



DRUM INTELLIGENT TRIGGER INTERFACE

DITI is the world's most powerful Trigger to MIDI Interface from Alternate Mode.

With 24 Trigger inputs, a large drum set can be MIDI converted with ease. The DITI is the first interface of its kind to power and convert FSR drum triggers to MIDI. Products like our HybriHEAD™ and HybriPAD™ are designed to work right out of the box with the DITI for unprecedented dynamic range and control. Our new jamKAT, jamKAT'R and HybriKIT are multi-pad FSR pad configurations that are preprogrammed on the DITI, offering the most powerful drum controllers ever made.

The DITI will capture your playing dynamics unlike anything else. Each input can be TRAINED to play within your own personal performance style. Special Interaction Training ensures no false or double triggering, a problem plaguing other trigger to MIDI interfaces.

The DITI can convert piezo triggers, dual zone piezo triggers, membrane switch triggers, cymbal choking cymbals, and multi zone cymbals as well. The DITI can detect pad pressure on FSR pads allowing for dampening, and Continuous Control data being sent. The DITI also has a continuous controller input for hi hat. If all of this wasn't enough, the DITI incorporates many of the legendary features of the drumKAT, allowing for Alternate Note Modes, Velocity Shifts Modes, Note Shift Modes, Advanced Pad Linking, Transpositions and much more. There is also a special mode called SWITCHED BY, that alters the note on a pad if it detects pressure on another.

The DITI has built in KIT TYPES that can store THOUSANDS of programs from the most popular drum modules on the market. You simply call up your favorite sound module, and all of the sound modules presets will be preloaded as Sound Patches. You can also create your own Kits and Sound Patches and even create your own CHAIN so that you can make your own Song List of Presets.

As new drum modules and soft synths from other manufacturers become available, new KITS can be downloaded from our SYSEX Database from our website. This keeps the DITI modern and current.

Perhaps the most interesting feature of the DITI is that the controller stores "profiles" of the various drum triggers on the market. Simply plug in the trigger, identify what you plugged in, call up one of the pre programmed Kits (for your favorite drum module or vst soft synth) and your done. But unlike a forced default, you can learn to tweak to the finest detail to get the DITI to respond to your every desire.

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DITI Start Up Guide

If your not going to read the manual
(at least) **READ THIS**

We understand that you might not want to read the manual. We understand. It's also true that we've earned the reputation of having great products, but with a steep learning curve. No argument there either.

The DITI is different...kinda....It still has all of the complexity of our MIDI Controllers (and more), but we've made an attempt to greatly reduce the pain and suffering we have inflicted on our customers. How you might ask?

The DITI is about around three basic concepts, KIT TYPES, PAD TYPES and TRAINING. The KIT Type defines what drum module you are using, the PAD TYPE defines what you've plugged into each input. TRAINING is process of teaching the DITI how you play on those pads and also learns and corrects false triggering.

KIT TYPES. Simply scroll through the list (up or down arrows) of the KIT TYPES on the top line of the display until you see the name of the Drum Module or Virtual Synth that you are using. When you see your favorite module, the DITI is ready to go. If you don't see your drum module, go to our website and download our every growing list of KIT TYPES.

http://www.alternatemode.com/DITI/diti_downloads.shtml

Here you will be able to download new KITs, Pad Types and All Memory Dumps.

On the second line of the screen, you will see the first 50 Kits in sequential order (called SOUND PATCHES) that are preprogrammed in the drum module that you just selected. Just use the Left and Right Arrows to scroll through the kits. It is possible to change the order of this list of Sound PATCHES and build up your own CHAINS to create your order of sounds.

PAD TYPES. A Pad Type is simply the name of the trigger pad that you are plugging into one of the DITI's inputs. After you plug in the trigger pad, you simply scroll through the list of Pad Types until you find the name of the product that you are using. The names can be very specific like onHEAD™ or inHEAD™ or altZONE, etc. They are also generic names like "piezo drum trigger", etc. When you tap on the ENTER key, the magic happens. The DITI loads in all kinds of critical information about the pad. The gain structure, threshold settings, mask time settings..... on and on. It even loads in a response curve designed for that trigger. By performing this one simple task, the DITI took the tech out of the instrument, because all of the parameters are set and ready to go. Of course you can edit and save each factory PAD TYPE or you can make your own User Pad Type as well so that you can fine tune the trigger's performance to your exact liking.

Because there can be so many PAD TYPES, it is possible to IMPORT PAD TYPES from our website, mentioned above **http://www.alternatemode.com/DITI/diti_downloads.shtml**

TRAINING

After you call up your drum module in the KIT TYPE and assign the proper PAD TYPE for each input, you have the opportunity to TRAIN your pads. Training teaches the DITI how you like to play. It asks you to play your softest, and then you hardest hit and figures out how to maximize the dynamics of the pad

within this performance range. This feature alone has a tremendous impact on how the pad plays. This has been a staple feature on all of the KAT controller line since 1984! Every KIT TYPE can store the TRAINING results on every input. This means that you can have different feels and dynamic range on each and every KIT. There is also a default Training for every PAD TYPE so that the work can be automatically set for you. The choice is yours.

So let's review the concept and keywords with a bit more info....

PAD TYPE. When you call up a PAD TYPE, all of the settings relating to how the trigger will function are automatically loaded in. This includes settings for both the A and B input of that trigger input on the DITI. The PAD Type contains the INPUT TYPE which defines the function of the input... it tells the DITI what it expects to "see" on the input... FSR, piezo, membrane switches, etc. It also loads in the gain, thresholds, mask time settings etc.

There are Factory PAD TYPES and USER PAD TYPES with the same name. If you edit a Factory PAD Type and make a change and hit ENTER, the DITI copies that PAD type with your changes and puts a "U" in front of the PAD Type Name. Now you can go back and forth between the Factory PAD Type and your edited one to make comparisons. There are also User Types that you can create from scratch. PAD TYPES are Global in nature. Once you create a PAD Type, they can be used in every Factory or User Kit. The selected Pad Type will have the same function with all of its parameters from Kit to Kit. This means that when you adjust a PAD TYPE, ALL Kits will that use this PAD Type will have the same changes automatically. This can save you lots of time because once you set up a PAD TYPE for a particular pad, it can be used on any trigger input or any KIT without further adjustments. You can restore a User PAD TYPE to its original Factory Setting simply by holding down the ENTER key for several seconds when the cursor is blinking on the U in the PAD Type Screen

KITS will share the same PAD TYPE settings for that particular drum trigger, and this also includes a dynamic training that's part of the the PAD TYPE. Every pad in every KIT however can OVERRIDE the Training settings of the PAD TYPE and can store its own TRAINING for that Input. This gives you the maximum flexibility when creating your own setups.

KITs

A KIT is a collection of the PAD TYPES that are selected for each input. Every KIT on the DITI can have a different collection of PAD TYPES.

