

**drumKAT EZ**  
**2.0**  
**Owner's Manual**

**KAT**

v2.0

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## What Is a drumKAT EZ - 2.0?

The drumKAT EZ 2.0 is a great feeling 10 pad playing surface you use to add a new dimension to your playing. Simply connect it to any Sound Source (drum machines, samplers or synthesizers) and play the sounds with nuance and dynamics. Because it *controls* Sound Sources through MIDI, it is a **MIDI CONTROLLER**. The 2.0 software version update adds several exciting features and even friendlier screens. New features include more powerful HiHat control and an easy to use Motif pattern generator.

The drumKAT EZ makes no sound *itself*; it's job in life is to make it **EASY** to play all the sounds available on all those drum machines and samplers - *and* play them naturally with *feeling and expression*.

The unique thing about the drumKAT EZ is that it contains pre-made great kits for almost all of the Sound Sources on the market. You don't have to dig around in manuals to assign drum sounds to your pads - we already did that for you. It is set up to *just simply work* - out of the box! All you have to do is **plug in, select which Sound Source** you are using and **PLAY!**

When you want to start changing what we've done for you, to suit your own preferences, we've made that *easy* too! We dug through the manuals and got all the NOTE NUMBER assignments and drum sound *names* and put them *into* the EZ. This means that when you want to change pad 1 to be a different snare drum, you simply look for a different snare drum sound name in the EZ. It's **EASY!**


To keep it **EASY**, but at the same time continue the KAT tradition of giving you features and power you never even dreamed of, the EZ 2.0 has 4 modes: Beginner, Intermediate, Advanced, and Expert. The Beginner mode makes your EZ work *out of the box* with whatever Sound Source you plug it into - with only two screens! The Intermediate mode allows you to start tweaking things to your particular liking by giving you several more screens of adjustments. The Advanced and Expert modes are for when you want to really get into it!

But in making it **EASY** we didn't make it any less *responsive*. The drumKAT EZ follows your every nuance - with a wide *dynamic range* (loud-to-soft) - picking up your every hit. Enjoy it - we enjoyed designing it for you! If you have any questions call us. You'll find we're *responsive* too!

## 5 Minute Guide To Getting Up And Running

If you haven't already been playing around on your drumKAT EZ, this section will tell you what you need to do to get playing.

### PLUG IN:

1. Plug in the KF1 footswitch that came with your EZ into the "FOOTSWITCH 1" input jack on the back panel. (If you use a different kind of footswitch, make sure to plug it in *before* you power up, so the EZ can read on power-up what kind you have and adjust.)
2. Connect a MIDI cable from either MIDI OUT jack on the back panel of the drumKAT EZ to the MIDI IN jack on the back panel of your Sound Source.
3. Connect the EZ power cord into the back of the drumKAT EZ and screw the locking ring down to keep the cord firmly attached. Plug the cord into a suitable power outlet and then turn on the power switch on the back panel of the EZ.  
(If you lose your EZ power cord simply plug in an AC Adaptor (positive tip, , 9V to 12V, 400mA or more) into the DC input on the back panel of the EZ.)

### SELECT YOUR SOUND SOURCE:

1. Depress and then release footswitch 1. The EZ display will show a specific Sound Source blinking.
2. Hit the "Value Advance" Pad (Pad 6) to change the selection. Continue striking Value Advance until you see your Sound Source name.  
(If you don't see your drum machine, or if you have a synth or sampler, select "General MIDI".)
3. Depress and then release footswitch 1 to get back to PLAY MODE.

**PLAY!** (Footswitch 2 will change kits for your selected Sound Source.)

(If you don't get results go to APPENDIX A.)

## **BEGINNER, INTERMEDIATE, ADVANCED, and EXPERT MODES**

In the drumKAT EZ there are 4 different EZ Modes: BEGINNER, INTERMEDIATE, ADVANCED, and EXPERT. They all affect the complexity of the drumKAT EZ. They affect how the drumKAT EZ functions, what settings you can affect, and even *how much* information is presented to you.

The **BEGINNER Mode** is designed to get you playing *quickly* and *easily*. There is very little required of you to get up and running. Connect the cables, select the *name* of the Sound Source you are connected to, and the drumKAT EZ does the rest. It gives you pre-made, easy to use Kits that work *out of the box* with your Sound Source. Just PLAY!

The **INTERMEDIATE Mode** lets you get at the basic settings that you will want to change to adjust the response and makeup of your kits. As soon as you select INTERMEDIATE Mode, several new screens appear to let you easily change the EZ Kits. The drumKAT EZ must assume that your Sound Source is in its factory settings.

Among these new screens is a screen to adjust the *Note Number* each Pad or Trigger plays when it is hit. On this screen you not only see the Note Number, but also the Note Name as it appears on your Sound Source.

The **ADVANCED Mode** adds some *Tunnel Screens* (hidden groups of related screens) that let you look into some advanced topic like Preferences or Triggering.

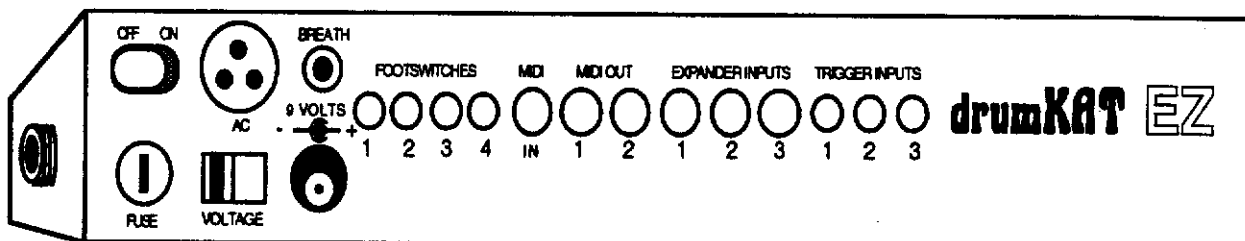
The **EXPERT Mode** adds even more screens so that you can have even more power to adjust what your drumKAT EZ does for you. You get more control over the Sounds on your Pads and more Tunnels are added with screens for adjusting the entire way that the drumKAT EZ responds; this includes personalizing the *dynamics* of your pads and triggers and even screens for *mallet expanders*. In the EXPERT Mode, you can be controlling *more than one* Sound Source at a time.

The beauty of the drumKAT EZ is the combination of **EZness** and **control**. When you first start out and select BEGINNER Mode, the drumKAT EZ is *very easy* to use. When you want to start making adjustments, you simply select INTERMEDIATE Mode and make changes in the new screens you find. When you want to fine tune things even more, you move on to the ADVANCED or EXPERT Mode. The drumKAT EZ gives you only as much as you are ready for. When you have finished making some adjustment to an advanced setting of the EZ, you can go back to INTERMEDIATE Mode or BEGINNER Mode to more easily see the typical information that you need to deal with.

(In Appendix L., Pages 73 - 76, the screens for all 4 Modes are shown graphically. Take a look!)

## 1 Hour Tour Of The Entire drumKAT EZ

Now that you've been able to play on your EZ for awhile let's take a quick tour of all the **Inputs** (so you can see what else you can plug in), **Pads** (so you can learn the Pad numbering layout), and **Screens** (to see what kind of settings you can change). You will also learn about the Screen Advance, Cursor Advance, Value Advance, and Reverse Editing Functions.



### INPUTS:

A footswitch in FOOTSWITCH 1 will switch you back and forth (*toggle*) from EDIT MODE (display *screens* where you make changes to your EZ) to PLAY MODE.

A footswitch in FOOTSWITCH 2 will advance you through the kits for your Sound Source. Hold down FOOTSWITCH 2 and every strike (*while FOOTSWITCH 2 is depressed*) of Pad 6 (Value Advance) will advance you forward through the kits. Every strike of Pad 3 (Reverse) will back up through the kits. (If Song Mode is selected, strikes of Pad 3 and Pad 6 will move you Backward and Forward through a chain or *Song* of kits).

A footswitch plugged into FOOTSWITCH 3 will do *sustain* if you are using sounds (and a Sound Source) that respond to sustain. Melodic sounds (horns, strings etc.) generally will respond to sustain. Drum sounds often will not. If a Motif Pad is struck while Footswitch 3 down, Recording starts!

A footswitch plugged into FOOTSWITCH 4 won't do a thing in Beginner mode. In Intermediate mode, Advanced mode, and Expert mode, it provides a quick way of getting into other sets of screens (to train the dynamic response of your pads, adjust settings for external triggers, set up mallet expanders, etc.)

A footswitch plugged into the FOOT CONTROL jack on the side of your EZ will control the functioning of any pad that is assigned to HiHat in each KIT. Depress the footswitch and the EZ will play a "Foot" sound on your Sound Source. If you hit a HiHat Pad *while* this footswitch is depressed, the EZ will play a "closed" HiHat sound. If you hit a HiHat Pad while the footswitch is *not* depressed, the EZ will play an "open" HiHat sound.

A **hatKAT** plugged into the FOOT CONTROL jack on the side of your drumKAT EZ will control a HiHat pad in each kit with a degree of control unavailable until now. There are two powerful playing modes assignable to the hatKAT pedal. If your present Sound Source *doesn't* respond to these modes, then

make sure your *next one does!*

If you select a Pad to be HiHat you may control the selection of 5 notes.

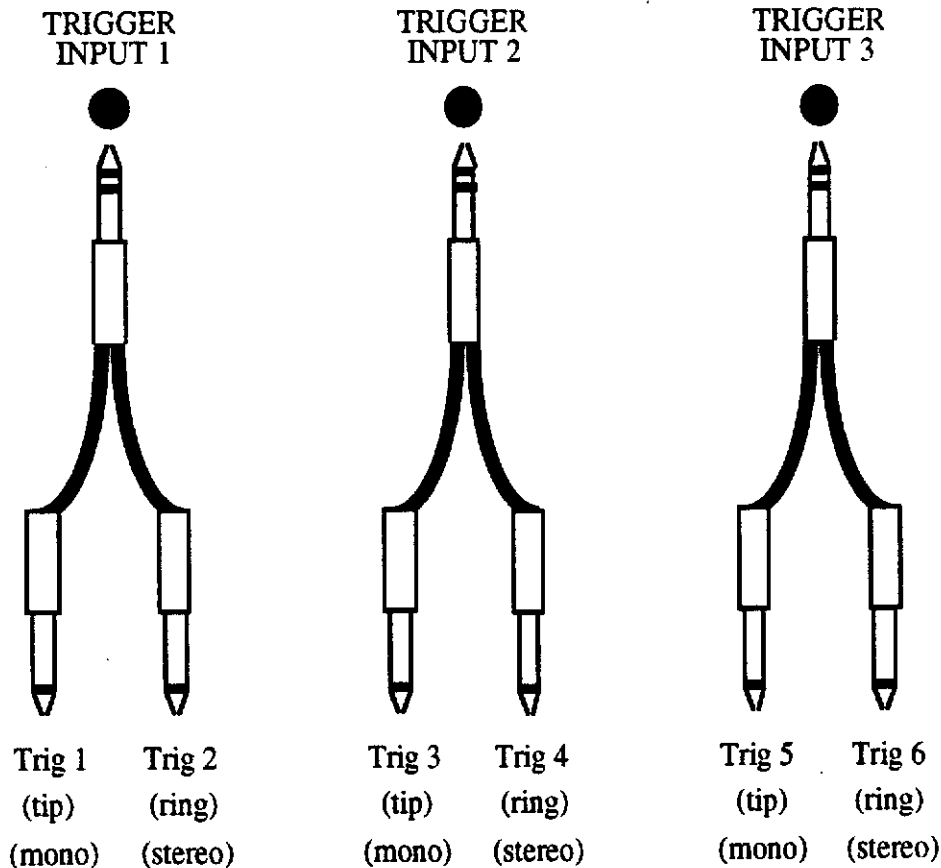
Three notes sound on your HiHat Pad (Open, Half, and Closed) based on the position of the pedal at the instant the Pad is played.

The "Foot" sound (or "Chick") and "Splash" sound are controlled directly by the hatKAT input.

Selectable **Control modes** allow you to send control information to provide *continuous* control of your HiHat sounds.

With **EZ 2.0**, the only connection necessary from the hatKAT to an EZ is the Control Out of the hatKAT into the HiHat input on the EZ. The switching from Open to Closed and dynamic Chick and Splash sounds are all interpreted through that single connection. (Leave FTSW and TRIG unconnected.)

A trigger plugged into one of the three "stereo" TRIGGER IN jacks will give you control of other sounds. Stereo means two inputs per jack - by using a "stereo" pad or using a stereo "Y" cable plugged into 2 mono cords you can connect in 6 external triggering sources. You can choose from trigger pads like the 6", 7", 10" and 11" **tomKAT** pads, or our new **poleKAT Two-Zone** trigger, acoustic triggers like the **KDT-1** head mount and **KST-1** shell mount, bass drum pads like a **kicKAT** or **fatKAT**, or new **miniKick**.





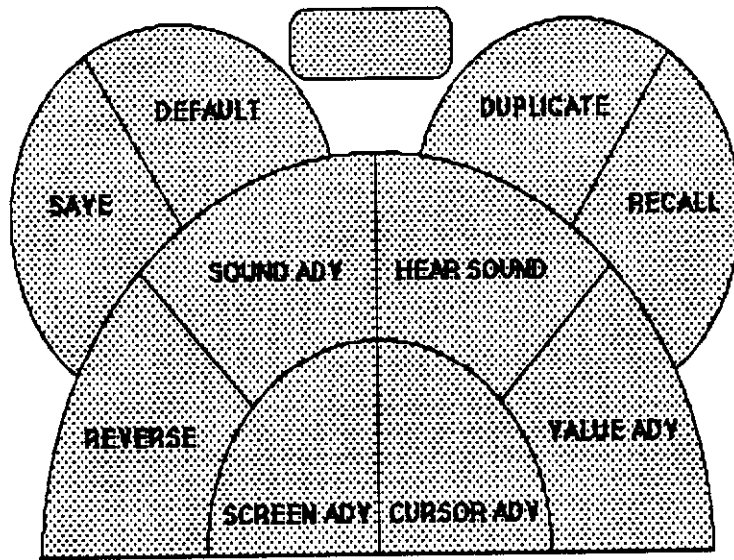
## **PADS:**

The drumKAT EZ playing surface Pads have two uses: Playing and Editing.

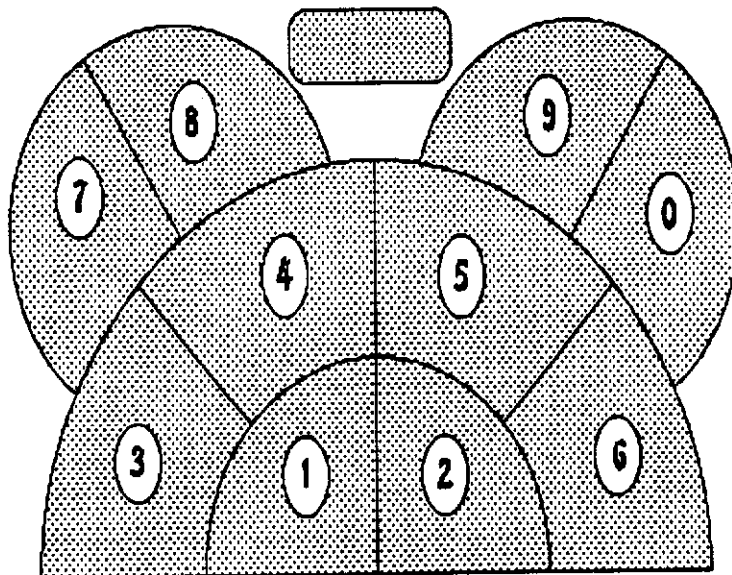
*Editing* means changing the settings in the EZ. The Pads will be referred to in two different ways in this manual. Sometimes they will be referred to by their Edit function names (like Reverse, Screen Adv, etc.) and sometimes they will be referred to by number. The following diagrams show both.

