TO TRAIN FOOT CONTROLLER ONE / FOOT CONTROLLER TWO
Short Cut = # 8, 9
The response of FootController (1,2) may be set at this screen by training the FootController. If you would like to Train the FootController, strike any pad one more time and release the Edit Footswitch. The malletKAT PRO will sound a continuous beep. You should respond by pressing the FootController pedal to the floor and then hit a pad. The malletKAT PRO will again sound a continuous beep. You should now release the FootControl pedal and hit a pad again. The FootController is now trained and the malletKAT PRO will return to PLAY Mode.

TUNE INSTRUMENT
Short Cut = # 42,66
Parameters = -50+50 cents, MIDI CHANNEL 1-16
If your external sound source responds to the TUNING Command or if you have an older malletKAT with sounds, you can fine tune Globally your sound module in "cents".

VIRTUAL CONTROL WHEEL A,B,C CONTROLLER NUMBER
Short Cut = # 63, 17, 18
Parameters = CC#00-127
The Virtual Control Wheel Function on the malletKAT turns Controller Layer Two into a Programmable Control Wheel. Unlike RTC, the value of the white keys return to zero when the note is released. This simulates using a Pitch Wheel on a Synthesizer. This Mode is intended to be used in conjuction with Layer One, the actual sound, while Layer 2 imposes the Controller effect on Layer One.

Layer Two can be set to CTLC mode by hitting the MONO key Five times with the EDIT Footswitch depressed. The CTLC functionality is accessed by pressing FSW #2 (Hang pedal) and striking or pressing the keys.

The Master Octave is reserved for Special Functions.
F#3 (Slew Speed)
G#3 (Portamento Mode)
A#3 (Reset)
C#3 (Decrement Key)
D#3 (Increment Key)

When the F#3 (Slew Speed) pad is struck (with Hang Pedal Down), the Slew value is displayed, and remains there until the F#3 pad is struck again. This acts like a toggle. The idea here is that after you strike the F#3 pad, you will then use the C#3 and D#3 pads to program your Slew Rate. Once you have finished, hit the F#3 pad again to begin playing.
C0= 0 (Minimum Controller Value)
F1/G1=64 (Neutral Controller Value)
C3=64 (Maximum Controller Value)

Keys positioned between those described above are assigned intermediate values. If Portamento is OFF, striking a key will immediately send the controller value assigned to that key. The neutral Pitch Wheel is sent when both the pad and the Hang pedal are released.

If Portamento Mode is ON, striking or holding a key will slew up or down to the value assigned to that key for as long as the key is pressed OR until the Gate Time Value has expired. If the key pressure is released or when the gate time ends, the controller values will slew back to the neutral value.

When a white key is struck with the mallet, the malletKAT holds that pad down as determined by the GATE Time. After the GATE Time has expired, the Slew returns back to Zero at the determined Slew Rate when the Hang pedal is released. If the Hang pedal is still pressed when the Min/Max value is reached, the return Slew Sequence will not occur until it is released. Whenever the HANG pedal is released, the Slew sequence returns to the neutral value (determined by Gate Time).

ASSIGNING THE VIRTUAL CONTROL WHEEL
Virtual Control Wheel
There are three Virtual Control Wheels (besides the Pitch Bend) that can be assigned GLOBALLY. These are Control Wheels A,B and C. In the Global Screens, you assign what controller number (1-127) you want to assign onto the VIRTUAL WHEEL.

Every Kit in the malletKAT can use ONE of these three assigned Wheels in Controller Two.

After striking the MONO Key 5 Times in the Edit Mode on Layer Two (Controller 2), the Layer

turns into the CTLC Mode. When the Sustain Two is depressed, the Virtual Wheel is activated. The Virtual Wheel assumes the MIDI Channel of Layer Two.

Chapter Six
GOOD THINGS TO KNOW

DIFFERENCES BETWEEN THE MALLETKAT PRO AND EXPRESS

The malletKAT EXPRESS has the same software and hardware features as the malletKAT PRO. It is made from aluminum. The malletKAT Express is a two octave instrument, and can accommodate 2 additional octave expanders, allowing a total of four octaves that can be played at once. The regular malletKAT PRO can be expanded up to five octaves.

EDIT MODE on the malletKAT EXPRESS. On a normal malletKAT PRO, there are EDIT Functions available on all three octaves. Since the EXPRESS only has two octaves, the malletKAT software has been modified to address this issue.

Pressing FS 1 & 2 simultaneously allows the lower octave of the malletKAT EXPRESS to operate like the lower octave of the three octave malletKAT.

Once you are in the Edit Mode (i.e. Global Aux Screens), RELEASE Footswitch One.

The EXPRESS now thinks that you are editing on the Third octave. On the Express, located above the bars on the second octave are the descriptions of the Edit Screen Functions normally found on the third octave.

On the malletKAT PRO, the black keys function as numeric value pads while in EDIT MODE. On the EXPRESS, there are missing numbers 1-5 as these numbers that where on the third octave, so this feature is not practical. You need to use the INC/DEC pads.

When you want to edit a function in the GLOBAL and KIT AUXILLARY Screens, you will need to use the BACKWARD/FORWARD KEYS to scroll through the screen numbers. Use these Function Pads (the little pads on the right) to find the AUX Function, then use the INC/DEC to change the value within that screen.

If you connect a third octave to the EXPRESS, all of these differences disappear as the normal malletKAT PRO operations come back into function.

If you GROUP TRAIN the malletKAT EXPRESS, use groups D & E. This is C1 and C2.

If you are using expanders, training Group C (C0) does not exist on the EXPRESS. TRAIN using C-1 Group B for the third octave, and C-2 Group A for the fourth octave.

REINITIALZING THE MALLETKAT

Step on the Edit Footswitch and press (hold down) both FUNCTION PADS all at the same time. Notice the display screen will prompt you to also hold down the A# pad next to the two Function Pads. Continue holding all three pads until you hear the reinitialize beep tones. The malletKAT defaults back to the Factory Kits.

MalletKAT EXPANDER
Your Expander comes with:
1 piece of felt with adhesive
2 aluminum strapping bars
1 special 7 pin Expander Cable

malletKAT EXPANDERS (how to connect)
Tools needed: You will need a Phillips screwdriver.

To attach your Expander to the malletKAT PRO or malletKAT EXPRESS, turn the unit off and unplug all cords. Turn the malletKAT upside down on a flat surface. Position the Expander upside down next to the LOWEST octave of the malletKAT.

Take the piece of felt and line it up to the side of the Expander that will be attached to your Pro/Express.

Remove the release paper on the felt and adhere it to the side of the Expander. Set the Expander back down lining it up with the malletKAT so that the felt is touching it.

Remove the last four screws on the malletKAT furthest from the display, two screws from the top row and two from the bottom row. Remove the adjacent four screws on the Expander Unit as well, two from the top row and two from the bottom row. (These are 6-32 X 1/2" pan head phillips sems).

Position the aluminum strapping bars with the oblong hole lining up on the malletKAT and the last two holes lining up on the Expander. Replace the screws you just removed, attaching the strapping bars to the malletKAT and the Expander.

Turn the malletKAT back over. Plug the special Expander Cable from the malletKAT to the Expander. Use Output number ONE on the malletKAT for a single expander, and Output number TWO for the second expander furthest from the display.

ALWAYS plug in the Expander cable BEFORE turning on the malletKAT. Plug in the rest of your cords, turn the unit on and have fun playing.