A KIT Type also stores the MIDI note numbers, MIDI channels, gate times, etc that are used for each of the inputs. Kit Types also store other important pad functions such as a Program Change and KIT Name and much more. Kits are made to work with specific drum and sound modules, and the KIT names reflect what module they are designed to work with.

There are tons of PRESET KITs that are predefined for most of the drum modules on the market. These will have the name of the drum module as its name. As soon as you hit Enter, the DITI loads in the note numbers needed to access the drum module's sounds.

Because there are so many different sound modules on the market, we decided to have a database available on our website where you can instantly find the sound module you want, and download it to your computer. Then you can send a SYSEX file to the DITI (via SysEX Librarian - Mac or MIDOX -PC). The DITI will automatically overwrite the current active kit, even if it is a Factory Kit.

http://www.alternatemode.com/DITI/diti_downloads.shtml

Sysex File Downloads

Sysex File Downloads are divided into three types:

- **Pad Types** - contain preset data for the DITI to recognize a specific type of pad being connected to the DITI (e.g.: an eKIC trigger pedal)
- **User Kits** - contain preset data and note mappings for a DITI User Kit.
- **ALL Kit Dumps** - these are complete memory dumps that contain all Pad Types and User Kits contained in the description.

For instructions on uploading a Sysex File to your DITI, please see our [video instructions](#)

Search:

Sysex File Types:

Title	Description	Date Modified	Filename
Pad Type			
Roland CY15R Bell		2016-05-09 13:00:23	Roland_CY15R_Bell_PT.syx
Roland CY15R Edge		2016-05-09 13:00:58	Roland_CY15R_Edge_PT.syx
Roland FDB Hi-Hat Controller Pedal		2016-05-09 13:01:19	Roland_FDB_Hihat_PT.syx

If you edit any of these settings, the DITI will automatically remember your changes. You will know that you are working on an Edited Factory KIT TYPE because there will be a (+) character after the KIT number on the far right of the first line of the display.

You can restore a KIT TYPE back to the original factory setting simply by holding the the ENTER key for several seconds

Most drum modules have many sound programs (kits) in them. You can access them simply by using the left or right arrows on the DITI. You will see the name of the Sound Programs on the DITI as well as the drum module.

When calling up each of these Sound Programs, the DITI sends out a program change to the drum module so that its kit name matches the DITI's screen. If you change the program number in the Kit, the DITI will also change the name of the sound patch. This gives you the ability to create your own CHAINS..... kits in the order you want. The DITI also sends out 4 ADDITIONAL (Auxiliary) Bank, Program and Volume Change Commands on any MIDI Channel when you first load in your KIT TYPE. Each KIT also stores up to 8 Controller Number Settings. These settings give you lots of control for setting up a multi channel Kit setup.

Note numbers assigned to the KIT TYPE do not change when changing the KIT Types Sound Programs (drum modules kits). One set of MIDI Channels, notes numbers, etc for each KIT TYPE

There are also 33 USER KIT TYPES, labeled 17 thru 50. You can create your own Kits from scratch.

USER KIT TYPES do not necessarily have pre assigned Sound Patches associated with them. The user needs to determine what the PAD TYPES and note numbers are for each of the DITI's inputs. User KIT TYPES still allow you to attach up to 50 Sound Patches by using the Left and Right Arrows

IMPORTANT TIP

At Alternate Mode, will fill up these 33 User KITs with our favorite gigKAT Kits to be used with the HybriKIT, jamKAT or jamKAT'R. In Edit Mode if you hold down the Enter pad for several seconds, the existing kit information is reinitialized, and the Kit is preset with a General MIDI Setup.

KIT PAD TRAINING

Every KIT can store your TRAINING of Soft and Hard Hits for each input. The KIT stores your soft and hard hit settings, but not the envelope and interaction settings. These are Global.

+++++

For some folks, that might be the extent of technology knowledge needed to get up and running on the DITI.

In reality however, there might be some tweaking that you would want to do. Now before you say, "here it comes", let me explain.

There are two really powerful features in the DITI that separates itself from all the other MIDI trigger converters on the market and from the normal tweaks that are in drum modules.

The DITI has the ability to LEARN how you play so that the full dynamics of the sound module are within your defined soft and hard hits. When you TRAIN a trigger pad, meaning when you "teach" the DITI what your soft and hard hits are, the DITI then takes the 127 levels of MIDI dynamics and spreads them inside this range of velocity. Cool yes? This important feature was first introduced by KAT INC back in 1984. It has been used ever since. The original "KAT mallet Controller had only 8 levels of dynamics. The drumKAT and malletKAT have 256 levels of dynamics, The DITI.....1024 levels of Dynamics.

The other important DITI feature is its AUTOMATIC INTERACTION MATRIX. The DITI has the ability to examine each input individually when a pad is struck so that it can eliminate crosstalk with other triggers, and false triggering within itself. This is a very powerful feature.

Of course if you are not happy with how the DITI trained your pads or Interaction Matrix, you can go into the Global Screens and tweak to your hearts content!

Another thing to remember is that the DITI allows you to combine different trigger pads from different manufactures. No other interface allows you to combine FSR, Switch Pads, 8and Piezo's all in one box and in any combination in any of the DITI's Kits.

So now that this is out of the way, below is a list of the bullets needed to perform the tasks necessary to do all that was explained above. Perhaps your manual reading ends here.....BUT....you might want to explore the real manual. The DITI can do so many amazing things. We'll list some of them AFTER this TO DO LIST. Enjoy!

THINGS TO KNOW WITHOUT READING THE REAL MANUAL

This is our "MINI MANUAL"
less than three pages


- Start by using the Up or Down Arrows to find the name of the Sound Module (the KIT) that you plan to use.
When you do this, the DITI loads in the note numbers and kits (sound programs) into Play Mode. The next thing to do is to assign what triggers you are plugging into the unit. Remember every Kit in the DITI can have its own arrangement of PAD TYPES, that is the name of the trigger product itself. **So assign the KIT first, and assign the PAD TYPES.**
- Once the trigger pad is plugged in, manually use the Left and Right Arrows to find the correct trigger input that is the PAD TYPE (the name of the trigger that you are using) Each jack has an A and B channel. There is an AUTOMATIC function on the DITI that will jump to the trigger pad (yes automatically) that you are editing, but this function works best after the basic training is performed. The Automatic Trigger detection function is designed to work when you are editing your KIT settings like channel and note numbers, etc.
- If you are using FSR Trigger Pads or Heads, after you plug it in and assign the PAD TYPE to the Trigger Input, press on the TRAIN button TWICE. The DITI quickly analyzes the threshold on the inputs and adjusts them automatically. This also happens every time you turn on the DITI. It reads the inputs and adjusts its thresholds.
- Use stereo 1/4" jacks (TRS) if you are using FSR trigger pads. If you use mono jacks, they will only work on piezo triggers, and you can only access the TIP of the signal. (that's the A Input). You can purchase a stereo 1/4" male to 2 mono female adapter to access both Inputs on the input jack.
- Use stereo 1/4" jacks if you are using Membrane Switch pads. These are the dual zone variety of triggers that have a piezo in the center of the drum, and a membrane switch on the edge (rim), bell or both.
- Notice that the inputs on the DITI have names on it. BD = Bass Drum, SD = Snare Drum etc. By using the appropriate input for the trigger, you will eliminate the need to set the note number for the sound module because it will be automatically assigned when you call up the KIT. You can however, plug whatever trigger you want into any input, and assign any MIDI note number to it.
- The HiHAT Foot Controller must be plugged into pad number 7. It is a designated input for the foot pedal. You can use a mono 1/4" cable as the A input is reading the pedal variation.
- The HiHAT trigger pad is usually plugged into Input 8 or Input 9. There are several HiHAT Modes which include Controller Numbers, HATNOTEs modes or general MIDI HiHAT. When you selected the sound module KIT, the correct HiHAT setting was selected. If you are creating your own, you will need to decide which mode works for you.