The Edit function names are also molded into the rubber playing surface, so they are pretty easy to remember. Their uses in editing will be explained later.

The Pad numbering layout is set up from front-center to the back. The two front-center Pads are Pads 1 and 2 (left and right). The semi-circle of Pads curving around behind Pads 1 and 2 are Pads 3, 4, 5, and 6. The left "ear" has Pads 7 and 8 (left and right halves). The right "ear" has Pads 9 and 0 (left and right halves). When you start altering the settings of your EZ in Intermediate or Expert Modes, the playing Pads will be referred to by these numbers (it takes up less room on the display screen of the EZ to refer to Pad 5 instead of "Hear Sound").



**drumKAT EZ PAD EDIT FUNCTION NAMES**



**drumKAT EZ PAD NUMBER LAYOUT**

## **SCREENS:**

A "Screen" is one display window on the drumKAT EZ. The **PLAY MODE** screen on the drumKAT EZ is either like:

```
* PLAY MODE ON *  
F01 Dry Kit
```

or

```
* SONG 1 ON *  
F01 Dry Kit
```

depending on whether **Song Mode** is on or not.

The "**F**" indicates that you are using a "**Factory**" kit. (A "**U**" would indicate that you are in a "**User**" kit - one that you can make adjustments to and Save - to Kits of your own liking.) (An "**e**" in front of the "**F**" or "**U**" means that you are playing an *edited* version of that Kit. An "eF01" is an edited version of Factory Kit F01 and an "eU05" is an edited version of User Kit U05.

The "01" indicates you are in **Kit number** "01". Depending on which drum machine you have, there may be between 4 and 16 Factory kits. Why? Some Sound Sources are more flexible than others. For some it is easy to make 16 exciting and different kits that will work *out of the box*, while others require making adjustments manually to the Sound Source to get at other sounds in the machine. (There are 32 User kits in the EZ.)

The "Dry Kit" is the **Kit Name** we assigned to the Kit. All kits have a Kit Name. (For the 32 User Kits you assign your own Kit Name.)

Depress FOOTSWITCH 1 and then release FOOTSWITCH 1. You have now entered **EDIT MODE**. You will see a screen like:

```
Pick SoundSource  
Yamaha RY30 ch01
```

If you depress and then release FOOTSWITCH 1, you will *toggle* back into the **PLAY MODE** screen again.

```
* PLAY MODE ON *  
F01 Dry Kit
```

In PLAY MODE, all the Pads on the EZ playing surface play sounds.

If you depress and then release FOOTSWITCH 1 in PLAY MODE you will toggle back to EDIT MODE.

Pick SoundSource  
Yamaha RY30 ch01

In EDIT MODE, the EZ Pads will all perform editing functions as indicated on the rubber Pads themselves.

The selected Sound Source will be blinking whenever you enter this screen. The area of the screen that is blinking is called the **Cursor**. Hit Pad 2 (Cursor Advance). Now the blinking area (cursor) has moved to the Channel #. Hit Pad 2 again and the cursor moves back to the Sound Source.

The item that is blinking (where the cursor is at) is the item that you can change by hitting Pad 6 (Value Advance). Hit Pad 6 (Value Advance) and notice that the selected Sound Source changes for each hit of Pad 6.

Next hit Pad 3 (Reverse). Nothing actually happens yet.. Reverse will *reverse* the effect of *future* hits of the pad you hit next. So now hit Pad 6! It will Advance *backwards*. Now *every hit* on Pad 6 will step you backwards through the list.

Do a Cursor Advance to get the Channel # blinking. If you accidentally hit Value Advance several times now and didn't know what the correct Channel for your Sound Source was - just hit **Default**! Hitting Default will bring back the standard Channel for your Sound Source.

This is true for most of the settings in the drumKAT EZ. If you hit Default, then the EZ will put in the closest thing to a standard # for that setting. So remember, when you are in doubt, hit Default to ensure that a sensible number will be inserted for a setting.

Change the selected Sound Source (with Pad 6) until you are back at the name of the Sound Source that you are plugged into.

Now hit Pad 1 (Screen Advance). Pad 1 will advance you to the next screen (big surprise, huh? You'll find that the Pads pretty much do in Edit Mode what their names indicate they will do.)

You should now see:

EZ Mode:  
BEGINNER

"BEGINNER" will be blinking. This screen is where you can change to the Intermediate, Advanced or Expert Modes. Lets not get into that yet, so hit Pad 1 again to see:

Pick SoundSource  
Yamaha RY30 ch01

Do several Screen Advances. Note: In **BEGINNER Mode there are only 2 Screens!** That is why we named this the drumKAT EZ!

(For a diagram of the BEGINNER Loop see Appendix L, p. 72)

Screen Advance until you get to the EZ Mode Screen. Hit Pad 6 (Value Advance) to get:

EZ Mode:  
INTERMEDIATE

Now you are in the **INTERMEDIATE SCREENS**. Do several Screen Advances again. You will notice more screens with more information. Those screens are shown below with brief explanations as to what they do. Detailed explanations will come in the next section.

As you move through the screens (by using Screen Advance) use the Cursor Advance also, to see what settings can be changed on each screen. (You will notice that generally the things that can be changed are in all capital letters and the things that cannot be changed are not.)

The values you see for each of the settings in each of the screens may vary from what we show here because of which Sound Source you have selected in the first screen. You are just *touring*, so don't expect to understand the screens you are seeing. Just look at them and read our brief explanations - having seen it once here will make it less scary in the upcoming sections on Making Your Own Kits and Power EZ.

You Are Playing  
FACTORY kits

Select "FACTORY" for preprogrammed kits KAT has made for your Sound Source. Select "USER" for kits that you modify to your specific needs.

F01 PAD1 1SOUND  
NTE1 15SnrDry1

Selects which NOTE #s (up to 3 Sounds per Pad) each Pad (or Trigger) will play.

F01 PAD1 1SOUND  
Resp SMOOTH 1

Selects the "curve" of response. How the Pad responds to your playing dynamics.

F01 Kit Name:  
Dry Kit

Here you create the KitName for this kit.

Permanent Memory  
IS PROTECTED

Here you can prevent accidental changes from happening to your User kits.

This will bring you back around to:

Pick SoundSource  
Yamaha RY30 ch01

Do another Screen Advance to:

EZ Mode:  
INTERMEDIATE

(For diagram of INTERMEDIATE Loop see Appendix L, p.73.)

Hit Value Advance once to get:

EZ Mode:  
ADVANCED

Lets take a quick look at the **Advanced Screens**.  
The screens that are added in the **Advanced Mode** are:

F01 ProgA Change  
Chan=01 Prgm= NO

Selects whether or not to send a Program Change to your Sound Source.

Preferences  
Hit Pad 2

**Don't hit Pad 2 - hit Pad 1 (Screen Advance) instead. This is a Tunnel Screen.** A Tunnel Screen is a screen that lets you get into another set of screens.

We will look at the "Preferences" later.

```
TriggerFunctions
Hit Pad 2
```

This is another Tunnel Screen. We'll look at the "Trigger Functions" later. So, **don't** hit Pad 2 - do hit Pad 1 (Screen Advance) instead and you come back around to the first screen: Pick SoundSource.

```
Pick SoundSource
Yamaha RY30 ch01
```

Another Screen Advance and you are at the Mode Screen:

```
EZ Mode:
ADVANCED
```

Change it to **EXPERT**.

```
EZ Mode:
EXPERT
```

The added screens in EXPERT Mode are:

```
F01 PAD1 1 SOUND
Ch:01 Gate=300mS
```

In EXPERT MODE, each Pad can have its own **MIDI Channel**. This allows you to access two or more Sound Sources in the same single Kit.

**Gate Time** is the length of time that the EZ tells the Sound Source to play the Note. This is the time that the EZ waits, after it sends a Note On, until it sends a Note Off. Many drum machines do not respond to this Gate Time but simply play each drum sound in its entirety. However most synths and samplers do respond to it and more drum machines of the future will utilize Gate Time.

```
F01 ProgB Change
Chan=02 Prgm= NO
```

In EXPERT MODE you get to send a second program change out when the kit is entered. This extra Program Change is used either for a second Sound Source or control of a MIDI Mixer, or possibly a Lighting Unit, or ...

There are also some additional Tunnels, in EXPERT MODE.

```
MIDI Screens
Hit Pad 2
```

This is a Tunnel Screen that lets you get at several MIDI settings you can alter.

Copy Functions  
Hit Pad 2

This is a Tunnel Screen that lets you get at several Copying functions to help in making Kits or re-initializing your EZ settings.

Pad Adjustments  
Hit Pad 2

This is a Tunnel Screen that lets you get at several screens that let you make Pad adjustments to tailor their response to your particular playing style.

Adjust Foot/Brth  
Hit Pad 2

Another Tunnel Screen that lets you make adjustments to the FootControl settings and BreathControl settings.

Mallet Expanders  
Hit Pad 2

Yet another Tunnel Screen that lets you select and control Mallet expanders.

Another Screen Advance and you are back at the select Sound Source Screen.

(For diagram of EXPERT Loop see Appendix L, p.74.)

So, that's it for the Main Loop of screens. Next, we will peek at those **Tunnel Screens** that we sped right past. Make sure you are in **EXPERT MODE** and then do Screen Advances in Edit Mode until you find the following screen again:

Preferences  
Hit Pad 2

This is the **Preferences Tunnel Screen**. This time, go ahead and hit Pad 2. You will notice a screen *slide in* from the right. When you are in a Tunnel, the screens will slide in from the right to let you know that you are in a Tunnel. To get back out of a Tunnel and back into the main loop of screens, you can either do Screen Advances until you see:

End Of  
Preferences

Or you can depress and release Footswitch 1 to go to PLAY MODE (and start over) and then depress and release Footswitch 1 again to go back into EDIT MODE at the first screen of the EDIT MODE main loop of screens.



Or you can depress Footswitch 1 and *while Footswitch 1 is held down* hit a Pad or Trigger to instantly go to the Note Number Screen for that Pad or Trigger (which is back in the main loop of Edit Screens).

Anyway, if you Screen Advance through the Preferences Tunnel you will see:

```
Song:1 Mode:OFF
Step:05= U07
```

Here is where you will create **Songs** of your kits so you can step through them in a predetermined order to use in the actual playing of a song.

```
Display Angle
EDGE VIEW
```

Here you can adjust the viewing angle of your display to be either EDGE VIEW or STRAIGHT ON VIEW.

```
Edit Mode Beeper
TURNED ON
```

If the beeping, when you are editing, bothers you, you can shut it off here. Screen Advance again:

```
PromptingScreens
TURNED ON
```

After awhile, those helpful explanations can get to be obnoxious. You can shut them off here. Screen Advance Again:

```
Language:
ENGLISH
```

Those Prompting messages that roll across the screen can be in English, Spanish, or Italian. Do another screen advance:

```
drumKAT EZ
IS NOT LOCKED
```

Although this screen is mainly intended for use by stores to lock demo units, you can choose to use it for wedding gigs, etc. When the drumKAT EZ is locked the only settings that you can change are Beginner/Intermediate/Expert Mode and the lock. Another Screen Advance results in:

```
Sound Names
TURNED ON
```

Enables / disables Manufacturer Sound Names appearing next to Note # values.

One more Screen Advance and then the following screen bursts for 2 seconds:

```
End Of
Preferences
```

Followed by:

```
TriggerFunctions
Hit Pad 2
```

This screen is back out of the Preferences Tunnel and into the main loop of screens. Screen Advances would step you through the main loop of screens. However, if you hit Pad 2 *here*, you will see the following screens in the **Trigger Tunnel**:

```
To Train TRG1
Hit Pad 7
```

This screen will direct you through *Training* your Trigger input by hitting the Trigger you have plugged in first Soft then Hard.

```
Hit TRG1 ToTrain
For Interaction
```

This screen allows the drumKAT EZ to read the Interaction on other triggers generated when you strike a specific Trigger. The EZ uses the Interaction information it reads from the Triggers to set up an internal Interaction Matrix for the trigger you hit.

```
t01 Interaction
12% 120mS ■2_5_
```

This screen shows you the Interaction Matrix for a particular trigger. The % number is how much triggers 2 and 5 (in this example - because 2 and 5 are shown) are suppressed when 1 is hit. The "120mS" is the amount of time the suppression occurs for. The black square in the "1 slot" indicates that it is Trigger 1 we are reading. The 2 and 5 indicate that Triggers 2 and 5 are the triggers that play (interact) when 1 is struck very hard. Seems very complex, but don't worry, Interaction Training takes care of all this for you *automatically*.

```
TRG1 Threshold
Set To 10
```

This screen lets you manually adjust the threshold (sensitivity to light hits) of a particular Trigger.

TRG1 Dynamics  
Lo= 40    Hi=240

This screen lets you adjust the personal dynamic range the EZ expects from a Trigger.

TRG1 Mask Time  
06 msec

This screen lets you adjust re-trigger time. Lengthen Mask Time to stop double triggering and shorten Mask Time to catch flams and fast playing.

TRG1 HEADROOM  
02

Increasing Headroom prevents double-triggering. Decreasing Headroom improves response to fast playing.

One more Screen Advance and you leave the Trigger Tunnel:

End Of  
Trigger Screens

and end up at:

MIDI Screens  
Hit Pad 2

Hit Pad 2. You will see the following screens in the **MIDI Screens Tunnel**:

Prgm Chng Receiv  
CHANNEL 1

At this screen you can pick a Channel for the EZ to Receive Program Changes from some external Controller or Sequencer to cause the EZ to change Kit # automatically (or you can disable that effect here!).

A Screen Advance produces:

MIDI In Merge  
To Out BLOCKED

Here, you enable or disable the merging of all of the MIDI information that is received on the MIDI In, back to the MIDI Out. Merging allows you to "mix" two MIDI streams from two different Controllers, or a Sequencer and a Controller, or a Computer and a Controller, etc.

Another Screen Advance and:

Hit Pad 7 To  
Dump ALL MEMORY

If you strike Pad7 you will *dump* to the MIDI Out the contents of All of the EZ's Memory. This is to Save your work to a Data Disk, Computer, or Sequencer as a back up. Backing up your work is a must. Not doing so is like driving around without a spare tire.

Your choices of what information to SAVE are: ALL MEMORY, ALL KITS, GLOBAL, USER KIT 1, USER KIT 2, ..., USER KIT 32.

Another Screen Advance and you are out:

End Of  
MIDI Screens

Then you are back in the main loop of Edit Screens at:

Copy Functions  
Hit Pad 2

So, hit Pad 2 to explore this Tunnel. In the **Copy Functions Tunnel** you will find:

Copy F01 To U01  
Hit Pad7 To Copy

This screen allows you to copy any Factory Kit or any User Kit to some other User Kit. Next:

F01 P6 To U01 P1  
Hit Pad7 To Copy

This screen allows you to copy the settings for one Pad within a Kit to some other Pad in the same Kit or some other Kit.