INDEX

malletKAT Shortcuts

KIT AUXILLARY	Short Cut #	KIT AUXILLARY Parameters	DEFAULT
Sustain FTSW 1	1	Sustains 1 &2, 1 and R, 2 and R, 1 and 2 and R, 1, 2	1 & 2
Sustain FTSW 2	2	Sustains 1 &2, 1 and R, 2 and R, 1 and 2 and R, 1, 2	1 & 2
Bank msb Bank lsb	3,4	00-127	00-00
AfterTouch Type is	5	Channel pressure, Key Pressure	Channel
MonoNote Overlap	6	Disabled, .010-.310 second	Disabled
Multiple Hit Smoothing	7	Is Not Active, Mode I Active, Mode II Active	Mode II
Polyphony	8	1 Note, 2 Note	1 Note
Foot Controller 1 Assignment	9	CC# 00-127 (including same CC Names)	Volume
Foot Controller 1 Minimum Effect	10	00-127	0
Foot Controller 1 Maximum Effect	11	00-127	127
Foot Controller 1 Curve	12	00-11	8
Foot Controller 1 Channel	13	Same as CNTRL1,Same as CNTRL2, Both Controllers,01-16	Same as CNTRL 1
Foot Controller 2 Assignment	14	CC# 00-127 (including same CC Names)	Volume
Foot Controller 2 Minimum Effect	15	00-127	0
Foot Controller 3 Maximum Effect	16	00-127	127
Foot Controller 2 Curve	17	00-11	8
Foot Controller 2 Channel	18	Same as CNTRL1,Same as CNTRL2, Both Controllers,01-16	Same as CNTRL 2
Breath Controller Assignment	19	CC# 00-128 (including same CC Names)	PITCH UP/SUS
Breath Controller Minimum Effect	20	00-127	0
Breath Controller Maximum Effect	21	00-127	127
Breath Controller Curve	22	00-11	1
Breath Controller Channel	23	Same as CNTRL1,Same as CNTRL2, Both Controllers,01-16	BOTH CONTROLLERS
Reverb Select	24	No Effect, Various Reverb Presets	NO EFFECT
Edit Controller Interface Mode	25	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Warp Mode	26,27	OFF/On—Vol %	OFF
Pitchbend Sensitivity	28	OFF/On and Channel	OFF
Reassign MODE	29	OFF, COMBINE, REPLACE	OFF
Reassign Polyphony	30	Monophonic, Polyphonic	POLYPHONIC
Reassign #	31	OO-14	1
Reassign Octave Offset	32	OO-14	00-00
Reassign Transpose AMT	33	-12 to +12	0
Reassign Forced Gate	34	OFF, Latch, 0.10-6.000 sec	OFF
Reassignment Prog Change	35	NO, 00-127	NO
Reassignment Channel	36	00-16	3
Reassignment Vol	37	NO, 00-128	NO
Reassignement Bank LSB	38	00-127	0
Reassignment Polyphony	39	1 Note, 2 Note	1 Note
Reassignment Interface Mode	40	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Pitch Bend Channel	41	O1-16	1
Pitch Bend Routing	42	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT

malletKAT Shortcuts

KIT AUXILLARY	Short Cut #	KIT AUXILLARY Parameters	DEFAULT
Slew Data Strip Rate	43	00-127	5
Kit Name	44 or 00	12 characters A-Z,numbers,symbols	***********************
Warp Mode P1	55	-12 to +12	1
Warp Mode P2	56	-12 to +12	2
Warp Mode Rep	57	1--3	1
Warp Mode Patterns	58	1--8	1
AutoGate Control	59	Disabled, Enabled	DISABLE
AutoGate Control Overlap	60	0.010-6.200 sec	.10 SEC
Reassignment Bank MSB	61	00-127	O
Warp Mode P3	62	-12 to +12	0
Velocity Shift Point	63	00-127	60
Kit Controller Preset CC#	64	00-128	128
Kit Controller Channel	65	O1-16	1
Kit Controller CC# Value	66	00-127	0

KIT AUXILLARY	Short Cut #	KIT AUXILLARY Parameters	DEFAULT
AfterTouch Type is	5	Channel pressure, Key Pressure	Channel
AutoGate Control	59	Disabled, Enabled	DISABLE
AutoGate Control Overlap	60	0.010-6.200 sec	.10 SEC
Bank msb Bank lsb	3,4	00-127	00-00
Breath Controller Assignment	19	CC# 00-128 (including same CC Names)	PITCH UP/SUS
Breath Controller Channel	23	Same as CNTRL1,Same as CNTRL2, Both Controllers,01-16	BOTH CONTROLLERS
Breath Controller Curve	22	00-11	1
Breath Controller Maximum Effect	21	00-127	127
Breath Controller Minimum Effect	20	00-127	0
Edit Controller Interface Mode	25	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Foot Controller 1 Assignment	9	CC# 00-127 (including same CC Names)	Volume
Foot Controller 1 Channel	13	Same as CNTRL1,Same as CNTRL2, Both Controllers,01-16	Same as CNTRL 1
Foot Controller 1 Curve	12	00-11	8
Foot Controller 1 Maximum Effect	11	00-127	127
Foot Controller 1 Minimum Effect	10	00-127	0
Foot Controller 2 Assignment	14	CC# 00-127 (including same CC Names)	Volume
Foot Controller 2 Channel	18	Same as CNTRL1,Same as CNTRL2, Both Controllers,01-16	Same as CNTRL 2
Foot Controller 2 Curve	17	00-11	8
Foot Controller 2 Minimum Effect	15	00-127	0
Foot Controller 3 Maximum Effect	16	00-127	127
Kit Controller CC# Value	66	00-127	0
Kit Controller Preset CC#	64	00-128	128
Kit Controller Channel	65	O1-16	1
Kit Name	44 or 00	12 characters A-Z,numbers,symbols	***********************

malletKAT Shortcuts

KIT AUXILLARY	Short Cut #	KIT AUXILLARY Parameters	DEFAULT
MonoNote Overlap	6	Disabled, .010-.310 second	Disabled
Multiple Hit Smoothing	7	Is Not Active, Mode I Active, Mode II Active	Mode II
Pitch Bend Channel	41	O1-16	1
Pitch Bend Routing	42	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Pitchbend Sensitivity	28	OFF/On and Channel	OFF
Polyphony	8	1 Note, 2 Note	1 Note
Reassign Octave Offset	32	OO-14	OO-00
Reassign #	31	OO-14	1
Reassign Forced Gate	34	OFF, Latch, 0.10-6.000 sec	OFF
Reassign MODE	29	OFF, COMBINE, REPLACE	OFF
Reassign Polyphony	30	Monophonic, Polyphonic	POLYPHONIC
Reassign Transpose AMT	33	-12 to +12	0
Reassignement Bank LSB	38	00-127	0
Reassignment Bank MSB	61	00-127	O
Reassignment Channel	36	00-16	3
Reassignment Interface Mode	40	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Reassignment Polyphony	39	1 Note, 2 Note	1 Note
Reassignment Prog Change	35	NO, 00-127	NO
Reassignment Vol	37	NO, 00-128	NO
Reverb Select	24	No Effect, Various Reverb Presets	NO EFFECT
Slew Data Strip Rate	43	00-127	5
Sustain FTSW 1	1	Sustains 1 &2, 1 and R, 2 and R, 1 and 2 and R, 1, 2	1 & 2
Sustain FTSW 2	2	Sustains 1 &2, 1 and R, 2 and R, 1 and 2 and R, 1, 2	1 & 2
Velocity Shift Point	63	00-127	60
Warp Mode	26,27	OFF/On—Vol %	OFF
Warp Mode P1	55	-12 to +12	1
Warp Mode P2	56	-12 to +12	2
Warp Mode P3	62	-12 to +12	0
Warp Mode Patterns	58	1--8	1
Warp Mode Rep	57	1--3	1