- To Edit a Trigger Input, press the GLOBAL Button. Now match the input number (that you are editing) by using the Up or Down Arrow Keys. Hit Enter. You can also try striking the pad if the DITI is set to AUTOMATIC . If it doesn't jump to the input number, its because the input PAD TYPE doesn't match. Go there manually
- Use the RIGHT Arrow to jump to the PAD TYPE Screen. Then use the Up / Down Arrows to find the name of the trigger pad you have. If you don't know, or if you are using your own DIY trigger, set it to "piezo". Hit Enter
- Play for awhile..... Get used to the pads. You may notice that you are not entirely satisfied with the response of a trigger pad. Now its time to TRAIN.
- Tap on the TRAIN Button. It will ask you to hit the pad you want to train. Do that. Then it will ask you to hit the pad hard..... don't kill it..... just play the pad with your normal hard hit. Each time you do that, the DITI will show you the MAXIMUM value it saw. When you feel good about that, hit ENTER.
- Now the DITI will ask you to hit the pad soft. After you do that, hit ENTER. Start playing again. Notice how much better it plays.
- If you notice that there is some interaction between pads, then it might be necessary to do the INTERACTION TRAIN. Press the Interaction Button, tap on the pad you are training. Hit the pad and WAIT two seconds. Do it one more time, then press on the INTERACTION button again. Your interaction should be mitigated to satisfaction.

A Note Regarding FSR Trigger Pads

All FSR Trigger Pads need a stereo input. There are several different ways that they can be plugged into the DITI.

Special Versions of the inHEAD™ and onHEAD™ from Aquarian as well as FSR trigger pads from Alternate Mode such as the altZONE™ or triZONE™ can plug directly into the DITI without any conversion boxes (inBOX™).

You will notice a DITI DIRECT label  on the trigger identifying that the trigger pad is ready to connect directly to the DITI. That is because the wiring is set to TIP/RING, meaning that the DITI uses the tip for the A Input as the trigger and the Ring or B input as the power source for the FSR.

Aquarian normally sells these FSR inHEAD and onHEAD triggers with a TIP/Sleeve configuration. These triggers are designed to plug into the inBOX™, a device that converts the FSR into voltage, making these triggers compatible with the various drum modules on the market today. If you already have one of these triggers, you can purchase a simple conversion cable available from Alternate Mode converts the tip sleeve to tip ring making it ready for the DITI.



This is the basic operation of the DITI. Below is a list of some of the features that the DITI can do. You might need to dig into the manual to learn how to do some of these things. In PDF format, just hit the search key and type in the name of the function you need.

CORE FEATURES of the DITI

The ability to power FSR pads like the inHEAD™, HybriPADs, and altzones™ without an inBOX™

Up to 24 triggers including combinations of membrane switches, dual zones, cymbals with switching and chokes, etc

The ability to power multi zone and variable zone FSR pads such as the jamKAT™ and HybriKAT™

The DITI can recognize pressure on an FSR pad and convert that into Continuous Controller Data. You can sustain notes simply by holding down on the pad.

Can distinguish between cross stick and rim shot by FSR head pressure.

Can send out “positional sensing” data on any trigger pad.

The DITI can recognize dampening and choking gestures. It can even simulate choking on ordinary piezo trigger pads.

Tweak-ability to the nth degree which includes the creation of personal dynamic curves, velocity ranges, gate times etc.

The ability to play up to 32 notes per pad using alternate note patterns, or velocity shift modes or chords. This includes the ability to control resets and note freezes on pads individually or globally. Each pad can be set to its own MIDI Channel and velocity range settings.

Special Gate modes such as LATCH for looping, ROLL Mode, INFINITE Mode and Velocity Gate Mode.

Special KAT FUNCTION MIDI NOTE NUMBERS that can transpose notes, freeze and reset alternate note patterns, send out sequence start commands and more.

The ability to LINK any pad to any pad in an unlimited fashion. One strike on one pad can send out whatever is assigned to any of those linked pads. You can turn on and off links Globally or Locally per kit and even control the velocity amount of each pad that you link.

You can assign pads to KIT ADVANCE/BACK or PROGRAM ADV/BACK so that you don't need to touch the DITI during a performance.

To ability to use a foot pedal (PMCP) in combination with a trigger pad to temporarily create a REMOTE EDITOR. Any trigger pad can be assigned to function as a button (Edit, Global, Up, Down, etc) when the pedal is depressed. Now you don't need to touch the DITI at all.

There are Bank and Program Changes per Kit (up to 5), 8 Controller Value Settings, plus the ability to name your own Kits. There are many Factory KIT TYPES that can also be edited and saved. These KIT TYPES store the presets of your favorite drum module. This means that there are THOUSANDS of Presets built right into the DITI with the names of these sound programs taken directly from the drum module. You can edit any of these Kit Names.

You can change the order of these presets (by changing the Program Change Number) to create your own playing list. You can copy these KITS into the USER KITS to make your own CHAIN as well. You can assign a pad to scroll through the list or you can simply press on the arrow.

There are also 33 USER KITS. You can create your own KITS from scratch, or copy one of the Factory Kits into a User for easy setup. There are a total of 50 KITS on the DITI. Each Kit can send out 50 discrete bank and program changes. That means there are 2500 kits you can access.

Variable HiHAT control options including Continuous Control, HatNote mode and GM note number standard.

Choice of Individual Dynamic Training per PAD per KIT or by PAD TYPE Stored Training.

Individual Interaction Matrix Training per pad.

Virtual Mixer / Controller- Ability to send out 8 Controller values each on their own MIDI Channel.

REMOTE EDITING. The DITI allows you to use any external trigger to replace the buttons on the DITI for Editing when assigning our PMCP foot switch to EDIT. Using this foot switch allows the trigger to act as a dual function....playing and editing.