Another Screen Advance and:

Hit Pad 7 to Init  
ENTIRE DEVICE

This screen allows you to Re-initialize your EZ back to original Factory settings. One more Screen Advance and you are done with the Copy Tunnel as indicated by the following 2 second burst:

End Of  
Copy Screens

Then you are back in the main loop of Edit Screens at:

```
Pad Adjustments  
Hit Pad 2
```

Yes, another Tunnel! The **Pad Tunnel**. Hit Pad 2 and find:

```
To Train Pads  
Hit Pad 7
```

This screen will request you to hit a Pad soft and then Hard so the drumKAT EZ can adjust for your personal playing dynamics.

```
PAD1 Threshold  
Set To 20
```

At this screen you can adjust the drumKAT EZ Pads sensitivity to soft hits.

```
Pad Dynamics  
Lo= 40 Hi=180
```

These are the readings that the EZ makes when you train a drumKAT EZ Pad. Here you can manually adjust the settings to specially tailor the EZ's dynamic response.

One more Screen Advance and you have finished the Pad Adjust Tunnel.

```
End Of  
Pad Adjust Scrns
```

When you come out the other side you get:

```
Adjust Foot/Brth  
Hit Pad 2
```

Feel like a mole yet? If not, lets dig into another Tunnel. Hit Pad 2 and see:

```
F01 FtCtrlA ch10  
MODULATIONRng127
```

This screen is one of five screens that let you assign *what* the hatKAT (if you have one) does for you. As well as Modulation (does great HiHat on the E-mu Procussion) you can also select Pitchbend & Panning.

Screen Advance and see:

```
F01 FtCtrlB ch10  
CONTROLLER 04 ON
```

This is the second screen for setting up a hatKAT. MIDI Controller 4 is used by Roland SoundSources for HiHat expression. MIDI Controller 1 is used by the E-mu Procussion for HiHat expression. The next three Screen Advances define the Chick Sound:

```
F01 HiHat Chick  
NTE1 54 HatPed1
```

```
F01 HiHat Chick  
Resp SMOOTH .1
```

```
F01 HiHat Chick  
Ch:10 Gate=300mS
```

These three screens select the Chick or Foot Sound you will get when you close the HiHat pedal you are using. Screen Advance and see:

```
F01 Breath Ch01  
PITCHBEND Rng127
```

This Screen lets you assign what the BreathControl does. Choices include Pitchbend, Panning, Modulation as well as actually playing a NOTE (YES, with your mouth!)

Screen Advance again:

```
SetFoot Toe Down  
Hit Pad7 To Set
```

Screen Advance again and see:

```
Set Foot Toe Up  
Hit Pad7 To Set
```

These two screens allow you to train the drumKAT EZ about your footpedal range (best choice is a hatKAT).

Screen Advance and see:

```
Set Breath Idle  
Hit Pad7 To Set
```

and:

Set Breath Max  
Hit Pad7 To Set

These two screens allow you to train the EZ to utilize the range of your breath controller.

One more Screen Advance and you dig back out via:

End Of  
Foot/Brth Scms

Now you are at the last Tunnel (yes there is an end)!

Mallet Expanders  
Hit Pad 2

Of course you should hit Pad 2.

Expander Inputs  
Enabled: \_ \_ \_

This screen enables or disables each of the Expander Octaves. The three black squares can change into a "1", "2", or "3" to enable Inputs 1, 2, or 3.

Do a Screen Advance:

F01 Expanders  
Ch:02 Gate=300mS

Your mallet Expanders can be set to a different MIDI Channel than the rest of your pads and triggers. This is because it is likely you may be using an entirely different Sound Source for your mallet playing.

The Channel and Gate Time setting you choose will be for the entire 3 Expanders. Do a Screen Advance:

F01 Expanders  
Resp SMOOTH 1

Adjust the response or dynamic feel of your mallet expanders. And another Screen Advance.

F01 Expanders  
ProgramChnge=OFF

This Screen lets you set up another Program Change (separate for "A" and "B" that were set up for Pads and Triggers, to use for the Sound Source you use for the Mallet Expanders.

Screen Advance and:

```
F01 Expanders
Octave Range: +1
```

The Octave Range can vary from -7 to +7. This moves all three mallet expander octaves up and down in pitch together. At a setting of "0", the "C" on Expander 1 will play a MIDI Note #48, the "C" on Expander 2 will play a MIDI Note #60, and the "C" on Expander 3 will play a MIDI Note #72. If the Range is +1, the "C" on Expander 1 will play a MIDI Note #60, the "C" on Expander 2 will play a #72, etc.

Screen Advance and:

```
Expanders
ToTrain Hit Pad7
```

If you hit Pad 7, the screens will ask for Soft and Hard hits on the Expanders to Train your Mallet Dynamic Range.

Screen Advance again and:

```
Expanders
Threshold = 20
```

Here you set the low end sensitivity for your Mallet Expanders.

Another Screen Advance and:

```
ExpanderDynamics
Lo= 40 Hi=180
```

This is the Personal Dynamic Range from Training.

One more Screen Advance and you get:

```
End Of
Mallet Screens
```

And believe it or not you can clean the dirt off; we are done in the Tunnels. Go take a break; you deserve it after all that.



## **Making Your Own Kits!**

OK, now that you have had some fun playing the EZ using the kits we made for you, you are ready to start having it your way. It's time to learn how to adjust kits for your own use.

The kinds of things you need to do are:

- a. **Select Different Sounds For The Pads In A Kit.**
- b. **Rearrange The Pads Of A Kit.**
- c. **Get A Pad To *Respond* Differently.**
- d. **Playing HiHat.**
- e. **Make A Kit From Scratch With More Than One Sound Per Pad.**
- f. **Make A Song Up Of Several Kits So You Can Step Through Them In Order**
- g. **Make A Kit Using More Than One Sound Source.**

# KITS

---

## a. Select Different Sounds For The Pads In A Kit.

The first thing you should do is get into INTERMEDIATE MODE. (See p. 11-13 if you cheated and skipped the 1 hour tour.) Select a Factory Kit.

Now, the **Pad Edit Shortcut**. Hold down Footswitch 1 and *while it is down*, hit any Pad (or Trigger). Then release Footswitch 1. This will always get you to the Sound Screen (from any Edit or Play Screen) where you can define the MIDI Note Number for that Pad (or Trigger). Like:

F01	PAD1	1SOUND
NIE1		15SnrDry1

It is here that you decide whether a Pad will play a Snare Drum or a Clave, etc.

Before you change anything (and assuming that the Pad you are seeing on the display was making a sound in Play Mode,) if you hit Pad 5 (**Hear Sound**) you will hear that Sound. Since all the Pads have Editing Functions (like Screen Advance and Cursor Advance) you need a method of also *hearing* the sound a Pad makes, *while you are making changes* to that Pad. Pad 5 - **Hear Sound** does exactly that. If you hit that Pad in Edit Mode, you will hear the sound of the Pad that you are seeing (or part of a sound if you have two or three Notes on one Pad).

Now hit Pad 2 (Cursor Advance) and notice what all can change:

1. Which Kit # you are changing,
2. Which Pad you are looking at,
3. How many Sounds (1,2 or 3) do you want to use, assign HiHat, or assign Motif # on this Pad?
4. Which one of the Sounds, on the shown Pad, are you looking at?
5. What Note Number is the Sound for this Pad?

Hit Cursor Advance (Pad 2) until Pad # is blinking. Then hit Value Advance and you can look at the Note Number for each Pad. Another way to see the Note Number for several Pads in succession, is to hold down Footswitch 1, and *while it is held down* strike each Pad and you will see corresponding Note Numbers.

You also will find it a big help to make use of the **Sound Advance** Pad. If you are at a Pad with 2 or 3 Sounds, hitting Sound Advance will cause you to rotate through the settings for the two or three Sounds. It "stays stuck" there because usually when you have 2 or 3 Sounds, you need to do a lot of changing back-and-forth *with-in* the Pad you are Editing. When you have tweaked the 2 or 3 Sounds, you can move to the next Pad by holding down Footswitch 1 and *while it is still depressed*, hit the next Pad you want to see.

Now hit Cursor Advance (Pad 2) until the Sound Note Number is blinking. Now hit Value Advance (Pad 6) to change the Note Number. Then hit Hear Sound to hear that Sound. Keep changing Note until you find a Sound you like (maybe even the one

that you started with) for that Pad. (Some Note Numbers will not result in any Sound, because some drum machines have a limited # of sounds they can make.)

Notice that some Note Numbers have a descriptive name and some do not! We have to rely on what Note assignments are standard on the Sound Source you are using - in its "out of the box" state.

But wait a minute, if this screen shows a Factory Kit ("F"), then how can we be *editing* the **Factory** Kit? Isn't a Factory Kit something permanent?

Well, when it looks like you are editing a Factory Kit (or a User Kit as well) you are actually editing a temporary copy of the Kit. That is why you see the Kit # change from "F01" to "eF01". It is the *edited* version in Temporary Memory (of some kit) that gets saved onto one of the 32 User Kits. So when you change the Note Number for some Pad you are making this change to an *edited* version of the displayed Kit #.

Now lets **SAVE** the simple change we made. Hit PAD 7, and the Screen says:

Permanent Memory  
IS PROTECTED

with "IS PROTECTED" blinking. Hit Value Advance to change to:

Permanent Memory  
CAN BE CHANGED

Now hit **SAVE** again. Now it asks if you want to Save the Kit you were Editing (actually a copy in Temporary Memory, remember) to some specific **USER KIT #**. You can choose to Save the edited version of the kit (in Temporary Memory) to any *other* USER kit by hitting Pad 6 to Value Advance the Kit # to Save To.

So hit Pad 7 again and the screen will burst with:

Kit F01 Saved To  
User Kit U01

You did it! You Saved a Kit! And in the Process you've learned 7 of the 10 Editing Pads on the drumKAT EZ. (Screen Advance, Cursor Advance, Reverse, Sound Advance, Hear Sound, Value Advance, and Save.)

# KITS

---

## b. Rearrange The Pads Of A Kit.

If you want to rearrange the Pads (you are left handed, or you want your cymbals layed out differently, etc.) you have a couple of choices.

One way is to write down the settings on a **Kit Template** (see Appendix D). Write out another Kit Template with the Pad settings rearranged the way you want them. Then copy these settings into a Kit.

A second and easier way is to use the **Copy Screens**, the **Kit Copy Screen**, and the **Kit Pad Copy Screen**. To do this, first (using Screen Advances (Pad 1) and Value Advance (Pad 6)) get the Mode to EXPERT:

```
EZ Mode:  
EXPERT
```

Next, Screen Advance to the start of the **Copy Tunnel**:

```
Copy Functions  
Hit Pad 2
```

Hit Pad 2. You will see the Kit Copy Screen slide in from the left.

```
Copy F01 To U01  
Hit Pad7 To Copy
```

(In a Tunnel, the screens always slide in from the left to indicate that something different is going on - you're not in Kansas anymore.)

To rearrange the Pads, pick some new Kit to receive a rearranged version of Kit F01. Let's make our new Kit in U32 and let's exchange Pad 1 and Pad 2.

To do that, you will first copy all of Factory Kit F01 to User Kit 32. Then you'll copy Kit F01 Pad01 to Kit U32 Pad02, and then copy Kit F01 Pad02 to Kit U32 Pad01.

To actually do that, first hit Cursor Advance (Pad 2) to move over to the *to* Kit, then use Value Advance to select the correct *to* Kit. (If you are going from Kit 01 to Kit 32, you really should use **Reverse** and one Screen Advance instead of 31 Screen Advances.)

When the *to* Kit and *from* Kit have been set up:

```
Copy F01 To U32  
Hit Pad7 To Copy
```

Hit Pad 7 (Save). If you see:

Permanent Memory  
IS PROTECTED

Hit Value Advance to change to:

Permanent Memory  
CAN BE CHANGED

After 2 seconds the screen will return to:

Copy F01 To U32  
Hit Pad7 To Copy

Now, hit Pad 7 again and see:

To Verify Copy  
Hit Pad 7 Again

Hit Pad 7 one more time and the screen will burst:

Kit Copy  
Completed

for about two seconds and then return to the Kit Copy Screen with the *to* Kit incremented by 1:

Copy U32 To U32  
Hit Pad7 To Copy

Now User Kit 32 is the same as Factory Kit 01. Next, you must get the Pads swapped.

Hit Screen Advance to get the **Kit Pad Copy Screen:**

U32 P1 To U32 P6  
Hit Pad7 To Copy

The first "U32" is the Kit you were last in or last used and the P6 is the last Pad you looked at. These are the **from Kit** and **Pad**. They, quite simply, are where you copy *from*. You can copy *from* either Factory kits or User kits.

The U32 P6 are the **to Kit** and **Pad**. They are the place you are copying *to*. The *to* Kit must be a User Kit (since Factory Kits are not changeable).

To do that you will copy Kit F01 Pad01 to Kit U32 Pad02 and then copy Kit F01 Pad02 to Kit U32 Pad01.

To actually do that, first we want to get our *to* Kit and Pad set up. When you first enter this screen, the *to* Kit will be blinking. Use Value Advance (if you want to change

the *to* Kit number, then hit Cursor Advance (Pad 2) to move over to the *to* Pad, then use Value Advance to select the correct *to* Pad. (If you are going from Kit 01 to Kit 32, you really should use **Reverse** and one Screen Advance instead of 31 Screen Advances.)

When the *to* Kit and Pad and *from* Kit and Pad have been set up:

```
F01 P1 To U32 P2
Hit Pad7 To Copy
```

Now, hit Pad 7 again and see:

```
To Verify KPCopy
Hit Pad 7 Again
```

Hit Pad 7 one more time and the screen will burst:

```
Kit Pad Copy
Completed
```

for about two seconds and then return to the Kit Pad Copy Screen with the *to* Pad incremented by 1:

```
F01 P1 To U32 P3
Hit Pad7 To Copy
```

Using Cursor Advance and Value Advance, change the "*from* and *to*" to "F01 P2 to U32 P1". Hit Pad 7 twice and you will have swapped Pad 1 and Pad 2 into Kit 32. To play this new Kit, depress Footswitch 1, and *while it is held*, hit a Pad on your EZ. Then release Footswitch 1. This is the **Pad Edit Shortcut**. You will see something like:

```
F01 PAD1 1SOUND
NTE1 15SnrDry1
```

To get to Kit U32, hit Reverse, then Screen Advance for:

```
You Are Playing
FACTORY kits
```

. Use Value Advance to change "FACTORY" to "USER". Then Screen Advance to the same note screen. Then Cursor Advance to get "01" blinking. Now do Reverse and then Value Advance:

```
U32 PAD1 1SOUND
NTE1 15SnrDry1
```

Now, depress Footswitch 1 and release to get back to PLAY MODE:

```
* PLAY MODE ON *
U32 Dry Kit
```

Now, if you play Kit U32, you will find it is identical to Factory Kit F01 except Pad 1 and Pad 2 are swapped.

# KITS

---

## c. Get A Pad To Respond Differently.

Suppose that you don't like the way a Pad or Trigger responds dynamically. This example will show you how to change the *velocity curve* of a specific Pad or Trigger.

Either by using Footswitch 2 to do Kit Advances, or by going into Edit Mode (Footswitch 1) and using Cursor Advance (Pad 2) and Value Advance (Pad 6), get to Factory Kit F01. Get into PLAY MODE (Footswitch 1).

In F01, most likely there is a snare drum on Pad 1 with a "Smooth" Response Curve. Suppose you don't really want a smooth response from soft to loud. Suppose you want all of your hits to be fairly loud so that all of your snare playing on a particular song really cuts through. To change the response of a Pad to your dynamics you need to change the Velocity Response Curve that the Pad is using. In this case, you would want to change from Smooth to "Fast Rise". Let's run through doing exactly that.

Depress Footswitch 1, and *while it is held down*, hit Pad 1. Then release Footswitch 1. Your Screen will say something like:

```
F01 PAD1 1SOUND
NTE1 15SnrDry1
```

(If instead, you see the select Sound Source screen, then you are in BEGINNER MODE. You need to get into INTERMEDIATE MODE. See p. 11-13.)