GLOBAL AUXILLARY	Short Cut #	GLOBAL AUXILLARY Parameters	DEFAULT
Permanent Memory is	1	Not Protected, Protected	NOT PROTECTED
MIDI IN to MIDI OUT Merge	2	Is On, Is Off	IS ON
Select Data Dump Type	3	Global, All Memory, All Kits,Chains&Reassignments, Kit01-128	ALL MEMORY
DataDump Receive	4	Enabled, Disabled	ENABLED
Threshold Adjust	5		
Incoming Program Change Receive	6	On All Channels, Is Off, Channel 1-16	ON ALL CHANNELS
To Train Pads	7		
To Train Foot Controller 1	8		

malletKAT Shortcuts

GLOBAL AUXILLARY	Short Cut #	GLOBAL AUXILLARY Parameters	DEFAULT
To Train Foot Controller 2	9		
To Train Breath Controller	10		
Beeper Is	11	On/Off	ON
Screen Angle	12	Straight View, Edge View	STRAIGHT VIEW
Individual ID	13	Universal ID, 01-127	UNIVERSAL ID
Debounce Count	14	01-120	20
Dampen Threshold	15	00-255	3
Dampen Count	16	00-255	100
Virtual Control Wheel B CC#	17	00-127	10
Virtual Control Wheel C CC#	18	00-127	10
Foot Contrl 1 Performs	19	Controller,Setup Advance,SetupBackup,	CONTROLLER
Foot Control 2 Performs	20	Controller,Setup Advance,SetupBackup,	CONTROLLER
Aftertouch Mask Count	21	01-64	20
Aftertouch Depth	22	00-64	1
Bank Select1	23	Enabled, Disabled	ENABLED
Incoming Channel 1 Route to	24	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 2 Route to	25	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 3 Route to	26	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 4 Route to	27	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 5 Route to	28	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 6 Route to	29	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 7 Route to	30	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 8 Route to	31	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 9 Route to	32	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Reassign Transpose Amt	33	-12 to +12	0
Incoming Channel 11 Route to	34	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 12 Route to	35	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 13 Route to	36	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 14 Route to	37	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 15 Route to	38	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 16 Route to	39	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming System Message Route to	40	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
MIDI IN Prog Change Sound Map	41	Setups Map,General MIDI Map,	SETUPS MAP
Tune Instrument to 440	42	-50+50 Cents	0 CENTS
Dampen Mode Scan Count	43	O-16	6
Normal Mode Scan Count	44	3---16	5
Dampen Ratio	45	0-255	50
Chain # Screen	46	O1-16	3
Chain Step	47	O-16	1
Chain Setup	48	01-128	1

GLOBAL AUXILLARY	Short Cut #	GLOBAL AUXILLARY Parameters	DEFAULT
Chain Enable	49	Disable/Enable	DISABLE
Reassign Number	50	O1-14	1
Reassign K number	51	01-61	1
Reassign m number	52	C-2 – G8	c-2
Reassign Channel	53	O1-16	1
Reassign Min Velocity	54	00-127	20
Reassign Max Velocity	55	00-127	127
Reassign Curve	56	O1-11	1
Reassign Gate	57	0.010-6.200 sec	0.255
Groove Enabled	58	Disable/Enable	Disabled
Groove Pattern	59	Various Groove Patterns	CLICK IN 4
Groove Tempo	60	40-240	120
Groove Volume	61	00-10	10
Groove Routing	62	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Virtual Control Wheel A CC#	63	00-128	10
Program String Names	64	Kit Names, None, Instrument Names	KIT NAMES
Fine Tuning Routing	65	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Tune Instrument Ch	66	01—16	1
RTC Key Number	67	A#-1 -A#+1	C#
RTC Channel	68	O1-16	1
RTC Controller #	69	00-127	50
RTC Min Value	70	00-127	0
RTC Max Value	71	00-127	127
RTC Reset Value	72	00-128	0
RTC Prev Cntrl Value	73	Reset,None	RESET
RTC Next Cntrl Value	74	Reset, None, Last	RESET
RTC Controller #	75	00-127, NO	NO
RTC Reset Value	76	00-127	0
Chord Mode Window	77	01-20 milliseconds	5
RTC Channel	78		
To Train Pad Groups	79		
Training Results Low Level	80		
Training Results High Level	81		
Training Results Indiv Pad	82		
Adjust Threshold Backwards	83	O1-48	45
Adjust Threshold Forwards	84	O1-48	45
To Train Indiv Pad A	85		
To Train Indiv Pad B	86		
To Train Indiv Pad C	87		
To Train Indiv Pad D	88		

malletKAT Shortcuts

GLOBAL AUXILLARY	Short Cut #	GLOBAL AUXILLARY Parameters	DEFAULT
To Train Indiv Pad E	89		
To Train Indiv Pad F	90		
To Train Indiv Pad G	91		
To Train Indiv Pad H	92		
To Train Indiv Pad I	93		
To Train Indiv Pad J	94		
To Train Indiv Pad K	95		
To Train Indiv Pad L	96		
To Train Indiv Pad M	97		
To Train Indiv Pad N	98		
To Train Indiv Pad FO	99		
Training Breath Controller	100		

GLOBAL AUXILLARY	Short Cut #	GLOBAL AUXILLARY Parameters	DEFAULT
Adjust Threshold Backwards	83	O1-48	45
Adjust Threshold Forwards	84	O1-48	45
Aftertouch Depth	22	00-64	1
Aftertouch Mask Count	21	01-64	20
Bank Select1	23	Enabled, Disabled	ENABLED
Beeper Is	11	On/Off	ON
Chain # Screen	46	O1-16	3
Chain Enable	49	Disable/Enable	DISABLE
Chain Setup	48	01-128	1
Chain Step	47	O-16	1
Chord Mode Window	77	01-20 milliseconds	5
Dampen Count	16	00-255	100
Dampen Mode Scan Count	43	O-16	6
Dampen Ratio	45	0-255	50
Dampen Threshold	15	00-255	3
DataDump Receive	4	Enabled, Disabled	ENABLED
Debounce Count	14	01-120	20
Fine Tuning Routing	65	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Foot Contrl 1 Performs	19	Controller,Setup Advance,SetupBackup,	CONTROLLER
Foot Control 2 Performs	20	Controller,Setup Advance,SetupBackup,	CONTROLLER
Groove Enabled	58	Disable/Enable	Disabled
Groove Pattern	59	Various Groove Patterns	CLICK IN 4
Groove Routing	62	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Groove Tempo	60	40-240	120
Groove Volume	61	00-10	10
Incoming Channel 1 Route to	24	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT

malletKAT Shortcuts

GLOBAL AUXILLARY	Short Cut #	GLOBAL AUXILLARY Parameters	DEFAULT
Incoming Channel 11 Route to	34	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 12 Route to	35	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 13 Route to	36	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 14 Route to	37	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 15 Route to	38	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 16 Route to	39	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 2 Route to	25	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 3 Route to	26	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 4 Route to	27	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 5 Route to	28	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 6 Route to	29	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 7 Route to	30	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 8 Route to	31	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Channel 9 Route to	32	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Incoming Program Change Receive	6	On All Channels, Is Off, Channel 1-16	ON ALL CHANNELS
Incoming System Message Route to	40	Both Int & Ext, Neither, External MIDI only, Internal Only	BOTH INT & EXT
Individual ID	13	Universal ID, 01-127	UNIVERSAL ID
MIDI IN Prog Change Sound Map	41	Setups Map, General MIDI Map,	SETUPS MAP
MIDI IN to MIDI OUT Merge	2	Is On, Is Off	IS ON
Normal Mode Scan Count	44	3--16	5
Permanent Memory is	1	Not Protected, Protected	NOT PROTECTED
Program String Names	64	Kit Names, None, Instrument Names	KIT NAMES
Reassign Transpose Amt	33	-12 to +12	0
Reassign Channel	53	01-16	1
Reassign Curve	56	01-11	1
Reassign Gate	57	0.010-6.200 sec	0.255
Reassign K number	51	01-61	1
Reassign m number	52	C-2 – G8	c-2
Reassign Max Velocity	55	00-127	127
Reassign Min Velocity	54	00-127	20
Reassign Number	50	01-14	1
RTC Channel	68	01-16	1
RTC Channel	78		
RTC Controller #	75	00-127, NO	NO
RTC Controller #	69	00-127	50
RTC Key Number	67	A#-1 -A#+1	C#
RTC Max Value	71	00-127	127
RTC Min Value	70	00-127	0
RTC Next Cntrl Value	74	Reset, None, Last	RESET
RTC Prev Cntrl Value	73	Reset,None	RESET

malletKAT Shortcuts

GLOBAL AUXILLARY	Short Cut #	GLOBAL AUXILLARY Parameters	DEFAULT
RTC Reset Value	72	00-128	0
RTC Reset Value	76	00-127	0
Screen Angle	12	Straight View, Edge View	STRAIGHT VIEW
Select Data Dump Type	3	Global, All Memory, All Kits,Chains&Reassignments, Kit01-128	ALL MEMORY
Threshold Adjust	5		
To Train Breath Controller	10		
To Train Foot Controller 1	8		
To Train Foot Controller 2	9		
To Train Indiv Pad A	85		
To Train Indiv Pad B	86		
To Train Indiv Pad C	87		
To Train Indiv Pad D	88		
To Train Indiv Pad E	89		
To Train Indiv Pad F	90		
To Train Indiv Pad FO	99		
To Train Indiv Pad G	91		
To Train Indiv Pad H	92		
To Train Indiv Pad I	93		
To Train Indiv Pad J	94		
To Train Indiv Pad K	95		
To Train Indiv Pad L	96		
To Train Indiv Pad M	97		
To Train Indiv Pad N	98		
To Train Pad Groups	79		
To Train Pads	7		
Training Breath Controller	100		
Training Results High Level	81		
Training Results Indiv Pad	82		
Training Results Low Level	80		
Tune Instrument Ch	66	01—16	1
Tune Instrument to 440	42	-50+50 Cents	0 CENTS
Virtual Control Wheel A CC#	63	00-128	10
Virtual Control Wheel B CC#	17	00-127	10
Virtual Control Wheel C CC#	18	00-127	10

malletKAT Shortcuts

PAD FUNCTION LISTINGS

HIGHEST OCTAVE

C = Setup Number
D = Gate Time Settings forward = (Roll Mode,Velocity Gate)
E = Octaves
F = Minimum Velocity Setting
G = Maximum Velocity Setting
A= Velocity Curve
B = Volume Setting
C (highest) = Program Change

C# = Decrement
D# = Increment
F# = Default
G# = S.Copy
A# = Cancel
Function Pad 1 = Backwards
Function Pad 2 = Forwards

MIDDLE OCTAVE

C = Hang Mode, Melody Chord 1, Melody Chord 2, Melody Chord 3 Modes
D = Split Mode
E = Double, VEL Shift, ALT Mode
F = Monophonic Mode , RTC, RTC+Velocity (Layer two PTW, CTLA,CTLB, CTLC
G = Polyphonic Mode
A= Transpose Mode
B = MIDI Channe1

C# = 6 number
D# = 7 number
F# = 8 number
G# = 9 number
A# = 0 number

LOWER OCTAVE

C = All Notes Off, Individual All Notes Off
D = Global Auxiliary Functions
E = Kit Auxiliary Functions
F = Bank Select (Factory, User, Chain)
G = Normal Pressure Mode
A= Dampen Stroke, Dead Stroke
B = Aftertouch Mode

C# = 1 number
D# = 2 number
F# = 3 number
G# = 4 number
A# = 5 number

malletKAT KS Sound List **Melodic Sounds Bank 00** **pg. 1**

Melodic Sounds Bank 00

PC	MSB 00 LSB 00	PC	MSB 00 LSB 00	PC	MSB 00 LSB 00	PC	MSB 00 LSB 00	PC	MSB 00 LSB 00
1	Standard Grand	27	Supertramp Wurly	54	OleTime Gospel	83	Big Old Jupiter	110	Jaco Fretless
2	Studio Grand	28	FlydDarkside/Wah	55	FooledAgnVox	84	9Yards Bass	111	Upright Growler
3	RubensteinSWComp	29	What'd I SayWrly	56	BostonScreamer	85	BowhSaw Bass	112	Levin/GabrlFrtls
4	Horowitz Grand	30	DeepFuzz Wurly	57	Power Pop Horns	86	ARPesque Bass	113	NYC Kits
5	NYC Jazz Grand	31	No Quarter Pnt	58	Sax/Trumpet Sctn	87	DaywalkerBassMW	114	LA Kits
6	Pop Power Piano	32	MistyMountain EP	59	BigBand/AMradio	88	Harpolicious	115	Rock Kits
7	ColdPliano	34	AcidJazzVelFlute	60	MeanSalsaSection	89	Slo QuadraPad	116	Roots/Indie Kit
8	Grand "Evans"	35	TimbaSynth	61	R&B/Funk Section	90	Phase Shimmer	117	Kikz/Snarz MW
9	Blues Piano 1974	36	Blue PVC Tubes	62	Bassie Orchestra	91	Le Pesque	118	EarthKikz n Snrz
10	Rock Piano 1974	37	SimpleHipHopLead	63	P*Funk Horns	92	Wispy One	119	Anazlog Machine
11	Lola Piano	38	Stereo TouchKoto	64	70s Stones Horns	94	Fairlight Pad	120	Produced Kit '08
12	TakeMeToThePilot	39	Modwheel DJ	66	DarkNYCStudio	95	Tronesque	121	Natural Perc
13	Deb's Ghost Pno	40	Retro Sparkle	67	Pop Tripper Str	96	So Lush Pad	122	Rhythm 4 Reel
14	Ken Brns Uprigt	41	RealSupasticious	69	Vienna Octaves	97	Boutique Six Str	123	New Marimba
15	SMiLE/RkyRaccoon	42	Joe's Clav	71	Pizzicato	98	Boutique 12 Str	124	2-HandSteelDrums
16	Piano & String	43	Rufus/Marley WAH	72	Tremolando	99	Emo Verser	125	Real Vibes
17	Beaten in Rhds	44	Black Cow Clav	73	Choir Complete	100	Voxxed Elec 12	126	SteamPunkMallets
18	Stevie's Rhds	45	Hiya Ground sw	74	Haah Singers	101	Real Nylon	127	Magic Celeste
19	Gilpin'sSuitcase	46	TrampledUnder D6	75	Manhattan Voices	102	Dual Strat	128	Drums 'n Bells
20	Duke's Dyno Rhds	47	Harpsichord	76	Aaahlicious	103	BurningTubes MW		
21	MotorBootyMutron	48	BriteHarpsichord	77	NYC in LA	104	Rockin' Lead MW		
22	Sweet Loretta EP	49	Gregg's B	78	Crystal Voices	105	P-Bass		
23	Rhds/WahSW	50	Real AllOut B	79	Airy Pad	106	E-Bass		
24	Hotrod Dyno Rhds	51	Clean Perc	80	Cathedral Vox	107	Beasties Bass		
25	WoodstockClunker	52	The Ninth Bar	81	Classic Comp	108	Flea/Bootsy		
26	Stage Mix Wurly	53	Lord's B3 MW	82	Fitty-Fitty Lead	109	Big Dummy		