DITI ORGANIZATION CHART 2.5

KIT EDIT FUNCTIONS

MIDI CH	SLOTS 1-32	Min Velocity	Max Velocity	Gate	Gate Mode Roll VelGate	Sounds 1-4 Layer Alternate Modes	Pad Cntrl <small>Note / Vel Shift</small> <small>Cntrl Paths /Slot Shift</small>
LINK	Hi Hat Select	Chick Type	HIHAT CONTROLLER	Switch By	Dampen	Transpose Enable	Transpose Count
Equalizer	Edit Patch Name	Edit KIT Name	AUX Program Change 1-4	AUX Bank LSB	AUX Bank MSB	AUX Volume	AUX MIDI Channel
CONTROLLER MIXER 1-8	PATCH Volume	PATCH Program Change	PATCH BANK LSB	PATCH BANK MSB	PATCH PROG CHANGE	Train Override	ALL Notes Off

DITI SPECIAL NOTE NUMBER FUNCTIONS

OFF	sSTART	sCOUNT	sSTOP	aRST1	aRST2	aFREEZ	PC-ADV
PC-BCK	LTOG-G	LTOG-L	chk AFT	chkNTE	Transpose T-12--T+12 TF TO	PB UP	PB DWN
KT-adv	KT-bck	PC-rst	aREVERSE	Slot Link 1A--12B	aRST A-C	KT-rst	

TRAIN

INTERACTION

Pad Type Max Dyn	Pad Type Min Dyn	Override Max Dyn	Override Min Dyn	TRAIN ENVELOPE
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SOUNDS FUNCTIONS

1-4 SWITCH	1-4 CrossFade	1-4 Layer	Alternate Mode	1-4 SIMULTANEOUS
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PAD CONTROL

OFF	NOTE SHIFT	VELOCITY SHIFT	CONTROL PATHS	SLOT SHIFT
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GLOBAL EDIT FUNCTIONS

Select Edit Pad	Pad Type	Input Type	Gain	Threshold	Mask Time	Dynamic Curve	User Curve 1-5
Blend Duration	Switch Points	User Slot Reset A-C	Exclusive	Assign Edit Pad	Damp Ratio	Damp Lower	Damp Upper
Damp Count	Strip Rate	Controller Sensitivity	Program Change Channel	Bank Change	Copy Pad	Copy Pad Type	Copy Curve
Copy Current Kit	MIDI Merge	Enthreshold	Min Envelope	Env Duration	Interaction	Data Dump Kit	Dump All Kits
DataDump Global	Glb- Reinitialize	Instrument Lock	Display 0 or 1	Note Display	Scan Count	Min Dyn	MAX dYN

EDITING ON THE DITI

THE INTERFACE



When you first turn on the DITI, the screen displays the current software version. Immediately after that, the DITI goes into PLAY MODE. Play mode is the normal operation of the DITI when you are playing, not editing.

On the top line of the display, you will see a KIT TYPE. A KIT TYPE is simply the name of the drum module or soft synth that you are using. Use the UP OR DOWN ARROWS to scroll through the list of KIT TYPES.

On the bottom Line, you will see the name of the preset. This is called the Sound PATCH.

Use the LEFT or RIGHT ARROWS to scroll through the list of sound patches that are built into the sound module.

TIPS

What is really happening here is that when you load in a KIT TYPE, you are calling up a Factory or User KIT. A Kit contains all of the MIDI information for each input including channel, note number, gate time, etc.

A KIT also contains the PAD TYPES that you assigned to each Input. Every KIT TYPE can have its own collection of PAD TYPES. A PAD TYPE is used to identify what type of trigger you are plugging into the KIT. So you must assign PAD TYPES to the Inputs.

When you are scrolling through the Sound Patches and you make a change to the KIT, it affects ALL of the sound programs in that KIT TYPE. For example, if you change the

snare drums MIDI note number to a different note number, then all of the Sound Patches in that KIT will reflect that.

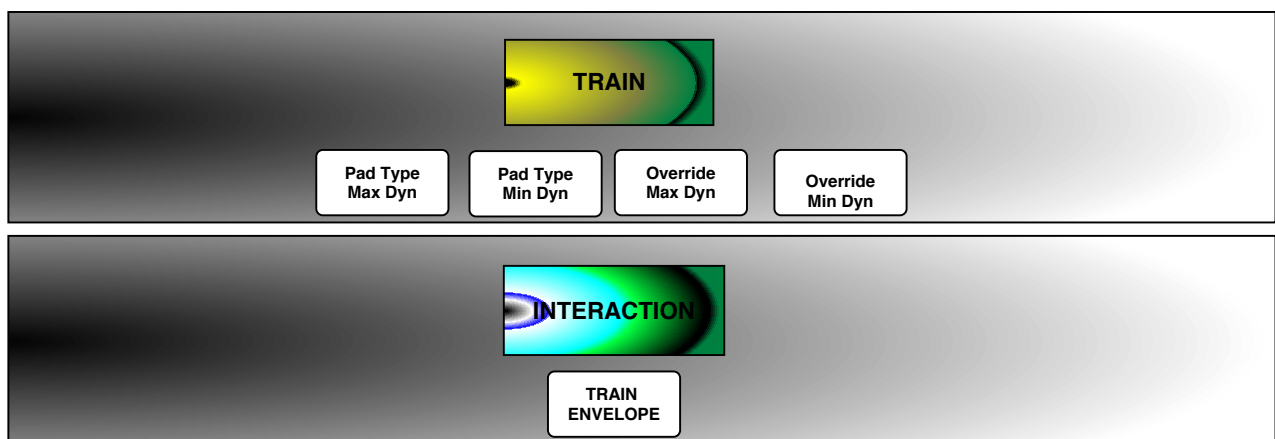
This makes editing a KIT TYPE very fast and easy because it effects all 50 presets (sound patches) within that KIT TYPE.

There are some parameters that are unique to each of the 50 Sound Patches within the KIT TYPE. These are the Bank and Program Number and the KIT NAME. What this does is allow you to freely change the order of Sound Patches simply by changing the Program Number for that Sound Patch. You can therefore create your own CHAIN by arranging the sequence of program numbers as you scroll through the sounds using the Left or Right Arrows. The Sound Patch will follow the drum modules sounds (kits) change UNLESS you decide to rename the Sound Program to another name of your liking. The modified name will be stored after you hit ENTER in the Kit Name screen.

You can assign a “special number number function” that allows you to change the Sound Patch or Kit simply by hitting the pad.

EDITABLE FACTORY KITS AND REINITIALIZATION

You will also notice that a plus (+) sign is added to the FACTORY KIT Number when ever you make a change, letting you know that you’ve edited a Factory Kit. This means that Factory Kits are editable and save able. If you want to restore the Factory Kit back its its original settings, simply hold down the ENTER button for 2 seconds while you are in the Play Mode. The screen will give you verification that the Factory Kit has been reinitialized back to its original setting.