Now, do a Screen Advance to see:

```
F01 PAD1 1SOUND
Resp SMOOTH 1
```

Hit the "Hear Sound" Pad (Pad 5) to Preview this Sound. Play on the Hear Sound Pad with hits from soft to hard to see how this Sound responds. Notice that as you play with gradually harder hits, from soft to hard, that the resulting loudness out of the Sound Source increases *smoothly* from soft to loud.

Now, get "Smooth" blinking (use Cursor Advance (Pad 2)). Hit **Duplicate**. You will see:

```
Duplicate In All
Pads Of Kit ?
```

Hit Duplicate again to verify and see:

```
All Pads Have
Been Duplicated
```

This screen bursts for 2 seconds and then disappears leaving you back at:

```
eF01PAD1 1SOUND  
Resp SMOOTH 1
```

Use Sound Advance to move through viewing the response of all of the Pads. They are all SMOOTH because we Duplicated them.

Use Value Advance (Pad 6) to change the response to "Fast Rise":

```
eF01PAD1 1SOUND  
Resp FAST RISE 1
```

Now, play on the Hear Sound Pad (Pad 5). Notice now, as you play from soft to hard, the loudness increases *faster* than it did for the "Smooth" response. That is why it is called "Fast Rise".

Now hit Duplicate again. Again, use Sound Advance to look at all of the Pads to verify that a response of "FAST RISE 1" was indeed Duplicated into all Pads. Duplicate will copy a setting into all Pads of a Kit.

Feel free to try some of the other response curves to see what kinds of choices you have.



# KITS

---

## d. Playing HiHat.

The two elements of a HiHat are: 1. Striking a HiHat pad should produce a different sound as you move your foot on the HiHat pedal. 2. Closing the HiHat with your foot should also produce a sound on its own.

Different Sound Sources have different ways of implementing a HiHat. Because of this, the EZ is very flexible in its options of HiHat control.

Now, let's actually set up a HiHat from scratch. Suppose we want Pad 3 to be a HiHat Pad. To get at the settings for Pad 3, use the **EDIT PAD SHORTCUT**. (Hold down Footswitch 1, and *while Footswitch 1 is held down*, hit Pad 3.) You will see a screen like:

```
F01 PAD3 1SOUND
NTE1 34TomDry1
```

Move the Cursor (using Pad 2) to "1SOUND". Value Advance (Pad 6) until you see "HiHat".

```
eF01PAD3 HiHat
CHIC 34TomDry1
```

Just move the Cursor to "34TomDry1" and hit Value Advance until you see a Sound Name that would be appropriate for a HiHat CHICK Sound like:

```
eF01PAD3 HiHat
CHIC 54HatPed1
```

Hit "Hear Sound" (Pad 5) to Verify that you have found a Foot sound. As well as reading the names, sounds can also be picked out quickly by a Pattern of Value Advance (to next Sound) and then Hear Sound over and over. So hit Pad 6, then hit Pad 5 to listen, 6 to advance again, and then 5 to Hear it.

Now hit Sound Advance (Pad 4) to see the Closed Sound Note:

```
eF01PAD3 HiHat
CLOS OFF
```

Value Advance through the list of Note names, as you alternate with Hear Sounds and look at the names. Stop at something like:

```
eF01PAD3 HiHat
CLOS 51HatQtr1
```

Hit Sound Advance (Pad 4) again to see the Open Sound Note:

```
eF01PAD3 HiHat
OPEN OFF
```

Again, Value Advance through the list of Note names, as you alternate with Hear Sounds and look at the names. Stop at something like:

```
eF01PAD3 HiHat
OPEN 53HatOpn1
```

Hit Sound Advance (Pad 4) again to see the Half Sound Note:

```
eF01PAD3 HiHat
HALF OFF
```

Again, Value Advance through the list of Note names, as you alternate with Hear Sounds and look at the names. Stop at a good Half-Closed sound.

Hit Sound Advance (Pad 4) again to see the Splash Sound Note:

```
eF01PAD3 HiHat
SPSH OFF
```

Value Advance through sounds until you get a good Splash sound.

Now, return to PLAY MODE (depress and release Footswitch 1). Play on Pad 3 and use the HiHat Footswitch or hatKAT. When Pad 3 is hit and the HiHat pedal is not depressed, you should hear the Sound you selected for OPEN. When Pad 3 is hit and the HiHat Pedal is depressed, you should hear the Sound you selected for CLOSED. Every time you depress the HiHat pedal you should hear the Sound you selected for the CHICK sound. If you "Splash" on the HiHat pedal you will hear the Splash sound you assigned.

If you have a hatKAT, when Pad 3 is hit and the HiHat pedal is *half* depressed, you will hear the sound you selected for HALF. (A HiHat footswitch can not provide this effect because there is no half *position* on a footswitch - it is open or it is closed.)

Also, if you select FtCtrlA to be "MODULATION" in the Foot/Breath Tunnel, the position of the HiHat pedal will control the HiHat sound on an E-mu Procussion.

The FtCtrlB screen allows control of Controller #4 or Controller #1 with the hatKAT pedal. Roland sound sources provide nice HiHat control using Controller #4 information from the EZ. The E-mu Procussion responds with very good HiHat control using Controller #1.

If you are using these modes, the Chick Sound can also be found in the Foot/Breath Tunnel.

If you own a hatKAT, version 2.0 on the EZ has made setup much easier. All you need is a mono cable from the hatKAT CTRL output plugged into the HiHat input on the right hand side of the EZ. The FTSW and TRIG outputs of the hatKAT no longer need to be connected into the EZ. All control of HiHat is taken from the CTRL output of the hatKAT.

# KITS

## e. Make a Kit From Scratch With More Than One Sound Per Pad.

Let's assume you know how to do Screen Advance, Cursor Advance, Reverse, Sound Advance, Hear Sound, and Value Advance, that you know how to get into INTERMEDIATE MODE and that you have selected your Sound Source. (If you don't you should read p.11 - 13)

In this example, you will make a totally new Kit from scratch. We will use this example to show you how to use Save (Pad 7), Default (Pad 8), Duplicate (Pad 9), and Recall (Pad 0) and more details about the Sound Advance and Hear Sound Pads.

First, make sure you are in INTERMEDIATE MODE:

```
EZ Mode:  
INTERMEDIATE
```

Now, Screen Advance twice, to:

```
F01 PAD1 1SOUND  
Resp SMOOTH 1
```

Use Sound Advance, to look at the response for all of the 10 pads. Make all of the Pads response be SMOOTH.

(A reminder - you are not changing Factory Kit 1, you are changing a *copy* of F01 that is sitting in a special memory area that is reserved for editing a Kit. As soon as you make a change to a Factory Kit the "F01" will change to an "eF01" to indicate that you are now editing and playing an *edited* version of the Factory Kit. After you are done making changes you can choose to SAVE them to one of 32 User Kits. A similar thing occurs with User Kits as well, until you actually SAVE the edited version to some particular User Kit, then the "e" goes away.)

After all the responses are set to SMOOTH, do a Reverse, Screen Advance to:

```
eF01PAD1 1SOUND  
NTE1 15SnrDry1
```

Pick some appropriate snare Sound for Pad1. Hit the Hear Sound Pad to actually *preview* what Pad 1 will Sound like when you are back in PLAY MODE.

On Pad 2, move the Cursor up to "1SOUND" and change it to "2SOUNDS". Now move the Cursor back down to the Note Number Value and Name.

Hit the Sound Advance Pad. The Sound # changes to "NTE2". If you hit Sound Advance again, the Sound # changes back to NTE1. For this particular screen, if you have more than 1 Sound, you will spend time going back and forth between those Sounds, adjusting them until you get the ones that sound best together.

For the 2 Sounds on this Pad, have NTE1 be the same snare Sound that you selected for Pad 1. Have NTE2 be a rimshot or sidestick sound. Use Hear Sound to

check out the Sounds.

```
eF01PAD2 2SOUNDS  
NTE1 15SnrDry1
```

```
eF01PAD2 2SOUNDS  
NTE2 28SnrRim1
```

Now hit Screen Advance to get back to the Response Screen:

```
eF01PAD2 2SOUNDS  
Resp SMOOTH 1
```

For 2 or more Sounds there are different choices for response than there are for just 1 Sound. With the response set at SMOOTH, play the Hear Sound Pad. Note, both Sounds track each other dynamically. For Soft Hits they play Softly, for Hard Hits they play Loudly, and there is a SMOOTH transition in between.

Also, notice that the Hear Sound Pad plays the *full Sound* of the Pad on the response screen. On the Note screen, Hear Sound only plays the particular Sound # you are looking at so that you can tell which is which. At the response screen, what is important is hearing the full Sound.

Change the response to VLCTYBLEND1:

```
eF01PAD2 2SOUNDS  
Resp VLCTYBLEND1
```

Notice that the 2 Sounds react differently to your playing dynamics. Sound 1 plays as it did for Smooth. Sound 2 comes in only for Harder hits. Move the Cursor to the 1 after VLCTYBLEND. Change this value to 2 to hear the blending occur only for even Harder hits.

Now change to CROSSWITCH1 and try out the response:

```
eF01PAD2 2SOUNDS  
Resp CROSSWITCH1
```

Now, Sound 1 only responds for Soft hits and Sound 2 only responds for Hard hits.

Select CROSS FADE1 as the response:

```
eF01PAD2 2SOUNDS  
Resp CROSS FADE1
```

CROSSFADE is much the same as CROSSWITCH except there is a transition where the Sounds *blend* for medium hits.

Select some response out of these choices that you like for the two Sounds you selected.

Now, depress Footswitch 1, and hit Pad 3 (while Foot 1 is still depressed) to call up the NTE screen for Pad 3 (Pad Edit Shortcut).

```
eF01PAD3 1SOUND  
NTE1 34TomDry1
```

Move the Cursor to 1SOUND and use Value Advance to change it to HiHat.

```
eF01PAD3 HiHat  
NTE1 34TomDry1
```

Now that Pad 3 is a HiHat Pad, we can now define its Sounds and Response. (See sections 4 and 5 of "Making Your Own Kits" (p25-29).)

Now, do the **Pad Edit Shortcut** with Pad 4. Select some appropriate Tom Sound. Do the same with Pads 5 and 6.

```
eF01PAD4 1SOUND  
NTE1 34TomDry1
```

```
eF01PAD5 1SOUND  
NTE1 35TomDry2
```

```
eF01PAD6 1SOUND  
NTE1 36TomDry3
```

For Pad 7 select some kind of Crash cymbal and for Pad 8 select some sort of Ride cymbal with a Bell Sound merging in for Hard hits.

```
eF01PAD7 1SOUND  
NTE1 60Crash
```

```
eF01PAD8 2SOUNDS  
NTE1 62Ride
```

```
eF01PAD8 2SOUNDS  
NTE2 63RideCup
```

```
eF01PAD8 2SOUNDS  
Resp VLCTYBLEND1
```

For 9 and 0 select some spice sounds. Timbale, or Conga, or Cowbell, or Timpani etc.

```
eF01PAD9 1SOUND
NIE1 77Cowbell
```

```
eF01PAD0 1SOUND
NIE1 86SfxMet1
```

Once you have a new Kit you like, you should SAVE it in some User Kit. Actually, it's a good idea to periodically SAVE the Kit as you make it - just in case someone trips on your power cord, or the power goes out while you are editing, or you just goof up yourself and accidentally trash your Kit. (p. 25-26 for basics on SAVING) Anyway, go ahead and SAVE this edited Kit to User Kit U01.

After you do the SAVE, we will pretend that you make a mistake and advance to another Kit *without* SAVING all the work you just did. To make it easier to see what happens, first get back to the Response Screen for Pad 1:

```
U01 PAD1 1SOUND
Resp SMOOTH 1
```

Change the response to "SLOW RISE 1":

```
eU01PAD1 1SOUND
Resp SLOW RISE1
```

Move the Cursor to the Kit # and change to "U02". Your edited Kit has now been *lost*. If you change it back to U01 you will find that the response for Pad 1 is back to SMOOTH. You lost the edit that you had made. No great loss, losing 1 edit of a response setting. However, what if you lost a Kit that had a lot of changes - and you hadn't SAVED it yet? You'd be unhappy. But, you needn't be! That is what **Recall** is for!

Advance the Kit # to "U05". Now hit Recall. The following screen will burst at you for 2 seconds and then alternate with the screen that was being viewed before you hit Recall:

```
Are You Sure?
Hit Pad0 For YES
```

Hit Recall again to verify that you want to get the last edited Kit back (Kit U01 in this case).

Then you will see:

```
eU01PAD1 1SOUND
Resp SLOW RISE1
```

It didn't matter which Kit you were looking at when the Recall was performed. You will go back to the *last Kit you edited*. As long as you have not made changes to

any *other* Kit, Recall will get back that Kit you were working on.

So you see, Recall can save the day, quite literally. It is the emergency recovery from a major mistake like hitting Footswitch 2 (accidentally doing a "Kit Advance" out of the Kit you are editing) in the middle of an edit and apparently losing all your work. All you do is hit Recall twice and you've recovered gracefully.

## KITS

### **i. Make a Song Up Of Several Kits So You Can Step Through Them In Order.**

Once you have made several Kits that you like and you want to start using them in your live playing, you are ready to use Song Mode. In Song Mode you create Chains of Kits (both Factory Kits and User Kits) that you can easily step through with Footswitch 2.

First, find the Preferences Tunnel Screen:

```
Preferences
Hit Pad 2
```

Hit Pad 2 to enter the Preferences Tunnel. The first screen that slides in is the Song Mode Definition Screen:

```
Song:1 Mode:OFF
Step:01= F01
```

Move the Cursor to the mode and turn it ON with a Value Advance:

```
Song:1 Mode: ON
Step:01= F01
```

Now when you go back into PLAY MODE, the display will tell you that Song Mode is ON and also tell you which Song you are in.

There are a total of 8 Songs you can define, with 16 Steps in each Song. The Steps can be any User Kit, any Factory Kit, a Song Loop Command, or a Song End Command.

Suppose you want the following chain:

```
Kit F03
Kit U02
Kit U07
Kit U01
Kit U02
```

Suppose also that when you are done stepping through this Song, you want to be ready to start the next Song.

To set this up, move the Cursor to what Step01 is defined to do. Use Value Advance to make the first step be "F03":

```
Song:1 Mode: ON
Step:01= F03
```

Instead of moving the Cursor over to the step # to get to step02 and then moving the Cursor back to the step definition, you can leave the Cursor on the step definition and use Sound Advance to increment the step #. Using Sound Advance, Value



Advance, and Cursor Advance (to move from the "F" - "U" position to the Kit # position and back) you can set up the following Song:

```
Song:1 Mode: ON  
Step:02= U02
```

```
Song:1 Mode: ON  
Step:03= U07
```

```
Song:1 Mode: ON  
Step:04= U01
```

```
Song:1 Mode: ON  
Step:05= U02
```

```
Song:1 Mode: ON  
Step:06= END
```

Now, go back to PLAY MODE:

```
* SONG 1 ON *  
F01 Dry Kit
```

Now, each press of Footswitch 2 will step you through the chain of Kits. When you are done stepping through this Song you will Advance into Song 2 - because at the end of Song 1 you specified "END". If instead, you had made step06 be "LOOP", then you would stay stuck in this chain of Kits.

Using Footswitch 2 and the playing Pads on the drumKAT EZ, you can quickly step forward OR backward through your Song. If you depress Footswitch 2 and *while Footswitch 2 is held down* you hit Pad6, you will do a Step Advance in your Song. If you hit Pad 3 *while Footswitch 2 is depressed*, you will back up a step in your current Song for each hit.