malletKAT KS Sound List

pg. 2 **Melodic Sounds Bank 01**

Melodic Sounds Bank 01

PC	MSB 00 LSB 01	PC	MSB 00 LSB 01	PC	MSB 00 LSB 01	PC	MSB 00 LSB 01
1	Piano Stack	29	Crisp and Soft	56	VAST1-3,8&9	84	SynBell Morph
2	Dark Grand	30	Soft Warm Ballad	57	1-Note PowerRiff	85	Perc>Morph>Bass
3	Grand Piano 440	31	TX Stack	58	Miami Pop Horns	86	EvilOctaveWheel
4	Piano Recital	32	Tight Bright FM	59	80sPopOctaveSax	87	TranceRiff
5	Ole Upright 1	33	PolyTechnobreath	60	BuenaVista Brass	88	SickoSynco
6	WestCoastPno&Pad	34	PianoSynth Stack	61	Tenor Express	89	Buzzy Strings
7	Perfect PnoPad	36	BigSyn/HornStack	62	Sgt.Pepper Brass	90	VA1Saw/Sqr/Pulse
8	Dreamy Piano	37	'70s Arena Synth	63	Goldfinger Brass	91	Airy Impact
9	Piano w DvStrgs	38	'80s Arena Synth	64	Bari/TenorSect	92	Spider's Web
10	PnoAgtStrngs	39	'90s Funk Stack	65	Studio A Strings	93	ARP Big Synth
12	DancePnoEchplex	40	Nexx Prog Stack	66	Studio B Octaves	94	Class Pad
13	Ivory Harp	41	Crisp Clav	69	Owen's Strings	95	HarmonicEnvelops
14	Piano Lushness	42	Stevie Fuzz	70	Studio C Strings	96	Heaven & Earth
15	Piano & Wash	43	HeartbreakerWAH	71	Tender Strings	97	Bling 6 String
16	Piano & Vox Pad	44	ChoclateSaltyClv	72	Toxic Strings	98	MediumCrunchLead
17	XfadBelltoneRhds	45	SailinShoes Clav	73	Mixed Choir	99	DoubleCleanChrs
18	Extreme Hardstrk	46	StopMakingSense	74	Concert Choir	100	Comp'd Phaser
19	Fagen Phaser	47	Harpsi Rotovibe	75	Aaah Vocals	101	TremBucker
20	RoyalScam Rhds	48	PhsyclGrafitiClv	76	Jazzy Ballad Vox	102	Cascade Sitar
21	AustnCtyLmtsWrly	49	ParisCmboAccordn	77	AntiqueAhhChorus	103	Heavy Buckers
22	BrightDynamicWly	50	WhiterShadeB3	78	Bright Syn Vox	104	Nasty70s Guitar
23	'70sWahLeslieEP	51	Doors Vox	79	Vox Orgel	105	Finger Bass
25	Classic DX Rhds	52	Indagardenoveden	80	Vox & Strings	106	KneeDeepMinimoog
26	Rich EP+Pad	53	Animals Vox	81	Press Lead	107	AC Buzzer Bass
27	90's FM Shimmer	54	Magic Wolf	82	ClassSquare	108	Motown Bass
28	Bright HardstrEP	55	Farfisa 1	83	ARP2500 Brass	109	Squire'sHeavyPik
						110	Lowdown Bass
						111	Eberhardt Frtls
						112	Sly Bass
						113	Maroon Drums
						114	BourneRemixDrum
						115	BeastieRetroDrum
						116	DryPumpin'Drums
						117	'60s Rock&Soul
						118	Headhunters Kit
						119	FranticHouseDrms
						120	Dance/Marilyn
						121	Mellow Marimba
						122	Skullophonic
						123	Percussionist
						124	Shiny Sparkles
						125	HybridTuned Perc
						126	Dynamic Perc
						127	Cage's Ensemble
						128	Magic Mbira

malletKAT KS Sound List **pg. 3** **Melodic Sounds Banks 02-03**

PC	MSB 00 LSB 02	PC	MSB 00 LSB 02	PC	MSB 00 LSB 03	PC	MSB 00 LSB 03	PC	MSB 00 LSB 03	PC	MSB 00 LSB 03
17	VA1 Saw Lead	59	ElectroPercSynth	1	Winds & Strings	51	Solo Clarinet	77	Trombone Section	103	Soft Stops
18	VA1 Sqr Lead	60	MWhlMayhemBass	2	Winds, Horn & Str	52	Slo OrchClarinet	78	Dyn Orch Bones	104	All Stops
19	MaroonSynBass	61	ElectronicaSplit	4	LH Timp Roll Orch	53	Fast Orch Clar	79	Bari Horn Section	105	Chapel Organ
20	VA1DistBassSolo!	62	HiPassMWhlBlips	7	Poltergeist Trem	54	Lead Clarinet	80	Dyn Bari Horns	106	AllStops AllVox
21	DownwardSpiralMW	63	Plasma Cannon	9	Pizz w/PercUpTop	55	Solo Bassoon	81	Solo Tuba	107	Pipes & Voices
22	VA1DstPulseWheel	64	32 Layer Bass!	11	Fast Winds &Pizz	56	Solo Bassoon vib	82	Dyn Orch Tuba	108	Orch Timpani
24	VA1 DetunedPulse	104	St.P PWM BASS	24	Strings & Silver	57	Solo Dbl Reeds	83	Low Orch Brass	109	Solo Timpani
25	VA1 Detuned Saws	105	SquareChirpLead	25	Reeds & Bells	58	Woodwind Section	84	Low Brass Chorale	110	Tam/Cym/BD/Timp
26	VA1 Detuned Sqrs	110	Synbrass Pillow	26	Perc Atk Strings	59	Ensemble WWinds	85	Fast Orch Brass	111	Basic Orch Perc
27	VA1 Emerson Lead	113	Outkast Drums	29	Orch w/ Bells On	60	BassClar/Clar/Fl	86	Brass Fanfare	112	Timp & Aux Perc
28	MwhlClubsweeper	114	PopRock'08 Kit	31	Horns,Winds&Str	61	Solo Fr Horn	87	Dyn Orch Trumpets	113	Temple Blocks
29	Innervate	115	Hello Brooklyn	34	StBaroque Harpsi	62	Ensemble Fr Horn	88	Solo Violin fast	114	Modern Blockery
30	ChemBrosBassLead	116	Snoop Kit	35	String Continuo	63	Lead French Horn	89	Folk Violin slow	115	Perc & Blocks
31	UFO Pad	117	EpicRemixDrums	38	Fifes & Drums	64	Dyn Orch Fr Horns	90	Solo Viola fast	116	Stereo Tam-tam
32	VA1SliderMorphSQ	118	ZooYorkRemixDrms	39	Solo Flute	65	HornSect Layer	91	Solo Viola slow	117	Cymbal Roll Tr
48	Preston SpaceWah	119	Roc-A-Fella Kit	40	Tremolo Flute	66	Solo BrtTrumpet	92	Solo Cello fast	118	Xylophone
49	Analog/DigHybrid	120	Breakestra Kit	41	Fast Orch Flute	67	Hard Trumpet	93	Solo Cello slow	119	Solo Marimba
50	Jump! Obx	122	DigitalMoonscape	42	Piccolo	68	Lead Trumpet	94	Solo Basso 1	120	Orch Marimba
51	'80s End Credits	123	Falgor'sLament	43	Solo Oboe	69	Soft Trumpet	95	Solo Basso 2 slo	121	Vibraphone
52	VA1Distlead CC	124	BPM BionicStrngs	44	Slow Oboe	70	Slow Soft Trp	96	String Quartet	122	Celeste
53	Divider	127	MeanStereoSweep	45	Fast Orch Oboe	71	Two Lead Trumpets	97	Solo Harp	123	Glockenspiel
54	Mono Trekkies	128	PulseVowel	46	Lead Oboe	72	Lead MuteTrumpet	98	Orch Harp 1	124	Chimes/Glock
55	Disco Divebomb			47	Solo Eng Hrn prs	73	Solo Tenor Sax	99	Delicate Harp	125	Bells Across
56	MutronTweetyPerc			48	Fast Orch EngHrn	74	Sax,Horns,MuteTrp	100	HarpArps & Gliss	126	CelesteGlockHarp
57	Disgusting Bass			49	Slow EngHorn prs	75	Solo Trombone	101	Slo Orch Chorus	127	Chime Bell
58	VA1ShaperSweeper			50	Lead English Horn	76	Ens Trombone	102	Pipe Stops	128	Carillon