Besides the KIT TYPES, there are USER KIT TYPES. You can edit and store every parameter in the Edit Screens. You can create a collection of these as well by storing them in the order you want. You can scroll through these Kits by Using the Up and Down Arrows. You can Copy a Factory KIT to a USER KIT, (or vice versa) and have the ability to rename the KIT NAME.

User KIT TYPES also have 50 Sound Patches in each Kit. By default, each of these user sound programs increment the MIDI Program Number by one. You can also program each of these 50 Sound Patches with its own Bank, Program and Name.

If you plan on not using any bank or program numbers, then you can just use the KIT TYPE. When you call up your User Kit Type, it will automatically load in the first Sound Patch.

You can shut off the program number and rename the default Sound Patch to any name that you want. You can also use the special function MIDI note functions for Program Change Increment or Decrement.

Because there are many Factory Kit Types with names and 50 sounds programs in each and 50 User Types, the DITI can store 1000's of kits. If you can't find a drum module listed, you can download KITS directly from our website.

PLUGGING IN YOUR TRIGGERS

L.E.Ds

On the DITI you will notice that there are 12 inputs. These are stereo inputs, meaning that it is possible to have up to 24 triggers active at once. Each trigger input also has a number assigned to it (1-12), and in turn each input number has a letter (A or B). This letter represents which channel you are editing. The letter "A" represents the TIP of stereo plug. The letter "B" represents the RING of the stereo signal. If you plug a mono 1/4" jack into the DITI, you will automatically be using the A channel.

Every time you strike your trigger pad, the DITI momentarily turns on the LED associated to that trigger input. The TIP or A channel sends out a YELLOW light, the RING or B channel sends out a RED light. This is to let you know immediately what you are triggering.

FSR

FSR (force sensing resistor) is a sensing technology that uses pressure to determine when and how hard a trigger pad is struck. This advanced technology is very different from the trigger pads that are made by most of the electronic drum manufacturers on the market. These

companies use piezo triggers as their sensor of choice. These sensors work on vibration. They are common because it is inexpensive technology that works fairly well. There are problems with piezo sensors however because of the nature of vibration technology. It makes them prone to cross triggering from neighboring trigger pads and stage loud noises. Also the response of piezo triggers is not particularly linear.

Another amazing advantage of FSR is that it is possible to have multiple zones on one surface without the fear of interaction or cross triggering. FSR relies on pressure to the sensor, not vibration. Therefore multiple discrete zones on one surface is entirely possible. Complete isolation is virtually impossible with piezo sensors unless a membrane switch is used. The problem with this method is that the zones are monophonic meaning that only one zone speaks at a time. This is not the case with FSR technology.

FSR however needs power in order to drive the conductive link that is the heart of the technology. It is this requirement that has changed the nature of how the DITI operates.

The DITI uses the RING or B channel of each input to power FSR sensors. Normally, the power channel does not function as a trigger channel. This means that the DITI with 12 FSR sensors would be a 12 trigger system.

THE FOUR EDITING BUTTONS

There are Four Types of Editing on the DITI. Each Type gets it's own BUTTON on the panel.



EDIT
GLOBAL
INTERACTION
TRAIN

When you press on any of these buttons, the screen displays one of the functions that are available within that Edit Type. When you press on the same button again, the display goes back to PLAY mode, the default setting for playing.

There can be many screens within each of the EDITING TYPES. The DITI remembers the last screen that you were working on for KIT and GLOBAL Edits. You will find that this can save lots of time as you jump from pad to pad, especially if you want to edit that function for each trigger pad. The AUTOMATIC Input Selector can be very useful for edits of this nature.

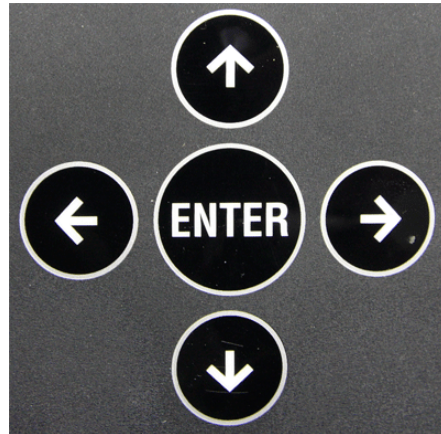
The DITI also has a "HOME BASE" for KIT and GLOBAL Editing. Simply hold down on the button (Kit or Global), and the screen will display the first editing function for that TYPE.

You can also jump from EDITING TYPE to EDITING TYPE without going back to PLAY Mode. In each case, the DITI remembers what you were editing last for each Type. To get back to PLAY mode, just tap on the same button one more time.

THE ARROWS

Notice that there are Up / Down arrows, Left / Right arrows and Enter.
These buttons work the same way for all functions.

The UP / DOWN Arrows change the VALUE of what you are editing
The LEFT / RIGHT Arrows move through the different Screens (like a cursor) within the EDITING TYPE.



In Play Mode, the Up Down Arrows Changes the KIT TYPES, that is the name of the sound module that you are using.

The Left and Right Arrows changes the SOUND PATCHES, that is the list of sounds from that sound module.

When you are in **Edit** Mode, every time that you touch the right / left arrow, the cursor moves to the next parameter that is editable. You know what is editable because the value is BLINKING.

When you touch the up / down arrows, the value increases, or decreases. At the same time, you will notice that an (*) asterisk appears. This tells you that you have made a change.

When you tap on the ENTER button, the new value is automatically STORED, and the asterisk disappears. You do not need to save the KIT, as each function is stored as you make changes by pressing the ENTER button.

THE DISPLAY



The screen on the DITI displays all of the information that you need to program for every function on the DITI.

In PLAY MODE, the display lists the NAME of the KIT TYPE on the top line along with the KIT Number. A KIT TYPE is the name of the sound module or soft synth that you are using.

The second line displays the Sound Patch Name (derived from the drum module), along with the Sound Program Number. A Sound Patch is a listing of the sounds that are available for that KIT TYPE.

When you go into EDIT MODE, the display usually shows the FUNCTION NAME and PAD NUMBER on the top line. The bottom line is where the VALUE number is displayed. The BLINKING number is the value that is editable for that function.

INTERACTION and TRAIN displays are slightly different and will be explained below.

THE LEDs' and TRIGGER INPUTS

The DITI has twelve trigger inputs, but each input has an A and B, so it is possible to have 24 (piezo) pads. FSR pads need an input to power them, so if all of your trigger pads are FSR, the the DITI can accommodate 12 of them. You can mix and match FSR and Standard Piezo Triggers in your setup.

The LEDs light up when a pad is struck on the appropriate pad input. The A input is YELLOW, the B input is RED.

The A input represents the TIP on a Stereo TRS jack. The B input represents the RING on a stereo TRS jack.

If you are using a standard single zone trigger pad, you can use a MONO ¼" jack. This will give you access to the A tip inputs.

You can use an adapter, STEREO Male ¼" jack to two female MONO jack inputs. This will allow you to have two single zone trigger pads on one input.



The DITI will also accommodate dual zone piezo triggers, cymbals with choking, etc. More on that later.