If you hit Pad 2 when Footswitch 2 is depressed and your drumKAT EZ is not locked (see Lock Screen in Preference Screens), you will Advance to the next Song. If you hit Pad 1 while Footswitch 2 is depressed and your drumKAT EZ is not locked, you will Backup to the previous Song.

# KITS

---

## g. Make A Kit Using More Than One Sound Source.

Eventually, you will own more than one Sound Source and will want to use them both at the same time. To do this, your drumKAT EZ will need to operate on more than one MIDI Channel. Your drumKAT EZ does this in **EXPERT MODE**. So, first select **EXPERT MODE**:

```
EZ Mode:
EXPERT !
```

Screen Advance past the Note Screen and Response Screen to the Channel/Gate Screen:

```
U01 PAD1 1SOUND
Ch:01 Gate: 5mS
```

Using this screen, you can set up your Pads to play on different Channels. Suppose you have two Sound Sources (lets call them "A" and "B") and you put "A" on Channel 01 and "B" on Channel 10. Any Pads that you want to play on Sound Source "A" should have their Channel set to 01. Any Pads that you want to play on Sound Source "B" should have their Channel set to 10.

In this example if you want Pad 1 to play on Sound Source "B" and Pad 2 to play on Sound Source "A", you would set up the following:

```
U01 PAD1 1SOUND
Ch:10 Gate: 5mS
```

```
U01 PAD2 1SOUND
Ch:01 Gate: 5mS
```

When Pad 1 is struck in **PLAY MODE**, it will play to Channel 10 and therefore Sound Source "B" will respond to it (assuming, of course, that you properly set up the Channels on your Sound Sources). When Pad 2 is struck in **PLAY MODE**, it will play to Channel 01 and therefore Sound Source "A" will respond to it.

Because this Kit is now on more than one MIDI Channel, something interesting happens on the Sound Source Definition Screen. Hit Reverse and then hit several Screen Advances to see:

```
Pick SoundSource
Yamaha RY30 ChXP
```

Note that the Channel is "XP". The "XP" tells you that a single MIDI Channel cannot be displayed here because more than one Channel was defined in this Kit in **EXPERT MODE**. To find out the Channel assignments, you must look at the

Channel/Gate Screen in EXPERT MODE.

Also, if you have indeed connected up more than one Sound Source to your EZ, you probably should also change the Sound Source Definition to be **"MULTIPLE"** (at least in Kits where *both* Sound Sources are being used. In Kits where only one Sound Source is used you might as well keep the definition of the Sound Source you are using so that you can see its Note Names.

## **Power EZ**

This section is about some of the advanced features of the drumKAT EZ.

- a. **Adjusting the Response of External Triggers.**
- b. **Adjusting the Response of drumKAT Pads.**
- c. **Adjusting the Response of Foot Control.**
- d. **Adjusting and Using Breath Control.**
- e. **Footswitch 4 Tunnel Shortcut.**
- f. **Using Motifs.**

# Power EZ

---

## a. Adjusting The Response Of External Triggers.

There are many varieties of triggers that can be plugged into the trigger inputs of the EZ, including trigger pads like tomKAT pads, foot triggers like the kickKAT and fatKAT, acoustic head triggers like the KDT-1, acoustic shell triggers like the KST-1, and triggers from tape. The signals from these trigger sources can be very different.

To get the best response from the trigger inputs, you need to **Train** the drumKAT EZ to recognize that trigger. This Training will allow you to have great dynamics in your trigger playing without double triggering problems.

To actually **Train** your triggers, Screen Advance to the Trigger Tunnel Screen:

```
Trigger Functions
Hit Pad 2
```

Hit Pad 2 and the Trigger Train Screen slides in:

```
To Train TRG1
Hit Pad 7
```

"TRG1" is blinking. The Trigger can be changed by Value Advance or by hitting another trigger. If Pad 7 is hit, the screen says:

```
Hit TRG1 Softly
Once Please
```

So, go ahead, hit Trigger 1 Softly, Once. The screen will change to:

```
Hit TRG1 Hard
Once Please
```

So, hit Trigger 1 Hard, Once. The drumKAT EZ extracts the information it needs about the trigger you hit automatically, from your soft and hard hits. Now the drumKAT EZ knows how to respond to your trigger to track its playing properly.

Then the screen goes to:

```
Hit TRG1 toTrain
For Interaction
```

This screen allows the drumKAT EZ to read the Interaction on other triggers generated when you strike a specific Trigger. The EZ uses the Interaction information it reads from the Triggers to set up an internal Interaction Matrix for the trigger you hit.

So, hit Trigger 1 hard, to get the worst case example of interaction. The drumKAT EZ reads all the other trigger signals to see what interacts and then calculates how to take care of that automatically. When the drumKAT EZ has finished making its measurements, it shows the results:

```
TRG1 Interaction
12% 120mS █2_5_
```

This screen shows you the Interaction Matrix for a particular trigger. The % number is the Suppression Factor of how much triggers 2 and 5 (in this example - because 2 and 5 are shown) are suppressed when 1 is hit. Higher % numbers are required for greater interaction problems. Smaller % numbers will take care of minor interaction problems. There is no good or bad number - just use the amount you need to prevent the interaction from happening!

The "120mS" is the amount of time the suppression occurs for. The black square in the "1 slot" indicates that it is Trigger 1 we are reading. The 2 and 5 indicate that Triggers 2 and 5 are the triggers that play (interact) when 1 is struck very hard.

Seems very complex, but don't worry, Interaction Training takes care of all this for you *automatically*.

If you do a Screen Advance (Expert Mode only) you'll see:

TRG1 Threshold  
Set To 10

This screen lets you manually adjust the threshold (sensitivity to light hits) of a Trigger. If a Trigger is false triggering, without any other Triggers hit, you need to raise its threshold. If a Trigger is not sensitive enough, you need to lower the threshold.

If you do Screen Advance (again, only in Expert mode).

TRG1 Dynamics  
Lo=40 Hi=200

This screen lets you adjust the personal dynamic range the EZ expects from a Trigger. The numbers here are part of what the drumKAT EZ read, if you Trained it, for the Soft and Hard hits.

If you want more room at the lighter hits before you start hearing the volume change, make the low dynamic higher. If you think it starts getting loud too fast make the low dynamic lower. For more room at the higher hits so you can repeatedly get loud hits, make the high dynamic lower. If you think it starts getting loud too fast make the high dynamic higher.

The last two Triggering screens control the tracking of your trigger signal into MIDI information.

TRG1 Mask Time  
10 msec

TRG1 Head Room  
02

If you have trouble with double-triggering on a trigger try raising the Mask Time or Head Room. If some notes of fast playing are skipped try lowering the settings.

One more Screen Advance and you leave the Trigger Tunnel:

End Of  
Trigger Screens

## Power EZ

### **b. Adjusting the Response of drumKAT EZ Pads.**

To adjust the response of the drumKAT EZ playing Pads to your own personal style, hit Screen Advances until you find (must be in EXPERT Mode):

Pad Adjustments  
Hit Pad 2

Hit Pad 2 and find:

To Train Pads  
Hit Pad 7

If you hit Pad 7, the screen will change to:

Hit a Pad Softly  
Once Please

Hit any Pad softly once. Then the screen will say:

Hit a Pad Hard  
Once Please

Hit any Pad hard once. The drumKAT EZ makes internal adjustments based upon the soft and hard hit you gave and adjusts the dynamic response on all of the Pads. The screen bursts a verification of this:

Response of ALL  
Pads Adjusted

Then, the screen advances automatically to:

PAD1 Threshold  
Set To 20

Just like for triggers, this screen lets you affect the sensitivity to light hits. The lower the number, the more sensitive, the higher the number, the less sensitive.

Hit Screen Advance and see:

PAD1 Dynamics  
Low= 20 High=180

This, like for triggers, is the result of the Soft and Hard hit training that expresses *where* in the range of force *your* particular dynamic range is.

# Power EZ

---

## c. Adjusting the Response of Foot Control.

Although the FootControl input is designed to work best with a hatKAT pedal, the response range of the FootControl input can be “trained” to make the best possible use of most pedals.

To Define what the hatKAT does and Train the FootControl input, do Screen Advances (in EXPERT Mode) until you see the screen:

```
Adjust Foot/Brth  
Hit Pad 2
```

Hit Pad 2 and you will slide into the Foot/Breath Tunnel. The following screen will slide in from the right:

```
F01 FtCtrlA ch10  
MODULATIONRng127
```

This is the “FootControl Assignment” screen. If you want to do something else with your hatKAT, move the Cursor to “HiHat” and change it:

```
eF01FtCtrlA ch10  
PITCHBEND Rng127
```

your choices include Pitchbend, Panning, Modulation.

To Train the FootControl Input, do several Screen Advances until:

```
SetFoot Toe Down  
Hit Pad7 to Set
```

Press the Pedal all the way *down*, (Toe Down) and *while it is held down*, Hit Pad 7 to tell the EZ to take a reading of the most active state of the FootControl pedal.

When you hit Pad 7, the EZ screen bursts:

```
Foot Position  
Toe Down is Set
```

And then the screen says:

```
SetFoot Toe Up  
Hit Pad7 to Set
```

Take your foot off the Pedal (or put the pedal in the “off” position) and then hit Pad 7 to tell the EZ to take a reading of the idle level of the FootControl Pedal.



When you hit Pad 7 the EZ screen bursts:

Foot Position  
Toe Up is Set

That's it! Your FootControl Input is trained. Now your hatKAT can control any HiHat Pads or perform any control function specified in the "FootControl Assignment" screen.

# Power EZ

## d. Adjusting and Using Breath Control

The BreathControl input is designed to work with a Yamaha BC-10 Breath Controller. The response range of the BreathControl input can be "trained" to make the best possible use of your particular breath controller.

To Train the BreathControl input, do Screen Advances (in EXPERT Mode) until you see the screen:

```
Adjust Foot/Brth  
Hit Pad 2
```

Hit Pad 2:

```
F01 FtCtrlA ch10  
MODULATIONRng127
```

We want to look at Breath so hit Screen Advance several times until:

```
F01 Breath Ch01  
PITCHBEND Rng127
```

You can select a MIDI Channel to send to (01 in this example), a control function (Pitchbend, Panning, Modulation, or even **Playing a MIDI Note!**):

```
eF01 Breath Ch01  
NOTE: 48SnrDry
```

A Range is selectable for Control Functions and the Note Number is selectable when "NOTE" is selected as Control Function.

To Train the Breath Control Input, Screen Advance past these:

```
SetFoot Toe Down  
Hit Pad7 to Set
```

```
SetFoot Toe Up  
Hit Pad7 to Set
```

Until you see:

```
Set Breath Idle  
Hit Pad7 to Set
```

Breathe into your breath controller with full pressure and *while you are blowing*,

hit Pad 7 to tell the EZ to take a reading of the most active state of the Breath Controller.

When you hit Pad 7, the EZ screen bursts:

Breath Levels  
IDLE level is set

And then the screen says:

Set Breath Max  
Hit Pad7 to Set

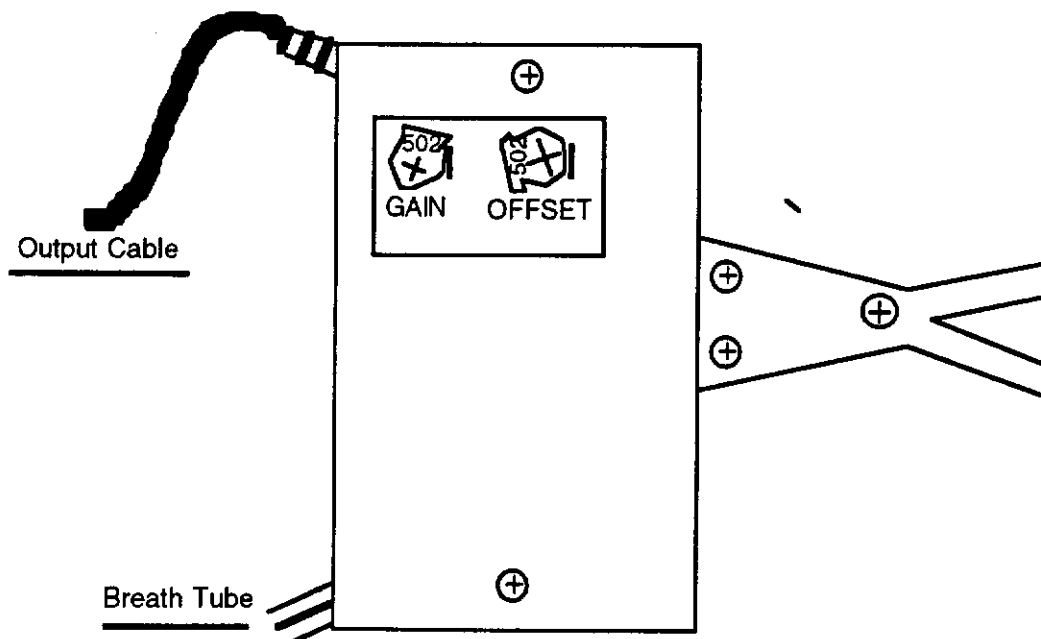
Stop breathing into the Breath Controller (Get into the "off" position) and then hit Pad 7 to tell the EZ to take a reading of the idle level of the Breath Controller.

When you hit Pad 7, the EZ screen bursts:

Breath Levels  
MAX level is set

That's it! Your Breath Control Input is trained. Now your Breath can control things like Pitch Bend and Panning (as specified on the Breath Control Assign Screen) as well as play Sounds!

**NOTE:** The Breath Controller has two adjustment trimmers labeled GAIN and OFFSET. The proper alignment of the trimmers is shown below:



**Proper Settings for Breath Controller Trimmers**

# Power EZ

---

## e. Footswitch 4 Tunnel Shortcut.

Footswitch 4 performs a very handy Shortcut tool in the INTERMEDIATE, ADVANCED, and EXPERT MODES. If you depress Footswitch 4 and *while Footswitch 4 is still being held*, hit a Pad you will take a shortcut right to some particular screen or Tunnel.

In Appendix L are three diagrams of the layout of all of the screens of the drumKAT EZ as you would see them as you Screen Advance through them, in all three modes. You can get to all of the Screens in the drumKAT EZ by hitting Screen Advances and occasionally hitting Pad 2 to slide into a Tunnel. This can get tedious because to get to some particular Tunnel can be a long ride.

Using Footswitch 4 you can transport directly to 10 of the most commonly used screens quickly and easily. If you try to transport to an EXPERT Screen while you are in INTERMEDIATE, you will enter at the last Edit screen you were on the last time you were in Edit.