malletKAT KS Sound List   pg. 4   Drum / Percussion Bank 04

PC	MSB 00 LSB 04	PC	MSB 00 LSB 04	PC	MSB 00 LSB 04
1	Kit 1 Open Rock	51	Kit 51 Jersey	102	PERC KatManDude
2	Kit 2 SquashRock	52	Kit 52 HardKnock	103	PERC PolyRitmico
3	Kit 3 Full Room	53	Kit 53 CoralBox	104	PERC Carnival
4	Kit 4 East Space	54	Kit 54 Cold Cash	105	HIT'n Rung 1
5	Kit 5 CopperRing	55	Kit 55 Spooge	106	HIT'n Rung 2
6	Kit 6 Birch Wood	56	Kit 56 DJ-Dub	107	HIT'n Rung 3
7	Kit 7 DeadRocker	57	Kit 57 Beatbx101	108	HIT'n Rung Keys
8	Kit 8 Ring-tone	58	Kit 58 Rhythmcon	109	KEY SoftBars
9	Kit 9 Gadd'sLair	59	Kit 59 Superfly	110	KEY XyLoomBa
10	Kit 10 Hinomaru	60	Kit 60 Lay Down	111	KEY Asian Metal
11	Kit 11 KirkeeB 1	61	Kit 61 TrashFunk	112	KEY TablaBars
12	Kit 12 25thAnniv	62	Kit 62 RadioEcho	113	KEY SlitBars
13	Kit 13 LA A Kit1	63	Kit 63 TouchTone	114	KEY GourdBars
14	Kit 14 LA A Kit2	64	Kit 64 Sweeper	115	KEY MamboBars
15	Kit 15 LA A Kit3	65	Kit 65 ScratchMe	116	MIXnMatch Perc1
16	Kit 16 LA B Kit1	66	Kit 66 Ice Heart	117	MIXnMatch Perc2
17	Kit 17 LA B Kit2	67	Kit 67 ChakraJam	118	MIXnMatch Perc3
18	Kit 18 LA B Kit3	68	Kit 68 Voice Box	119	MIXnMatch Perc4
19	Kit 19 Pomele	69	Kit 69 6 Mil$Man	120	ATM HoldnSlide
20	Kit 20 KirkeeB 2	70	Strange Hits	121	ATM Birdy Birdy
21	Kit 21 J Geils	71	Strange Hits2	122	ATM SacredShrine
22	Kit 22 Tightie	72	VinylNoyzComboMW	123	ATM Tera Nova
23	Kit 23 Low Rock	73	Recrd Start/Stop	124	ATM Oody Oody
24	Kit 24 Drum&Bass	74	5 Kits Templte 1	125	ATM FlexiCrotale
25	Kit 25 Flabby	75	Aud Kik/Snr Mono	126	ATM Bit'aGlitter
26	Kit 26 Boxy Tubs	76	Aud Kik/Sn Streo	127	ATM Drip'nGlittr
27	Kit 27 West Boxy	77	Stereo KickDrums		
28	Kit 28 Big Buzz	78	Mono Kick Drums		
29	Kit 29 Schnizzle	79	StereoSnareDrums		
30	Kit 30 Bonzo'sRm	80	Mono Snare Drums		
31	Kit 31 Old Traps	81	Tom-toms		
32	Kit 32 Fat Boy	82	Hi-hats		
33	Kit 33 ModernRok	83	Rdes&Crshs&Rolls		
34	Kit 34 80'sPower	84	E Perc/SoundFX		
35	Kit 35 WoolyPckt	85	Vocal Percussion		
36	Kit 36 Reso-King	86	Drum Percussion		
37	Kit 37 Los Feliz	87	WoodMetlShakPerc		
38	Kit 38 Mahogany	88	VRT Accessory A		
39	Kit 39 80's PTS	89	VRT Accessory B		
40	Kit 40 FabFringe	90	VRT Accessory C		
41	Kit 41 LouStools	91	VRT BongoConga		
42	Kit 42 Orngcrush	92	VRT Bendir		
43	Kit 43 Static	93	VRT Bodhran		
44	Kit 44 LiteBrite	94	VRT BodhrnBendir		
45	Kit 45 Brush 1	95	VRT Djembe		
46	Kit 46 Brush 2	96	VRT DumbekDjembe		
47	Kit 47 PillowFuz	97	VRT FrameDrums		
48	Kit 48 Thigpen	98	VRT FrameHybrid		
49	Kit 49 Fnessence	99	VRT Gourd		
50	Kit 50 Proc Pop	100	VRT Tabla		
		101	VRT TalkingDrum		