THE EDIT MODE BUTTON

EDIT

When you press on the KIT EDIT Button, here is where you can assign the functions on each of the pads for the KITS. There are many Preset FACTORY KIT TYPES and 33 USER KITS in the DITI. On every pad in each of the kits, you can assign the MIDI Channel and Note number, gate time, and all of the powerful functions listed below. You also need to assign the appropriate PAD TYPE for each input.

There are many screens in the Kit Edit Mode section. The DITI helps you know where you are in two ways. First, it remembers where you last edited. Even if you leave the Edit Mode and move to the Global Screens, the last edited screen will pop up when you press the Edit Button again.

If you press on the Edit Button and hold it down, it moves to the first screen in Edit Mode. This is a great way to start the editing process because it is your Home Base.

All of the Editing buttons act as a toggle. When you press on it, it goes into the Edit Mode. If you press on it again, it goes back to Play Mode.

If you are in Edit and you press on any of the other Functions, the DITI Jumps directly to the last edited screen in that function. These features will really help you get around the DITI in no time.

SELECTING YOUR EDIT PAD

The DITI has two ways of selecting the Trigger Pad that you want to EDIT. Press down and hold the GLOBAL BUTTON for a moment. When the GLOBAL button is held down, the DITI jumps to the very first screen of Global Edit which is appropriately called SELECT EDIT PAD.



The UP/Down Arrows allows you to select any one of the 24 inputs available. If you manually select a trigger that way, all of the editing that you perform will always be for that trigger.

You may also notice that you might see the word AUTOMATIC on the bottom line. This means that the DITI will automatically select what trigger you are editing by simply hitting that trigger pad.

This is a tremendous feature to use when you are Editing note numbers, channels, etc, but can be a problem when you are setting up the DITI for the first time, that is until after you have correctly loaded in the appropriate PAD TYPES for each input So for now, manually select the trigger pad you want to edit, then jump to the EDIT Screen by simply holding down the EDIT button.

You are now ready to begin EDITING the trigger pad that you selected in this manor.

EDIT SCREENS ASSIGNING MIDI CHANNEL

Assigning the **MIDI CHANNEL 1-16**



On this display, you can change the MIDI Channel on the selected pad. MIDI Channels are from 1 to 16. Use the Up or Down Arrows to change the MIDI channel. You will see an “ * “ indicating that the MIDI channel has been changed.

Press the Enter Key to Store the new MIDI Channel Number. Notice that the “ * “ disappears.

Press the Right Arrow Button to advance to the next Editing Function.

ASSIGNING MIDI NOTE NUMBER

Assigning the **MIDI NOTE** Numbers. SLOTS 1-32 **MIDI Note Numbers** 1-127, plus Special Functions



Each pad on the DITI can play up to 32 different note numbers. The pad plays one or more of these sounds depending on the SOUNDS function. You can tell the DITI to change sounds

controlled by velocity, or by an alternating note pattern. You can even tell the DITI to play chords.

On the second line of the display, the SLOT "xx" tells you what Position (1 through 32) you are editing. Each of these 32 slots (positions) can be assigned to any of the 127 note numbers, plus special "KAT" functions

SLOT 1-32

Move the Cursor (left or right arrows) until you see that the Slot xx (number) is flashing. Now use the Up or Down Arrows to call up which "Slot"(1-32)" to Edit. Move the Cursor (Right Arrow) so that the MIDI Note Number is flashing. Use the Up or Down Arrows to change the MIDI note Number from 1-127

You will see an " * " indicating that the MIDI Note Number has been changed.

Press the Enter Key to Store the new MIDI Note Number. Notice that the " * " disappears.

How many sounds you hear at once is controlled by the "SOUNDS" function. This tells the DITI how many sounds can be played on a trigger. Multiple sounds can be called in by velocity or by alternating modes, depending on what you select. By Default, the pad is set to 1 SOUND, This means that you are editing and hearing the sound (MIDI note number) assigned to Slot 01.. More about SOUNDS later.

SPECIAL DITI FUNCTIONS AFTER MIDI NOTE 127

Unique to the DITI (and trapKAT), there are special functions that can be assessed by advancing the MIDI note Number past 127. These are amazing features that make the DITI very powerful.

```
MIDI NOTE Pad 1B  
Slot 01 =chkON*
```

```
MIDI NOTE Pad 8A  
Note 01 =kBACK*
```

```
MIDI NOTE Pad 8A  
Note 01 = OFF*
```

```
MIDI NOTE Pad 8A  
Note 01 =sSTOP*
```

```
MIDI NOTE Pad 8A  
Note 01 =sSTRT*
```

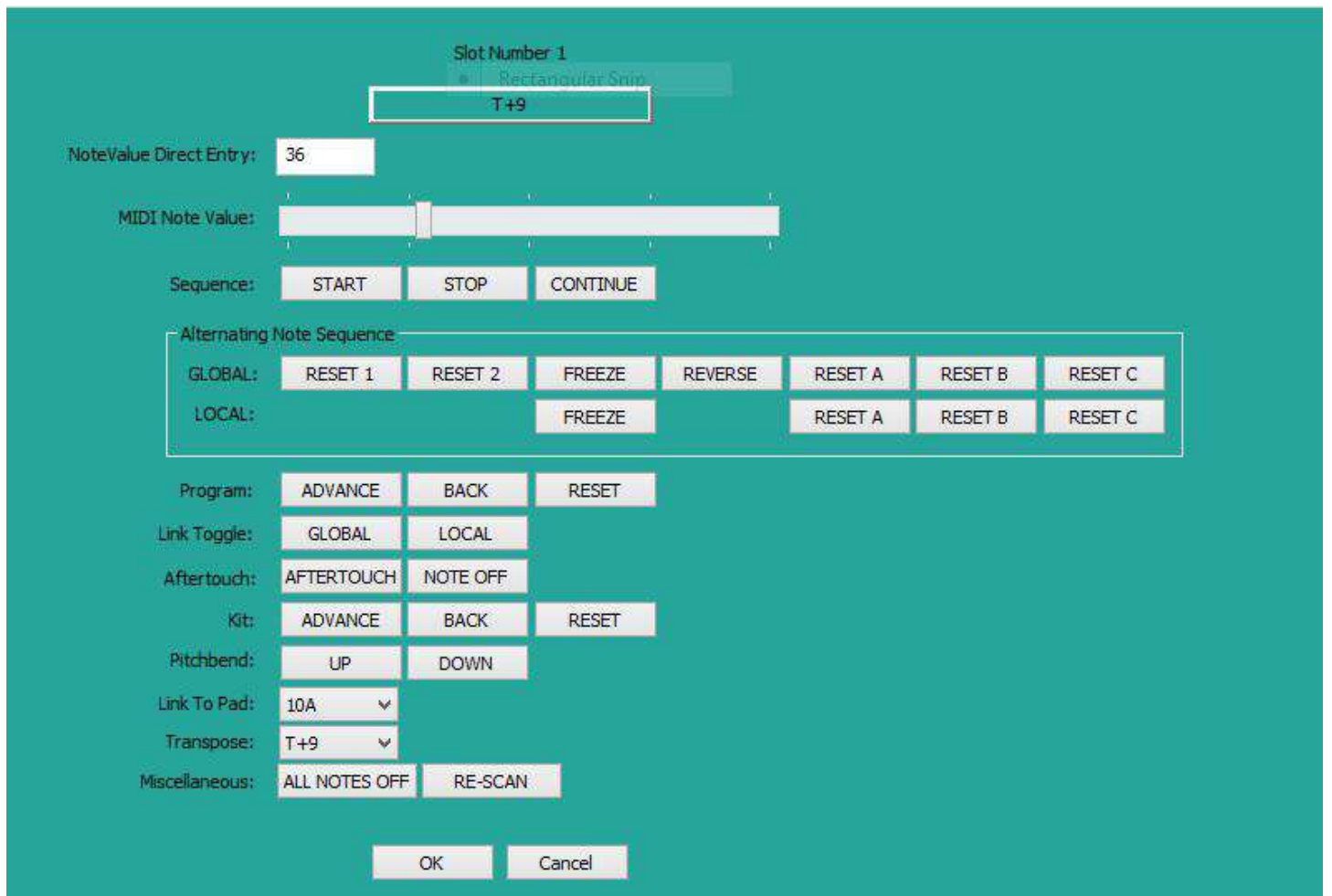
```
MIDI NOTE Pad 8A  
Note 01 =kADV *
```

```
MIDI NOTE Pad 8A  
Note 01 =aFREZ*
```

```
MIDI NOTE Pad 8A  
Note 01 =sCONT*
```

```
MIDI NOTE Pad 8B  
Slot 01 = PB UP*
```

```
MIDI NOTE Pad 8B  
Slot 01 =PB DWN*
```