If you hit Pad 1 *while Footswitch 4 is held down*, you will immediately appear at the first screen in the **Preference Tunnel**:

1 ADVANCED  
Song:1 Mode:OFF  
Step:05= U07

If you hit Pad 2 *while Footswitch 4 is held down*, you will immediately appear at the **Kit Name** screen:

2 INTERMEDIATE  
F01 Kit Name:  
Dry Kit

If you hit Pad 3 *while Footswitch 4 is held down*, you will immediately appear at the **Program Change** screen:

3 ADVANCED  
F01 ProgA Change  
Chan=01 Prgm= NO

If you hit Pad 4 *while Footswitch 4 is held down*, you will immediately appear at the **Response** screen:

4 INTERMEDIATE  
F01 PAD1 1SOUND  
Resp SMOOTH 1

If you hit Pad 5 while Footswitch 4 is held down, you will immediately appear at the first screen in the **Copy Tunnel**:

5  
Copy F01 To U01  
Hit Pad7 To Copy  
EXPERT

If you hit Pad 6 while Footswitch 4 is held down, you will immediately appear at the first screen in the **MIDI Tunnel**:

6  
Prgm Chng Receiv  
CHANNEL 1  
EXPERT

If you hit Pad 7 while Footswitch 4 is held down, you will immediately appear at the first screen in the **Pad Adjustment Tunnel**:

7  
To Train Pads  
Hit Pad 7  
EXPERT

If you hit Pad 8 while Footswitch 4 is held down, you will immediately appear at the first screen in the **Trigger Adjustment Tunnel**:

8 ADVANCED  
To Train TRG1  
Hit Pad 7

If you hit Pad 9 while Footswitch 4 is held down, you will immediately appear at the first screen in the **Mallet Expander Tunnel**:

9  
Expander Inputs  
Enabled: \_ \_ \_  
EXPERT

If you hit Pad 0 while Footswitch 4 is held down, you will immediately appear at the first screen in the **FootControl/BreathControl Adjustment Tunnel**:

0  
F01 FtCtrlA ch10  
HIHAT  
EXPERT

# Power EZ

---

## i. Using Motifs.

The most exciting new feature in EZ 2.0 is the Motif generator! A Motif is a small pattern of notes that you can record into the EZ and later control by striking a playing Pad. Using the Motif generator you play back up to 16 different patterns that you create and record. The playback of these patterns can be done in a variety of ways. This makes the Motifs very useful for a variety of settings ranging from practicing and drill work, to spice and effects for your live playing, to a well thought out addition to a complex solo.

To try using a Motif, get the Note screen for a Pad:

```
F01 PAD3 1SOUND
NIE1 38RoomSnare
```

Using Cursor Advance and Value Advance, change "1SOUND" to "MOTIF 1".

```
eF01PAD3 MOTIF 1
Mode: ONCE
```

You may choose one of two Modes: **ONCE** plays one time and stops. Each new hit on the Motif Pad restarts the Motif to play one time through. Repetitive hitting of a Motif Pad in ONCE mode will cause only the first couple of notes or even just the first note to play on each hit, if another hit of the Pad comes before more of the notes of the Motif have had a chance to play. When you stop hitting the Pad that is in ONCE mode the Motif will finally be able to finish playing itself out to its end - ONCE!

**LOOPED** plays over and over again until it is stopped by rehitting the Motif Pad. Each hit of a LOOPED Pad will *toggle* the Motif from Off to On or from On to Off.

Do a Screen Advance:

```
eF01PAD3 MOTIF 1
PLAY OVER OTHERS
```

At this screen you choose whether this Motif should "PLAY OVER OTHERS" or "SHUTS OTHERS OFF". Both settings are useful if you are using more than one Motif at a time. If you are only using one Motif at a time this setting has no effect.

Do another Screen Advance:

```
eF01PAD3 MOTIF 1
IS LOCKED
```

Here, you choose whether or not you want to *lock* your Motif. This is a protection from accidental erasure of a Motif you spent time carefully entering. Basically, while you are recording you unlock the Motif and when you are satisfied with your Motif you should lock it to prevent accidentally trashing it.

That is an overview of the Motif screens. So how do you actually record one? Recording of a Motif is done using Footswitch 3. If you strike a Motif Pad *while* Footswitch 3 is depressed a screen pops up that says:

MOTIF 1  
BEING RECORDED

Now the EZ is sitting waiting for the next hit of any pad - except the Motif Pad! The first Pad you hit starts the recording and puts that note at the beginning of the recording. Once recording starts, the Motif Pad is your *Stop Pad*. So play a pattern on your other Pads and triggers and then strike the Motif Pad to end the recording.

Note that if you intend to Loop the Motif, the timing of when you hit the Motif Pad to Stop the recording is important. You should strike the Stop Pad on "one" for seamless looping.

When you strike the Stop Pad, the Screen will verify the end of recording with a burst of:

MOTIF 1  
IS COMPLETE

Now, you can Play this Motif by hitting Pad 3. Try it in Once Mode and in Looped Mode.

Each Motif is allowed a certain # of "Events". Each Note that is played is an Event. If a Pad is making 3 SOUNDS, it will fill up memory 3 times faster. The maximum # of Events allowed per Motif is:

- Motif 1 = 128 Events
- Motif 2 = 128 Events
- Motif 3 = 64 Events
- Motif 4 = 64 Events
- Motif 5 = 64 Events
- Motif 6 = 64 Events
- Motif 7 = 64 Events
- Motif 8 = 64 Events
- Motif 9 = 64 Events
- Motif 10 = 64 Events
- Motif 11 = 64 Events
- Motif 12 = 64 Events
- Motif 13 = 32 Events
- Motif 14 = 32 Events
- Motif 15 = 32 Events
- Motif 16 = 32 Events

If you exceed the maximum # of events for a Motif when you are recording, the Motif stops recording and the screen says Motif 1 "IS COMPLETE".

Motifs can be an exciting addition to your playing if used tastefully and creatively. There are 16 Motifs and more than 1 Pad may be assigned to play back any Motif once it has been recorded. You can even get a single Motif going several times simultaneously, providing echo or flange effects. If several different Motifs are running simultaneously they will drift apart at a rate dependent on the difference in timing of exactly when you stopped your recording of each of the Motifs.

By putting Motifs in "SHUTS OTHERS OFF" mode you can make your own arrangement of several patterns chained sequentially. For example (assuming the Pads have Motifs assigned to them in "SHUTS OTHERS OFF" mode), if you start Motif 1 playing and then strike Motif 2, Motif 1 will be stopped when Motif 2 starts! Now, if Motif 1 is hit again, it will replace Motif 2. If you now strike Motif 3, it will replace Motif 1. In this way you can *alternate* Motifs and string them one after another, under your direction.

Of course you could also select another Pad to control one of the Motifs in "PLAY OVER OTHERS" mode. Hitting that Pad would allow the previous Motif to continue playing while this one starts up simultaneously.

If you try to play a Motif that is empty, the screen will tell you that the Motif is empty. If you try to record into a Motif that is locked, the screen will notify you that the Motif is locked.

If you are simultaneously using Footswitch 3 for sustain in Kits where you will record or play back Motifs, you will need to exercise caution. You want to avoid accidentally having your foot on sustain when you hit a Motif Pad! If you are not doing any more recording, it is a good idea to lock all of your Motifs, to prevent accidental erasure.



## Appendix A

# Trouble Shooting

If you are having trouble playing into your Sound Source (drum machine, etc.) with the drumKAT EZ, check the following:

- 1) Make sure that the drumKAT EZ, your Sound Source, your amp, etc., are all on.
- 2) Verify that your Sound Source makes sound when played directly on its own keys or buttons (if it has any).
- 3) See if there is sound on the headphone output of your Sound Source.
- 4) Make sure that you have a MIDI cable connected from the MIDI Out of the drumKAT EZ to the MIDI In of your Sound Source. Also try a different MIDI cable.
- 5) If there are any other devices involved other than your drumKAT EZ and the Sound Source (like a MIDI mapper, a computer, a sequencer, etc.), try to *remove* them from the chain to make sure they are not part of your problem.
- 6) Verify that your drumKAT EZ is "seeing" your Playing Pads by doing the Pad Edit Shortcut with Footswitch 1 and each of your Pads. While you do this (if the Pads respond on the display of the EZ), verify that the settings of the Pads are appropriate for the MIDI device you want to control. Try a Factory Kit made for the Sound Source you are using.
- 7) Verify that your synth is on the same MIDI Channel as the drumKAT EZ is sending on. Verify that your Sound Source is properly set up internally to receive incoming Notes. Also check to make sure that there is nothing unusual about the sound your Sound Source is making (like a slow building texture sound that a short Gate Time is not long enough for.)
- 8) Check the power connections to your drumKAT EZ and the instruments and amplifiers involved.

If you experience a problem with your electronic system, try to *isolate specifically* where the problem is. Is it in your Sound Source? Amp? How about your footswitches or MIDI cables or power cables? The more that you can rule out or discover before you call us, the easier it will be for us to help you solve your problem.

## Appendix B MIDI Primer

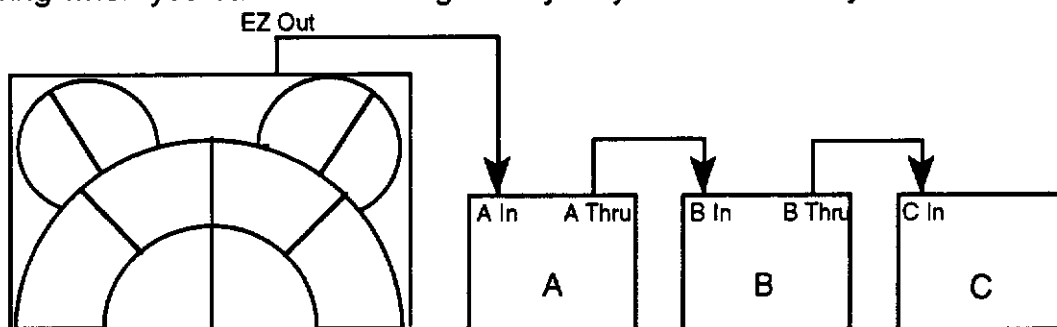
What is MIDI anyway? First, MIDI is an acronym for **M**usical **I**nstrument **D**igital **I**nterface. It is a standard or an agreement among the various musical instrument manufacturers that we will all use the same kind of connections and electrical signals so that any two musical instruments can be connected together and work.

### Connections:

MIDI connections are all made with 5 pin din cables that plug into 5 pin din jacks on the musical instruments. Only two wires are used in these cables to carry the information from one instrument to another. There are 3 types of MIDI jacks: **MIDI Out**, **MIDI In**, and **MIDI Through**. A MIDI Out jack is used by an instrument to *send* information to another. A MIDI In jack is used by an instrument to *receive* information from another. A MIDI Through jack is a special kind of MIDI Out jack that *only* sends *only* a copy of what the instrument received on its MIDI In jack back out.

Some instruments do **MIDI Merging** (all KAT Controllers do). **MIDI Merging** is the act of intelligently *merging* or mixing two MIDI streams without the streams being corrupted. By doing Merging the drumKAT EZ MIDI Out becomes a "Super" MIDI Through, because you get MIDI Through and MIDI Out mixed together.

Very often several instruments are connected in a chain. A drumKAT EZ can control several instruments at once, even with *only one* MIDI cable coming out of the drumKAT EZ. As an example suppose the EZ is controlling 3 separate Sound Sources: called A, B and C. The connections could be drumKAT EZ MIDI OUT to the MIDI In of Sound Source A. MIDI Thru of Sound Source A to MIDI In of Sound Source B. MIDI Thru of Sound Source B to MIDI In of Sound Source C. (Outs of A or B will also work just fine, if Sound Sources A and B are both *merging* what they receive on their inputs, through to their Outs). All three Sound Sources will see what the drumKAT EZ sends - and only the one that is supposed to respond to any given message will respond. It is like a phone call - only the phone you *call by number* will ring when you call - even though everybody is connected by the same wires.



**One** MIDI Out from the drumKAT EZ can control several Sound Sources.

## Signals:

The electrical signals of MIDI are **digital**, not analog. This ensures that the communications will be exact. The expression "close enough for rock-and-roll" doesn't apply here. If you want to hear a snare drum but some of the time hear a bass drum instead, because they are close to each other in the note table, you'd get upset. Digital gives you exactly what you asked for.

The signals are **serial**, not parallel. This means you don't need a complicated or expensive cable to make the connection. One pair of wires in the cable will do.

The signals are **opto-coupled**. Current flowing through the MIDI cable turns on a tiny light *inside a chip* inside the receiving instrument which ends up producing the electrical signal that the receiving instrument uses. Wow! Cool, huh!? That means that there is no ground connection between the MIDI-connected instruments. This eliminates 60 cycle hum from ground loops between these instruments.

## Concepts and Commands:

The main Concepts you need to understand are: MIDI Channels, MIDI Notes and MIDI Velocity. The main Commands you need to understand are: MIDI Note On, MIDI Note Off, MIDI Program Change, MIDI Control Change and System Exclusive.

If we use the phone line analogy from above, **MIDI Channels** are like phone numbers. Sound Sources are like homes. **MIDI Notes** are like the individual people in the individual homes that has that phone number. A separate **MIDI Channel** is *usually* assigned to each Sound Source you are using (like a phone number per home). Each Sound or Pitch *within* each Sound Source is accessed by the **MIDI Note Number** that is sent (just like asking for the *person* by name when you reach the correct home). The **Velocity** that is sent tells the Sound Source something about the *dynamics* of the Sound - usually how loud to play the Sound.

A **MIDI Note On Command** tells a specific Sound Source (Channel) to play a specific Sound (Note) at a specific volume (Velocity). It turns a Sound on.

A **MIDI Note Off Command** tells a specific Sound Source (Channel) to stop playing a specific Sound (Note). It turns a Sound off.

A **MIDI Program Change Command** tells a specific Sound Source (Channel) to use a predetermined *group* of sounds.

A **MIDI Control Change Command** tells a specific Sound Source (Channel) that some *control* setting has changed. This includes settings like panning, vibrato, sustain, expression, etc.

A **MIDI System Exclusive Command** is something specific to a particular instrument. It is typically used to do **Data Dumps**. A Data Dump is when an instrument sends its settings out MIDI in a big group so that they can be saved on some storage device (like a computer or a MIDI disk drive). Then the Data Dump can be sent *back into* the instrument later on to retrieve those settings again. Data Dumps are used as a back-up against the accidental loss of your settings or Kits. Saving Data Dumps of your settings is like having a spare tire in your trunk. You don't generally need it - but when you do need it, you'll be sorry if you didn't bother.

There are many articles and books available on MIDI if you are interested in finding out more about it. Give us a call if you would like more information.

## Appendix C

# MIDI For Percussion

The world of Percussion has some special needs that affect how MIDI is generally used for Percussion and Drum Sounds. These special differences include how Note Offs (Gate Time) are handled, how Notes and Program Changes are used, and sensitivity to time delay.

Keyboardists, guitarists, string, and horn players are all used to dynamically controlling the *length* of the Sounds they produce. This is not *generally* true for drummers and percussionists. Generally, once a drum is struck, it plays its sound out on its own. (Of course there are exceptions like cymbal choking and damping mallet or drum sounds - but often the sounds *do* play out on their own.)

Because of this, it is not unusual for a drum machine to not pay any attention to Note Off Commands. This means that generally, even if a drum machine is told to turn off a Sound after only a few milliseconds, most will play the Sound out until it is done on its own anyway. Because of this, you can choose on the drumKAT not to send *any* Note Off Commands - because often, for drum Sounds, they are not needed and simply fill up space in sequencers and waste the time of the Receiving Sound Source.

Another difference for Percussion is that different Note Numbers are more likely to stand for totally different Sounds - (not just different *itches* of the same Sound). Again, there are many exceptions to this but a keyboard player is more likely to think of MIDI Notes correlating to Pitch and a drummer is more likely to think of MIDI Notes as referring to totally different Sounds.

For a keyboard player, a Program Change Command is typically thought of as selecting some specific Sound which the MIDI Notes access different Pitches of. For a drummer, a Program Change is generally thought of as selecting a specific collection of Kits which specifies which different Sounds can be accessed through MIDI Note On Commands.

Because drummers and percussionists have a highly developed sense of *time*, they are more sensitive to time delays. A drummer is very sensitive to where a Sound is played with respect to the beat. This brings us to **MIDI Delay**. The MIDI time delay for a Note On Command is 1 millisecond (one thousandth of a second). It is imperceptible! (5 milliseconds (mS) is where you start to notice, 10 mS is noticeable and 20 mS is obnoxious.)