malletKAT KS Sound List   **pg. 5**   **Drum / Percussion Bank 05**

PC	MSB 00 LSB 05	PC	MSB 00 LSB 05	PC	MSB 00 LSB 05	PC	MSB 00 LSB 05
1	Brt Natural Kit	26	AngryBastard Kit	52	Backsweep Kit	78	Coliseum Kit
2	SmoothRocker Kit	27	Vibra Lunch Kit	53	Bug Zapper Kit	79	RipperKit1
3	Low Rocker Kit	28	Ricochet Kit	54	Elektro Sand Kit	80	TripTrash
4	SuperNatural Kit	29	Frida's Gate Kit	55	Sandy Bott'm Kit	81	Beatbox2
5	Big Woosh Kit	30	Metallic Cut Kit	56	Box o' Sand Kit	82	SumpKit1 MWSus
6	Fat Nat Kit	31	Cannibal Kit	57	Fine Grit Kit	83	ElectroKit2MW
7	Abe Junior Kit	32	Tunnel Feel Kit	58	Matchmaker Kit	84	Paper Tom
8	Charlemagne Kit	33	Tuna Slap Kit	59	Zucchinni Kit	86	GlubFlangeKit
9	H-Fact Kit	34	Plywood Kit	60	Pump da Well Kit	87	DryFattyKit
10	SoftCookie Kit	35	Door Knocker Kit	61	L'trk Reflux Kit	88	Drums w Bass 1
11	Brushes Kit	36	Slapstick Kit	62	Squash Clap Kit	90	GateClapDrmLE
12	HipgigJunior Kit	37	Scratchbox Kit	63	Scoopit Up Kit	91	Dub Kit
13	Cocktail Kit	38	Anvil Head Kit	64	Tone Keeper Kit	92	Rock Room Drums
14	BeatBoxBrush Kit	39	Cat Scratch Kit	65	Phase "E" Kit	93	ResNoise Kit
15	Jinglehop Kit	40	Scream Kit	66	Straw Blow Kit	94	144ms Gated Kit
16	Tiny Bopper Kit	41	Mangled Kit	67	Falling Star Kit	95	FatNoise Kit
17	Move'n Air Kit	42	Rawhide Kit	68	Super Ball Kit	96	Hypd Natural Kit
18	Ali's Punch Kit	43	Shrugie Kit	69	Pixie Dust Kit	97	Rango Kit
19	Rock Trance Kit	44	Big Dog Kit	70	Air Waves Kit	98	NoiseSlapToms
20	Ringling Pop Kit	45	Sweeper Kit	71	Tub Floater Kit	99	16LayerCake Kit
21	Marley Kit	46	Gravel Dump Kit	72	Why Not Kit	100	HopRoom Kit
22	L'tric Nat Kit	47	Mudflap Kit	73	Turntablism Kit	101	Natural Ringer
23	TrashPanTom Kit	48	Mud Slinger Kit	74	Stud3and4C	102	BeachGroover
24	Tin Man Kit	49	Shrug's Bros'Kit	75	RadKings3	103	Rock Snarer
25	Cheapo Dist Kit	50	Wet Sponge Kit	76	ResonantTraps	104	Drum Pad Kit 1
		51	Succotash Kit	77	Ambient Rock1	105	Filter Kit

malletKAT KS Sound List　　**pg. 6**　　**Melodic Sounds Bank 06**

PC	MSB 00 LSB 06	PC	MSB 00 LSB 06	PC	MSB 00 LSB 06	PC	MSB 00 LSB 06
1	FM E Piano 1	27	16' Open Flute	53	4' Reed	79	Soft Marimba
2	FM E Piano 2	28	16' Stop Flute	54	4' Gamba	80	Subtle Marimba
3	Hybrid DX & Pad	29	16' Diapason	55	4' DiaCeleste	81	Rubber Marimba
4	FluidStradaGtr	30	16' Ped Bourdon	56	4' Ballpark Stop	82	Marimba Squash
5	Fluid E Gtr	31	16' Ped Diapason	57	4' Viol	83	Cold Marimba
6	OrganWaveComper	32	16' Ped Reed	58	2 2/3' OpenFlute	84	Double Marimba
7	Poly Brassy	33	16' Reed A	59	2 2/3' StopFl 12	85	Marimba Echos
8	SynBrass Comper	34	16' Reed B	60	2 2/3' Diapason	86	Canyon Marimba
9	PolyPitch Brass	35	16' Gamba	61	2 2/3' Reed	87	Marimba Abyss
10	Poly Sweep 2	36	16' DiaCeleste	62	22/3' Gamba	88	Vibe Dream
11	Scat Vocals	37	16' Ballpark Sto	63	2 2/3' DiaCelest	89	Mello Vibraphone
12	Scat Choir	38	16' Viol	64	22/3' Ballpark S	90	Thick Vibes
13	FM SqareBell	39	8' Open Flute	65	2 2/3' Viol	91	Creamy Vibes
14	Toot Lead	40	8' Stop Flute	66	2' Open Flute	92	Golden Vibes
15	WetToot	41	8' Diapason	67	2' Stop Flute	93	Chorus Vibes
16	LegatoBrassyLead	42	8' Ped Bourdon	68	2' Diapason	94	Vibes in Phase
17	Treble FM Lead	43	8' Reed	69	2' Reed	95	Vibe Trance
18	Delicate FM Lead	44	8' Gamba	70	2' Gamba	96	Surreal Vibes
19	Micromoog Plus	45	8' DiaCeleste	71	2' DiaCeleste	97	Cyrstal Vibes
20	Deep Vox Bed	46	8' Ballpark Stop	72	2' Ballpark Stop	98	BriteSwirl Vibes
21	SloSynOrch Wet	47	8' Viol	73	2' Viol		
22	Vox Bed 2	48	51/3' Ped Bourd.	74	Rich Marimba		
23	Hi Vox Cloud	49	4' Open Flute	75	Tempered Marimba		
24	LFO Pitcher Pad	50	4' Stop Flute	76	Lonely Marimba		
25	MagicChinaFlower	51	4' Diapason	77	Marimba Plate		
26	Climax Perc	52	4' Ped Bourdon	78	Thick Flt Marimb		

Melodic Sounds Banks 0-3, 6-7

malletKAT KS Sound List

Melodic Sounds Bank 07

pg. 7

PC	MSB 00 LSB 07	PC	MSB 00 LSB 07	PC	MSB 00 LSB 07	PC	MSB 00 LSB 07	PC	MSB 00 LSB 07
1	Ezra's Burner	28	Wah B3+Echoplx	54	LeeMichaelsB3	94	12SAWMWheelLead	120	Cars Square Lead
2	HotTubeGospel	29	Sweet n Nice	55	GM Standard Kit	95	HotMalletMWheel	121	Data Shape Saw
3	B3 Midrange	30	Soft Chords	56	GM Room Kit	96	ScreaminWhlBass	122	Saw+Mogue 4Pole
4	Blues&Gospel	31	SputtringingB3	57	GM Power Kit	97	SyncWheelLead	123	VA1NakedPWMPoly
5	Prog B3 Perc2	32	Melvin C.	58	GM Elec Kit	98	ModwheelKotoSyn	124	VA1NakedPWMMono
6	Prog B3 Perc3	33	All Out	59	GM Synth Kit	99	VASprSaw	125	VA1NakedSawPoly
7	Tube B3 Perc	34	J's Comper	60	GM Jazz Kit	100	VASprSaw+Allpass	126	VA1NakedSqrPoly
8	Prog B3 Perc4	35	Brother Jack	61	GM Brush Kit	101	Silent Program	127	VA1NakedSqrMono
9	BrgtTubeScream	36	Model One	62	GM Orch Kit	102	Click Track	128	VA1NakedSawMono
10	Zepelin Solo	37	Thick Gospel	63	VAST1-3Ch/Perc	103	Default Program		
11	Argent B3	38	Growler B	64	VAST1-3 Ch/Perc2	104	Diagnostic Sine		
12	MusselShoalsB3	39	Ready 2 Rock	65	Fisher's VAST B3	105	Propht V Sync Ld		
13	XtremTubeB3Prc	40	Thimmer	74	Blues Harmonica	106	Tempo SyncPulse		
14	Classic Traffic	41	The Real ABC	75	WheelBowCello	107	Slo Syn Orch		
15	Warm B3	42	GospelSpecial	76	WheelBowViola	108	Anabrass		
16	Warmer B3	43	In The Corner	77	WheelBowFiddle	109	Fat Syn Orch		
17	ChrsEchoOrgan	44	NightBaby	78	Electric Cello	110	WheelGrowlMoogue		
18	SlowPhaseOrgan	45	Gimme Some	82	Classic MiniBass	111	The Way It Is		
19	Lord'sDirtBomb	46	The Grinder	83	TalkWahPoly+Syn	112	AlphaCentauri		
20	Mellow Mitch	47	Mean Bean	84	MeanWahMono	113	SynOrcWhaleCall		
21	Sly's Revenge	48	Dew Dropper	85	Bass Pedal	114	Downes Lead		
22	LateNighter	49	Two Out	86	SyncSqr Template	115	Minipulse 4Pole		
23	FirebreatheC3	50	J's All Out	87	CarpenterSndtrck	116	BPM Lead		
24	Mr Smith	51	My Sunday	89	PannerTemplate	117	GatedSqrSweepBPM		
25	Errol G.	52	Good Starter	92	Candy*O SyncLead	118	BPMEchplexPad		
26	Testify	53	Sacrificer	93	WheelSyncBlips	119	GatedNoisweepBPM		