The above photo is taken from our DITI Editor... It explains and organizes the NOTES function on the DITI.

The top line shows the standard MIDI note values from 1-127. You can also choose OFF here. The DITI Editor shows both the note number and the note value making it easier to decide on what note to choose.

Below that there is a SEQUENCE section.

The three choices are STOP, START and CONTINUE. When you assign a slot to any of these, the name sequence command is sent to your sound module. If your module is a sequencer, viola!

Below that is ALTERNATE NOTE SEQUENCE choices

This allows you to control your alternate note patterns. There are two sections, LOCAL and GLOBAL. This means that the function assigned to a slot will either effect just the pad sequence (local setting) or the function will effect any pad in the kit that is assigned to GLOBAL. On the DITI, if you assign a Reset, Freeze or Reverse on SLOT ONE, then the function acts as a GLOBAL function and all pads will be effected. If you assign these functions on any other slot, then the affect will be local, for that pad only.

There basically are three types of Alternate Mode functions; Resetting, Freeze and Reverse.

RESET. The most common alternate mode reset is Reset 1. This simply resets the alternate note pattern back to the beginning, slot 1. If you are playing in say groups of eight, and you want to assign a different pad for resetting, Reset 2 comes in handy. This resets the alternate note pattern to slot 2, allowing the “downbeat” to be the reset pad, but keeping the integrity of the groups of 8 in place. Sometimes you might want to reset to some other slot location. The DITI has three alternate slot locations that you can define in the Global Screens. Then anytime Reset A, B or C is seen, the alternate mode pattern(s) will then jump to that slot location. This can be a powerful way to have group alternate mode patterns instantly change their time signatures.

aFREEZ.

This is the Alternate Freeze Function. This function works in two different ways. If aFREEZ is assigned to slot 1 with the SOUNDS set to One Sound, then ALL Alternating pads are frozen in their slot (note) position.

Striking aFREEZ pad again acts as a toggle. When you strike the pad again, all alternate note patterns will be un Frozen.

If aFREEZ is assigned to any of the other 31 slots, then that particular pad alone freezes on that note position. It remains frozen until another pad’s aFREEZ is struck on slot one. When leaving the kit, alternating freezes are also un frozen.

If a pad is assigned to SIMULTANEOUS in the Sound Mode, then a FREEZ will work Globally when assigned to slots 1,2,3 or 4.

A Global aRST1 or aRST2 will unfreeze the function.

aFREEZ

Works the same way as RESET. If you assign this function on Slot one in “one note simultaneous, or if you have 4 note simultaneous and assign slots 1-4, the FREEZE will stop all alternate note patterns until the pad is struck again.

GLOBAL FUNCTIONS ASSIGNED in the FIRST FOUR NOTE SLOTS

On the DITI, you can assign Global Functions to the first four slots on any pad. You must also change the SOUNDS function to SIMULTANEOUS in order for these functions to work. When Global Functions are assigned to these slots and Simultaneous is assigned in the SOUND screen , up to four Global Functions can be assigned at once. Functions (note numbers) such as aFREEZ, aRST1, aRST2 and aRVRSE are Global Functions that affect how alternate note patterns work. Functions such a “T” are automatically global in nature.

OTHER IMPORTANT SPECIAL NOTE NUMBER FUNCTIONS

PROGRAM CHANGE CONTROL

You can assign a slot to Program Advance, Program Back or Program Reset

pcADV / pcBACK /



pcR (reset)

This is the KIT Program Change Advance or Backwards Function. This function advances to the next SOUND PATCH. When a pad is struck with the note number assigned to pcADV or pcBACK, the Program Change number that is assigned to the Sound Patch is sent out. By default, the Program Change number increments or decrements by one. The setting called PROGRAM CHANGE RESET, pcR, resets the Sound Patch back to the beginning (soundpatch0)

DITI KIT CHANGE CONTROL

kADV / kBACK/ RESET

This is the KIT Advance and KIT BackwardsFunction. When a pad is struck with this note number function assigned to kADV or kBACK, the DITI advances to the next USER or FACTORY KIT.

A Kit Reset brings you back to KIT One.

CHOKER

This function comes in handy when you are using a membrane switch cymbal pad. The membrane switch on a trigger pad tells the DITI to play a different sound (slot two or three or five instead of one), when it is pressed. If the Choke function is assigned to SLOT 4, the cymbal pad will respond to choking when the pad is pressed. The DITI automatically sends out a note off command to notes assigned to slot 1, 2, 3, 6 and 7.

CHOKER AFTERTOUCH

This function is similar to Choke, it sends out note offs for the note number assigned to slots 1, 2, 3,6 and 7. It also sends out polyphonic aftertouch for these note numbers.

TRANSCOPE MODEs

T-12, T-0, T+12

t-12, t-0, t+12, TF

transpose enable screens



The DITI has the ability to selectively TRANSCOPE any or all of the notes in a KIT. If you want to transpose the notes on just one pad with every strike, then simply substitute a MIDI note with a “t” value. The small “t” means that transpositions will happen only on the pad that is struck. The value after the “t” represents the amount of transposition desired. The range of transposition for every strike is + or - one octave (12 steps either direction). If you want to reset the pad, the “t” value is then set to 0.