So why do we hear all this talk about MIDI Delay? Because *they* are really talking about **Sound Source Delay** when *they* talk about MIDI Delay. So what is Sound Source Delay? It is the time that it takes a Sound Source to respond to a MIDI Note On Command it has received and start to make a Sound. Sound Source delay typically ranges from 1/2 mS to 15 mS. The Sound Sources with 1/2 mS delay should be proud of themselves - they understand what is important to drummers.

So if you want to avoid "MIDI Delay", you must avoid Sound Source Delay! Call us and we'll tell you how the various Sound Sources rate.

For your information, there is also **Sound Travel Delay!** It actually takes sound a noticeable time to travel through the air. Hence echoes. Hence you see lighting, then hear thunder seconds later. Specifically, sound travels 1 foot in just a bit less than 1 mS. This means that a monitor placed 10 feet from your ears will sense around 10 mS of delay - Sound Travel Delay! (There is about a 2mS delay from when you strike your acoustic snare drum to when the sound gets to your ear!) Earphones have a Sound Travel Delay of only a teeny bit.

Looking at the actual times involved in MIDI Delay, Sound Source Delay, and Sound Travel Delay, you can see that actual MIDI Delay is the least of your worries.

By the way, a MIDI Merge (In-merged-to-Out) generally has 1 to 2 mS Processing Delay. A MIDI Through has no delay.

# Appendix D. Kit Template

kit#: \_\_\_\_\_  
 kit name: \_\_\_\_\_

**7** **8**

Snd1: \_\_\_\_\_  
 Snd2: \_\_\_\_\_  
 Snd3: \_\_\_\_\_  
 Ch: \_\_\_\_\_ Gt: \_\_\_\_\_  
 Resp: \_\_\_\_\_

**3**

Snd1: \_\_\_\_\_  
 Snd2: \_\_\_\_\_  
 Snd3: \_\_\_\_\_  
 Ch: \_\_\_\_\_ Gt: \_\_\_\_\_  
 Resp: \_\_\_\_\_

**4** **5**

Snd1: \_\_\_\_\_  
 Snd2: \_\_\_\_\_  
 Snd3: \_\_\_\_\_  
 Ch: \_\_\_\_\_ Gt: \_\_\_\_\_  
 Resp: \_\_\_\_\_

**1** **2**

Snd1: \_\_\_\_\_  
 Snd2: \_\_\_\_\_  
 Snd3: \_\_\_\_\_  
 Ch: \_\_\_\_\_ Gt: \_\_\_\_\_  
 Resp: \_\_\_\_\_

**9** **0**

Snd1: \_\_\_\_\_  
 Snd2: \_\_\_\_\_  
 Snd3: \_\_\_\_\_  
 Ch: \_\_\_\_\_ Gt: \_\_\_\_\_  
 Resp: \_\_\_\_\_

**6**

Snd1: \_\_\_\_\_  
 Snd2: \_\_\_\_\_  
 Snd3: \_\_\_\_\_  
 Ch: \_\_\_\_\_ Gt: \_\_\_\_\_  
 Resp: \_\_\_\_\_

**Sound Source:** \_\_\_\_\_ **Controller Input Type:** \_\_\_\_\_

**Song Mode:** ON / OFF **Song #:** \_\_\_\_\_

**EZ Mode:** \_\_\_\_\_

**MIDI PARAMETERS:**

Program Change A: CH. \_\_\_\_\_ Prgm# \_\_\_\_\_

Program Change B: CH. \_\_\_\_\_ Prgm# \_\_\_\_\_

Program Change Receive CH: \_\_\_\_\_

MIDI Merge: Pass Thru / Blocked

**EXPANDER INPUTS:**

Range: \_\_\_\_\_

CH: \_\_\_\_\_ Gate: \_\_\_\_\_

**HI HAT ASSIGNMENTS:**

**PADS:** 1 2 3 4 5 6 7 8 9 0

**TRIGGERS:** 1 2 3 4 5 6

**Kit Template contd.**

**TRIGGER ONE:** CH: \_\_\_\_\_ GATE: \_\_\_\_\_

**Snd1:** \_\_\_\_\_

**Snd2:** \_\_\_\_\_

**Snd3:** \_\_\_\_\_

**Response:** \_\_\_\_\_

**TRIGGER FOUR:** CH: \_\_\_\_\_ GATE: \_\_\_\_\_

**Snd1:** \_\_\_\_\_

**Snd2:** \_\_\_\_\_

**Snd3:** \_\_\_\_\_

**Response:** \_\_\_\_\_

**TRIGGER TWO:** CH: \_\_\_\_\_ GATE: \_\_\_\_\_

**Snd1:** \_\_\_\_\_

**Snd2:** \_\_\_\_\_

**Snd3:** \_\_\_\_\_

**Response:** \_\_\_\_\_

**TRIGGER FIVE:** CH: \_\_\_\_\_ GATE: \_\_\_\_\_

**Snd1:** \_\_\_\_\_

**Snd2:** \_\_\_\_\_

**Snd3:** \_\_\_\_\_

**Response:** \_\_\_\_\_

**TRIGGER THREE:** CH: \_\_\_\_\_ GATE: \_\_\_\_\_

**Snd1:** \_\_\_\_\_

**Snd2:** \_\_\_\_\_

**Snd3:** \_\_\_\_\_

**Response:** \_\_\_\_\_

**TRIGGER SIX:** CH: \_\_\_\_\_ GATE: \_\_\_\_\_

**Snd1:** \_\_\_\_\_

**Snd2:** \_\_\_\_\_

**Snd3:** \_\_\_\_\_

**Response:** \_\_\_\_\_

## Appendix E

### Triggering Trouble Shooting Guide

SYMPTOM	POSSIBLE CAUSE	REMEDY
Multiple triggers with just one hit.	drumKAT EZ not Trained properly	See <b>Power EZ</b> .
	Wire of trigger is touching rim or shell of drum.	Shape wire so that no portion touches rim or shell.
	Trigger head is not seated well on drum head.	Remove trigger head, replace double stick foam tape, clean head with alcohol, and then apply trigger to head.
False triggers when not hit.	Threshold Point set too low.	Raise Threshold. See <b>Power EZ</b> .
Drum triggering not sensitive.	Threshold Point is too high.	Lower Threshold.
	Bad trigger element.	Use another trigger.
Dynamic range not very wide.	Not enough difference between soft and hard hits in Training.	Retrain.
	Unusual response curve used.	Make it normal.
Adjacent drum triggers when you play a nearby drum.	Trigger Interaction Time too short.	Lengthen time.
	Trigger Interaction % too low.	Raise % setting.

(Courtesy of TRIGGER PERFECT.)



## **Appendix F**

### **Care and Maintenance**

The drumKAT EZ is an electronic musical instrument that was designed to take a pounding - from a pair of drum sticks - not from rolling down the stairs. Simply use good judgment and your drumKAT EZ will provide you with years of enjoyment.

Don't pour or spill liquids on your drumKAT EZ.

Don't leave in a very hot car for extended periods of time.

Don't leave in overly damp areas for extended periods of time.

Do not clean the rubber or metal surfaces with alcohol or solvents (alcohol and solvents will dry rubber out and the rubber may then crack and alcohol may remove some of the paint).

The rubber can be cleaned with a mild cleanser such as dish washing liquid. Do not pour cleanser on your playing surface. Apply a small amount to a clean cloth and then clean your playing surface with the cloth.

For a major cleaning of the rubber playing surface, remove the rubber from your drumKAT by first removing the 6 screws around the front and two sides that hold the metal frame down over the rubber. Use a gentle cleanser such as Soft Scrub, then wash clean with water. Dry off completely before reapplying.

The metal can be cleaned with a mild cleanser such as dishwashing liquid. Do not pour the cleanser on the drumKAT. Apply a small amount of cleanser to a clean cloth and then clean the metal surfaces with the cloth.

The display window can be cleaned with any glass cleaner and a clean rag.

The fuse needed can be from a 1/16 Amp to a 1 Amp, of the slowblow type.

As a protection to yourself, you should always maintain a backup on disk, sequencer or computer, of your Kit memory (of your drumKAT EZ and Sound Source, if possible). It is like a spare tire for a car. It is very rarely needed, but when it is needed, it is important to have.

## **Appendix G**

### **Warranty**

---

The drumKAT EZ has a limited warranty. The drumKAT EZ is warrantied against defects due to materials or workmanship for 90 days on labor, 6 months on FSR and rubber, and 1 year on all other parts.

#### **Warranty Restrictions:**

Damage or defects sustained through unauthorized repair or tampering, or abusive treatment are not covered by this warranty. The warranty does not cover damages to the drumKAT EZ as a result of improper line voltage or incorrect polarity AC Adaptor. The shipping expenses and arrangements for repair are the responsibility of the purchaser.

KAT is not responsible for loss of Kit Memory when your controller is sent in for repair or upgrade. Please, save your Kits on a Data Disk, Sequencer, or Computer before sending in for repair.

## Appendix H

# Instructions For Inserting New Software Chips For Software Updates

KAT is continually adding new innovation to all its products. New or expanded features have become part of the natural evolution of a KAT controller. Because of this, KAT periodically offers (at a nominal charge) Software Upgrades. To automatically receive information about Software Upgrades simply send in your warranty card!

**Tools Needed To Change Software:** 1 small flat and 1 medium flat screwdriver.

- 1) **First, remove the power cord from the back of the drumKAT EZ!**
- 2) Find a smooth, clean, flat surface and place your drumKAT EZ upside down on it, the jacks facing away from you.
- 3) Remove back cover of the drumKAT EZ (10 screws).
- 4) When the drumKAT EZ is opened, you will see two circuit boards. The circuit board in the back of the drumKAT EZ is the *Jack Board* and it contains the jacks and interface circuitry.  
The other circuit board, in the center of the chassis is the *KAT Micro Board*. This board contains the computer and its memory.  
On the front left of the Micro Board are two large chips with labels.  
The one on the left says "SOFT", "EZ" and a Version Number. This is your Software Chip, the code that runs your drumKAT, its Operating System.  
The one on the right says "KITS", "EZ" and a Version Number. This chip holds your Factory Kits of MIDI settings for specific Sound Sources.  
The information accompanying the chip you received will tell you which Chip you have received an update for.
- 5) To remove an old chip you will use your small flat screwdriver. You will want to pry the chip out of its socket. Look at the Upgrade chip you received and you will be able to tell what is the chip and what is the socket. The socket is soldered into the circuit board, so don't try to pry the socket out. You also should take turns prying a little bit at a time on each side of the chip. If you pry a LOT on one side, you will excessively bend the small legs on the other side 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 your 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. Take a little care to align the legs of the chip into the holes in the pins of the socket. Then push down evenly on the chip. It should push down snugly into 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 drumKAT EZ and reinsert the 10 screws.
- 8) Turn your drumKAT EZ back over, and reinsert the power cord. Now turn your drumKAT EZ back on. If the display is working, you are OK.

If the display is not working then:

- a) Remove the power cord again.
  - b) Turn the drumKAT EZ back over again and remove the 10 screws.
  - c) Take the back cover off again.
  - d) Try reinserting the chips (pry them out again to make sure that the legs didn't get bent under the chip).
  - e) Put the back cover on, turn the drumKAT EZ back over, reinsert the power cord, and turn the power back on.
  - f) If this still fails, put your OLD software back in and give us a call.  
(Appendix O)
- 10) After you have had the new software in and used it for several days, please send the old chip back to us. They are reusable.

# Appendix I

## MIDI Implementation Chart

<u>Function</u>	<u>Transmitted</u>	<u>Recognized</u>	<u>Remarks</u>
Basic Channel - Default	1 -16	1-16	
Changed	1 -16	1-16	
Mode: Default	x	x	
Messages Altered	x	x	
Note Number:	0 - 127	x	
Velocity: Note On	1 - 127	x	
AfterTouch: Keys	x	x	
Channel	x	x	
Pitch Bender:	By FootControl or Breath	x	
Control Change:	0	x	Sends Pitchbend, Pan, Modulation, Cntrl #1, & Cntrl#4.
Program Change:	0 - 127	0-127	
System Exclusive:	0	0	Dump 1 Kit AllKits Global All Memory
System: Song Pos	x	x	
Song Sel	x	x	
Common: Tune	x	x	
System: Clock	x	x	
Real Time: Commands	x	x	
Aux: Local On/Off	x	x	
All Notes Off	x	x	
Messages: Active Sense	x	x	
Reset	x	x	

Notes: Note Offs timed by Internal Hold Time or continued physical holding on Pad.

0: Yes  
x: No

## Appendix J

# System Exclusive Documentation.

A drumKAT EZ SYSTEM EXCLUSIVE DATA DUMP consists of two parts:

- 1) A 6 byte "header" that describes the dump and
- 2) The DATA! The number of bytes of DATA is determined by the type of Dump.

The 6 bytes of the header are defined below:

### HEADER:

byte1:	(0F0H)	Start of System Exclusive Status Byte
byte2:	(00H)	
byte3:	(00H)	
byte4:	(15H)	[00H, 00H, 15H is KAT's Company ID #.
byte5:	(66H)	Instrument ID # for the drumKAT EZ.
byte:	(00H - 03H)	Dump Type:

00 = Global Information  
01 = 1 Kit  
02 = All Kits  
03 = All Memory

The DATA is split into nibbles and sent with a 0 for MSB. It takes two bytes of System Exclusive transmission for every byte of new data.

After all the DATA has been sent, the End of System Exclusive Command (0F7H) is sent.

---

## Appendix K

### Glossary of Terms

---

- Channel:** In MIDI there are 16 Channels. A MIDI Channel is like a phone number. For two instruments to communicate they must talk over the same Channel. This is very much like to communicate with a friend on the phone you must dial the correct phone number first.
- Controller:** A MIDI Controller is a device whose purpose is to *control* other MIDI devices (as opposed to a Sound Source whose job is to be controlled). Generally a Controller is the *Interface device* which you play on, such as a Guitar Controller, Keyboard Controller, Violin Controller, Wind Controller, or Drum Controller.
- Dynamics:** A measure of how hard or lightly you are playing with your sticks.
- Editing:** The act of changing the settings in the drumKAT EZ.
- Factory Kits:** Kits that are always present in your instrument and are unchangeable. These are Kits that we at KAT generated for you to use with the various Sound Sources available.
- Gate Time:** The length of time that a Note sounds as sent by the drumKAT EZ. It is the length of time the drumKAT EZ waits after it sends a Note On, before it sends a Note Off. Many drum machines ignore the Gate Time sent by the drumKAT EZ and sound the Note until it's fully "played out". Melodic sounds like horns, strings, & organs often do respond to Gate Time.
- Kit:** A collection of MIDI settings for all of your Pads, Triggers, FootControl, BreathControl, and Mallet Expanders. Basically, a Kit defines what Sounds your Pads, Triggers, etc., make.
- MIDI:** MIDI stands for **Musical Instrument Digital Interface**. It is an agreed upon standard for communications between electronic musical instruments. It is simply the means by which your EZ *communicates* with the Sound Sources you connect it to.
- MIDI Delay:** A term which is mistakenly used, by many, to refer to all kinds of delay ranging from Sound Source Delay, to Sound Travel Delay, to actual delay due to MIDI (Which is only 1 millisecond! (.001 Second)). See Appendix C for a whole tirade on this.
- MIDI In:** A 5 pin DIN jack by which an instrument *receives* MIDI information from another musical instrument.
- MIDI Merge:** The act of *intelligently* merging or combining two "streams" of MIDI data

without corrupting the data in the two streams. This requires the active intervention of a micro-computer to perform the merge properly.