malletKAT KS Sound List   **pg. 8**   **General MIDI Bank 32**

| PC	MSB 00 LSB 32	PC	MSB 00 LSB 32	PC	MSB 00 LSB 32	PC	MSB 00 LSB 32	PC	MSB 00 LSB 32
1	GM Piano 1	27	Jazz Guitar	53	Choir Aahs	79	Whistle	105	Sitar
2	Bright Grand	28	Clean E Gtr	54	Voice Oohs	80	Ocarina	106	Banjo
3	Electric Grand	29	Muted Guitar	55	Synth Vox	81	Square Wave	107	Shamisen
4	Honky-Tonk Pno	30	Overdrive Gtr	56	Orchestra Hit	82	Sawtooth Wave	108	Koto
5	Elec Piano 1	31	Distorted Gtr	57	Trumpet	83	Synth Calliope	109	Kalimba
6	Elec Piano 2	32	Gtr Harmonics	58	Trombone	84	Chiffer Lead	110	Bagpipe
7	Harpsichord	33	Acoustic Bass	59	Tuba	85	Charang	111	Fiddle
8	Clavinet	34	Finger Bass	60	Muted Trumpet	86	Solo Vox	112	Shanai
9	GM Celesta	35	Picked Bass	61	French Horn	87	5th Saw Wave	113	Tinkle Bell
10	Glockenspiel	36	Fretless Bass	62	Brass Section	88	Bass & Lead	114	Agogo
11	Music Box	37	Slap Bass 1	63	Synth Brass 1	89	Fantasia	115	Steel Drums
12	Vibraphone	38	Slap Bass 2	64	Synth Brass 2	90	Warm Pad	116	Wood Block
13	Marimba	39	Synth Bass 1	65	Soprano Sax	91	Polysynth	117	Taiko
14	Xylophone	40	Synth Bass 2	66	Alto Sax	92	Space Voice	118	Melodic Tom
15	Tubular Bells	41	Violin	67	Tenor Sax	93	Bowed Glass	119	Synth Drum
16	Dulcimer	42	Viola	68	Baritone Sax	94	Metal Pad	120	Reverse Cymbal
17	Drawbar Organ	43	Cello	69	Oboe	95	Halo Pad	121	Gtr Fret Noise
18	Perc Organ	44	Contrabass	70	English Horn	96	Sweep Pad	122	Breath Noise
19	Rock Organ	45	Tremolo Strings	71	Bassoon	97	Ice Rain	123	Seashore
20	Church Organ	46	Pizz Strings	72	Clarinet	98	Soundtrack	124	Bird
21	Reed Organ	47	Harp	73	Piccolo	99	Crystal	125	Telephone
22	GM Accordion	48	Timpani	74	Flute	100	Atmosphere	126	Helicopter
23	Harmonica	49	Ensemble Strings	75	Recorder	101	Brightness	127	Applause
24	Bandoneon	50	GM Slow Strs	76	Pan Flute	102	Goblins	128	Gun Shot
25	Nylon Guitar	51	Synth Strings 1	77	Bottle Blow	103	Echo Drops		
26	Steel Str Gtr	52	Synth Strings 2	78	Shakuhachi	104	Star Theme		

Inserting New Software Chips for Software Updates

HOW TO PHYSICALLY CHANGE YOUR SOFTWARE CHIP:
Tools Needed: 1 small flat & 1 medium Phillips screwdrivers

1) **First, remove the AC adaptor from the back of the malletKAT!**
2) Find a smooth, clean, flat surface and place your malletKAT upside down on it, the jacks facing away from you.
3) Remove back cover of the malletKAT (20 screws).
4) When the malletKAT is opened, you will see one large circuit board. On the front right of the printed circuit board is a large chip with a white paper label that has the current version of your malletKAT. The chip with the white label is your Software Chip. It contains the code that runs your malletKAT's Operating System. **Before you take the old software chip out, note how it is oriented in the socket. Specifically notice that the "notch" on the end of the chip is away from you.**
5) To remove an old chip, you will use your small flat screwdriver. You will want to pry the chip out of its socket. **DO NOT pry out the socket underneath the Software Chip. The socket remains attached to the printed circuit board.** Look at the Upgrade chip you received and you will be able to tell what the chip is and what the socket is. You want to insert the screwdriver between the chip and the top of the socket so as to pry up the chip but not the socket. You also should take turns prying a little bit at a time on each end of the chip. If you pry a LOT on one end, you will excessively bend the small legs on the other end as the chip pivots on them. Don't be scared – just pry a little more on each side alternately until the chip is out. Take you time, don't be in a hurry. Make sure you insert the small screwdriver between the chip and the socket before you start to pry each time. **(Instead of between the socket and the circuit board.)**
6) After you have the chip out, place the new chip in its socket, being careful to orient it in the same way that the old chip was (remember the "notch" to the top). Take a little care to align the legs of the chip into the holes in the pins of the socket. Visually check to see that none of the legs got squished and are smashed under the chip.
7) Replace the back cover of your malletKAT and reinsert a few of the screws to hold the back cover on. Remember to use short screw over the power jack and mallet board. The long screws with damage your power and board. Turn the unit over and plug in the power and turn it on. If the display is working, you are OK. Reinsert the rest of the screws.
8) If the display is not working then:
   a) Remove the AC power again
   b) Turn the malletKAT over again and remove the screws.
   c) Take the back cover off again
   d) Try reinserting the chip (pry it out again to make sure that the legs didn't get bent under the chip)
   e) Put the back cover on, turn the malletKAT back over, plug in the power and turn it on.
   f) If this still fails, put your OLD software back in and give us a call @ 413-594-5190
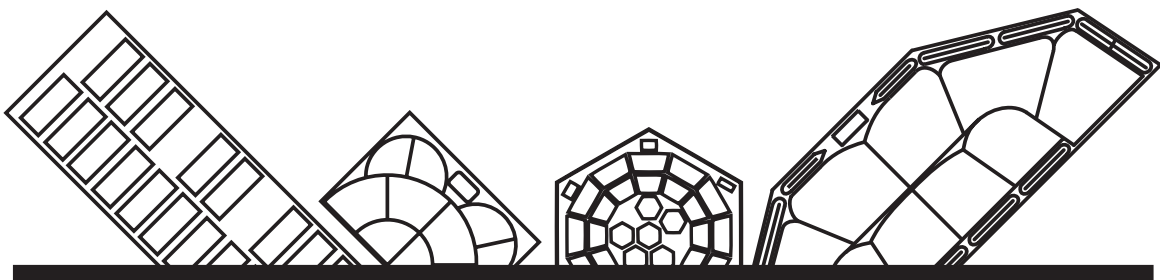
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