**MIDI Out:** A 5 pin DIN jack by which an instrument *sends* MIDI information to another instrument.

**MIDI Through:** The act of *electrically* copying the information from a MIDI In jack to the MIDI Through jack. No merging is done; so no computer is needed.

**Note Name:** In each Sound Source this is the actual text name that the particular manufacturer uses to refer to the Sound that will be played by a particular MIDI Note Number. We at KAT put all these Note Names from the various Sound Sources available into your EZ.

**Note Number:** A "MIDI Note" is the number sent in a "MIDI NOTE ON" or a "MIDI NOTE OFF" command to tell the receiving instrument which Sound to make.

**Program Change:** A MIDI command which instructs the receiving instrument to change to a new group of settings. For Sound Sources this generally means selecting a new group of sounds.

**Response:** What Velocity the drumKAT EZ sends out related to your playing Dynamics. A natural *response* is that the Velocity (hence the loudness) gets bigger as your dynamics increase.

**Screen:** A display "window" on the drumKAT EZ, usually with information about current settings in your EZ.

**Sound Source:** A device that accepts MIDI input and then plays a sound based on the information it received. Drum machines, samplers and synthesizers are all examples of Sound Sources.

**Toggle:** To switch back and forth from one selection to another. e.g. Footswitch 1 *toggles* you between Play mode and Edit mode.

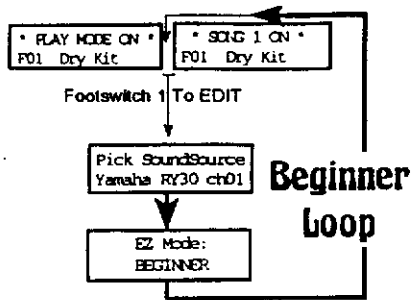
**Trigger:** Any of various external impact sensors that can be plugged into the drumKAT EZ trigger inputs. These range from trigger pads like the **tomKAT** pads, foot triggers like the **kickKAT** and **fatKAT**, or acoustic triggers like **KDT1** drumhead sensors or the **KST1** shellmount sensor.

**Tunnel Screens:** A screen that lets you get into another set of screens that are related to each other in some way.

**User Kit:** Kits that are changeable in your EZ. These are Kits that *you* generate and SAVE to use with the particular setup you have.

**Velocity:** A measure of how loud or soft a Note the drumKAT EZ will play on your Sound Source.



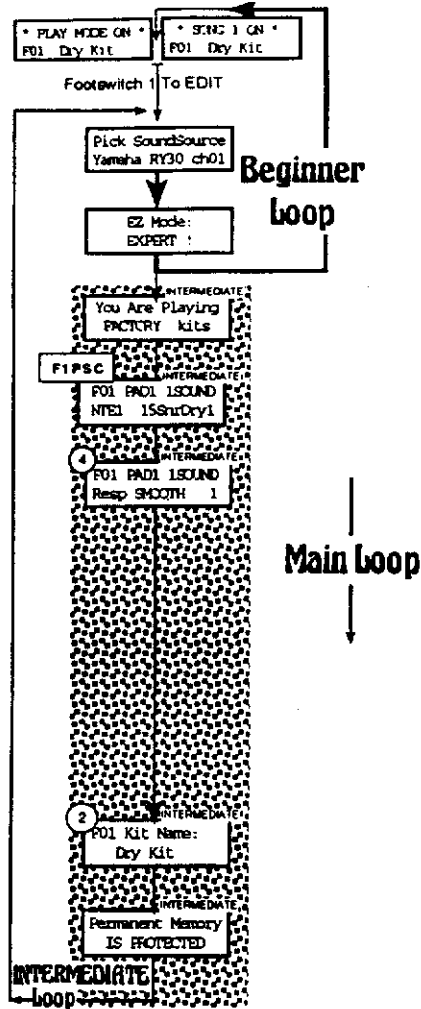


## Appendix L

### drumKAT EZ - v2.0 BEGINNER Screens

# Appendix L

## drumKAT EZ - v2.0 INTERMEDIATE Screens



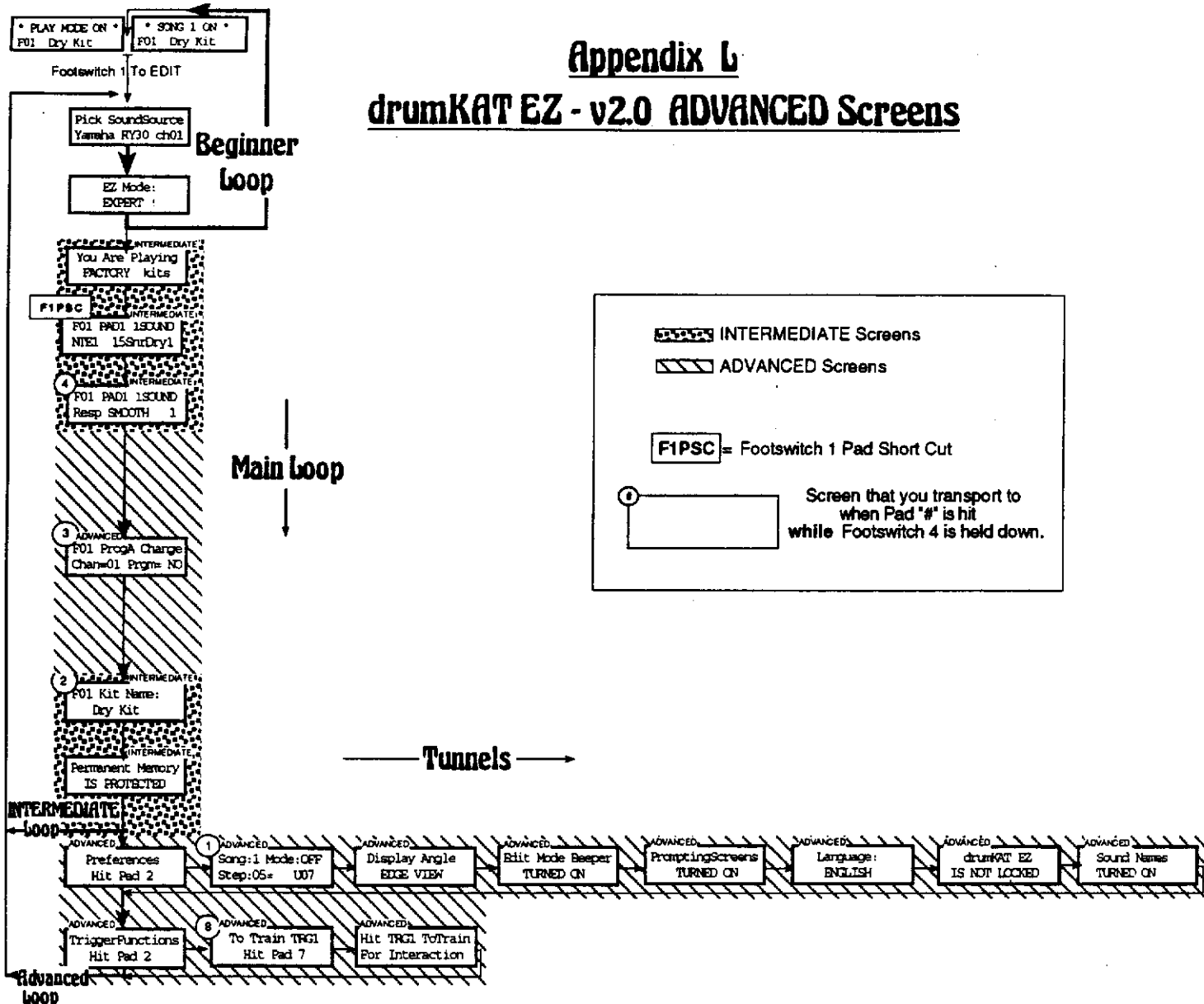
### INTERMEDIATE Screens

**F1PSC** = Footswitch 1 Pad Short Cut

**1** Screen that you transport to when Pad '#' is hit while Footswitch 4 is held down.

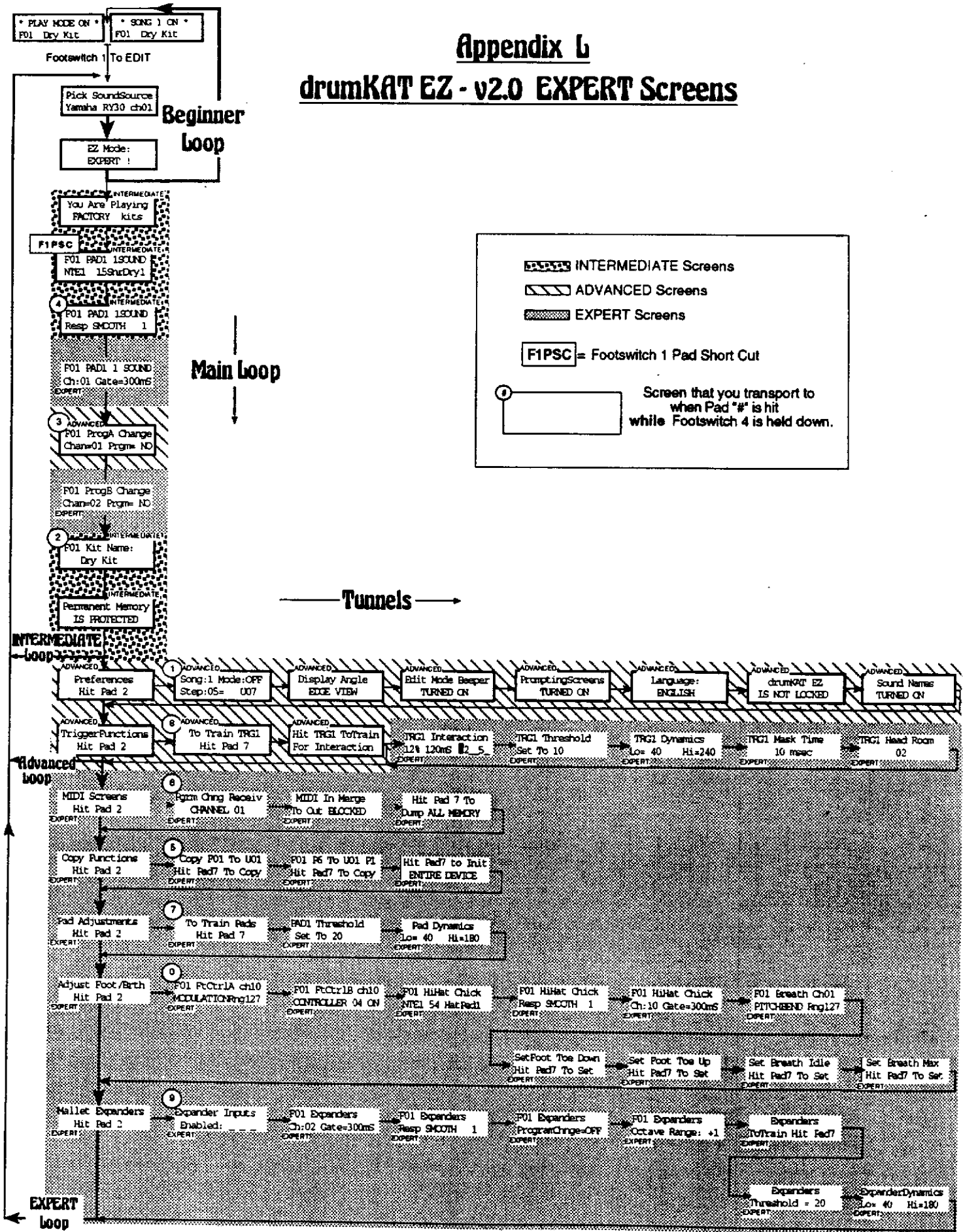
# Appendix L

## drumKAT EZ - v2.0 ADVANCED Screens



# Appendix B

## drumKAT EZ - v2.0 EXPERT Screens



## **Appendix M**

### **Accessories**

There are a number of accessories available for your drumKAT EZ:

- Heavy duty drumKAT case
- Mounting bracket for tom tom or cymbal stands
- European power cord
- Extra U.S. power cords
- AC adaptor
- tomKAT trigger Pads
- poleKAT (2-zone trigger)
- Assorted stands and stand parts in chrome and black finishes
- Single footswitches
- Triple footswitches
- miniKICK bass drum
- fatKAT bass drum
- kickKAT bass drum
- hatKAT HiHat pedal
- Head mount triggers for acoustic drums
- Shell Mount triggers for acoustic drums
- malletKAT Controller
- mallet Expanders
- Breath Controller
- MIDI Quick Notes
- Instructional videos
- KAT T-shirt

## Appendix N

### Setting Up Your Sound Source

Ideally, we would like you to be able to connect your EZ up to every Sound Source there is and be able to totally control everything that Sound Source can do. However, sometimes a Sound Source may not respond as it should with your EZ because some setting inside the Sound Source may prevent it from responding properly.

This can happen in several ways.

1. The Sound Source may be set internally to ignore all incoming MIDI information.
2. The Sound Source may be set to ignore incoming Program Changes.
3. The Sound Source may have lost its original settings and a snare drum name in the drumKAT EZ doesn't make a snare drum sound.

1. If the Sound Source is set to ignore all incoming MIDI you simply will get no sound out of your Sound Source when you play on the EZ. Playing *directly* on your Sound Source (assuming it has buttons to play on) will make a sound but MIDI won't!
2. If the Sound Source is set to ignore incoming MIDI Program Change commands, it may not change sounds properly from kit to kit as you advance through your factory EZ kits.
3. If the Sound Source has non-standard settings (MIDI Note maps can be changed or even names of the sounds can be changed) you may want to reinitialize your Sound Source. The drumKAT EZ assumes that your Sound Source is in its factory "out-of-the-box" state. If some settings are changed in your Sound Source the drumKAT EZ may not be able to control everything it should. A Sound Source reinitialize might solve this.

We have constructed a table telling where to find (in your Sound Source's manual) the screen that allows you to change these three settings. Sources that have no way to change a particular function have an "\*" for the setting on that machine.

<u>Sound Source</u>	<u>All MIDI Receive</u>	<u>MIDI Program Change Rcv</u>	<u>Re-Init</u>
Akai XR-10	p. 64	*	*
Alesis HR-16	p. 18	p. 3	
Alesis HR-16B	p. 18	p. 3	*
Alesis SR-16	p. 6.2	p. 6.8	*
Alesis D4	*	p. 24	*
E-Mu ProcuSSION	p. 7,9,11,15	p. 20, 26	*

**E-Mu Proteus**  
**Kawai XD5**  
**Korg**  
**Roland R-70**  
**Roland DR-660**  
**Roland R-5**  
**Roland R-8**  
**Roland CR-80**  
**Roland R-8M**  
**Roland DR-550**

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<b>Appendix O</b> <b>KAT, Inc.</b>
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KAT is a company dedicated to making the most powerful Controllers in the world. We have a commitment to quality and responsiveness. Our designs are responsive and we as a company are responsive. Feel free to call us with questions or suggestions.

Our products are designed to be upgradeable. Product improvements and upgrades are designed to allow them to be implemented on original versions of the product.

You will find that your drumKAT EZ will improve with age. Not from a wine-like rotting process, but from the improvements and additions we are always making. Most notably, we provide continued software upgrades to add new features to our instruments.

Our address, phone, and fax are:

KAT, Inc.  
300 Burnett Road  
Chicopee, MA 01020

Phone - (413) 594-7466  
Fax - (413) 592-7987

We look forward to hearing from you.



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