So how do you do this on just one pad? Simply set up TWO NOTE SIMULTANEOUS in the SOUNDS Screen. You then assign one SLOT to the starting MIDI Note, and the other SLOT to the Transposition desired. You can also use other SOUND options such as 3 NOTES HARDEST. If you assigned SLOT Three to “t0”, then the pad would reset when you struck it hard.

The real power of the Transposition Mode is when you use the “T”. This means that any “T” value you use in a SLOT could effect ALL of the pads in a Kit. Of course you might not want EVERY pad to be transposed. In order to control this, there are two screens that are called TRANSCOPE ENABLE Screens.



These Screens display which pad inputs should be Enabled for Transposition, meaning that any T value in the kit would effect that pad. N=No and Y=Yes. TA on the top line means “TRIGGER A INPUT”. TB on the top line means “TRIGGER B INPUT”. We wanted to put all of this information on one screen, but because there are 12 inputs, we were running out of space on the screen. To solve this, A = input10, B= input 11, and C= input 12.

To transpose the DITI, simply assign the note number in ANY slot to a "T" value instead of a regular note value.

T values (for transpose) go from T+1 (meaning transpose 1 step up) to T+12 (transpose 12 step up) to T-1 through T-12 (going down in half steps from -1 to -12 steps). All notes, including chords, alternate patterns, etc will be transposed in the kit.

To reset the transpositions back to normal (zero), simply assign any slot position to T-0. All transpositions will be reset back to normal. This includes inputs that are using "t" transpositions as long as the input has been set to Enable.

TRANPOSE FREEZE

Between the "t"s and "T"s, you will find the "TF" function. When a slot is assigned to TF (transpose freeze), ALL transposing pads (enabled) will stop transposing until the TF pad is struck again.

This is a real powerful function, similar but more powerful than the transposition modes on the legendary drumKAT because each slot in the Alternate 32 mode can be assigned to a T note instead of a normal note creating lots of transpositions within a kit. Because transpositions can affect all slots, chords can instantly be transposed by hitting one pad. You can also combine regular notes and transpose notes on the same pad assigning them to different slots and using the LINK Mode. By using different SOUND modes like Alternating or Simultaneous or Velocity Shift, real composition power is right at your fingertips!

TRANPOSE COUNT



When setting up a trigger for transpositions, it is necessary to tell the DITI how many times you want the pad to transpose. The DITI COUNTS how many transpositions occur before it resets itself back to the original note number that was assigned to SLOT ONE.

This function in an interesting way increases the alternate mode function to up to 127 notes before resetting. The difference is that each alternating transposition is also transposed to the same amount that was assigned to that pad.

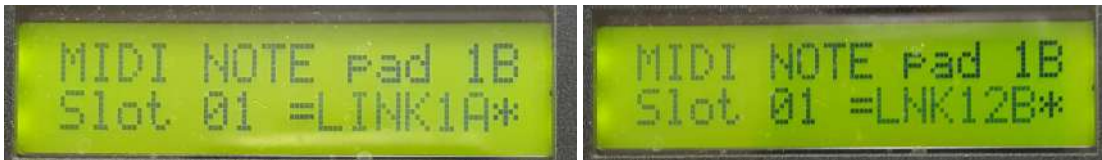
It can also choose INFINITE. The DITI does not count how many times it will transpose. It simply transposes forever!

LINK TOGGLE



Besides setting up any pad to be LINKED to one another, it is also possible to toggle that link on and off locally for that one pad or globally for the entire Kit. The special note numbers needed for these functions are LTOG-G (Link Toggle GLOBAL) or LTOG-L (Link Toggle Local)

SLOT LINKING



There is yet another way to use linking. That is within the SLOTS. Instead of assigning a note number to a slot, you can assign a Link Location for a “one shot”. Whatever is assigned to that pad, will sound. There are 24 Slot Links available.... from 1A through 12B

ASSIGNING MIDI VELOCITY RANGE

Velocity Range from 00-127 for Min and Max Velocity Settings



On this display, you can change the MIDI Minimum Velocity on the selected pad. The MIDI Velocity Ranges from 000-127. Use the Up or Down Arrows to change the MIDI Velocity. You will see an “ * “ indicating that the MIDI Velocity has been changed.

Press the Enter Key to Store the new Minimum Velocity. Notice that the “ * “ disappears.

Soft to loud is represented by the numbers 000-127. 000 is the softest and 127 is the loudest. Setting this number allows you to control how soft your softest hit will sound. If you set this number to 64 for example, your softest strike would produce a medium volume.

Assigning the **MIDI MAXIMUM VELOCITY** Velocity Range 00-127



On this display, you can change the MIDI Maximum Velocity on the selected pad. The MIDI Velocity Ranges from 000-127. Use the Up or Down Arrows to change the MIDI Velocity. You will see an “ * “ indicating that the MIDI Velocity has been changed.

Press the Enter Key to Store the new Maximum Velocity. Notice that the “ * “ disappears.

Soft to loud is represented by the numbers 000-127. 000 is the softest and 127 is the loudest. Setting this number allows you to control how soft your softest hit will sound. If you set this number to 64 for example, your loudest strike would produce a medium volume.

NOTE:

The Dynamic Curve used in the Global Settings for a Trigger Input can override the minimum and maximum velocity setting. There are SIXTEEN points in a Curve. The first and last points control the absolute minimum and maximum velocity permitted. Setting the minimum velocity above the lowest curve point will still function as expected. If you set the pad minimum to 1, but the curve first dynamic point was 5, then the lowest velocity heard would be 5, not 1. You can of course change that by using a different Dynamic Curve or a User Curve. The maximum velocity in the kit will still function, but can not exceed the maximum value set in the curve in the same manner.

If you are noticing that you can not achieve the full range of 00-127, create your own USER Dynamic Curve in the Global Setting. There are 5 User curves available 1-5. These can be found in the GLOBAL Edit screens.

DYNAMIC OVERRIDE

Let's face it, an instrument is only as good as it is responsive. Nuance is what separates a truly musical instrument from just another pad controller. What could be more important other than making sure that an instrument would respond to dynamics controlled by YOU, the player and not just some canned range dictated by the hardware?

Understanding dynamics is an obsession at Alternate Mode, and Training is at the heart of it. The challenge for us was to find a way to make it easy to understand but also to have the ability for enormous flexibility.

We developed a two tiered training system, PAD TYPE TRAINING and INDIVIDUAL PAD TRAINING per KIT via a Mode called DYNAMIC OVERRIDE.

As you probably know by now, a PAD TYPE is a system that allows one to automatically call up many parameters on an input so that it will maximize how a trigger pad plays. Besides setting the Gain, Mask Time, etc, each PAD TYPE stores a MINIMUM and MAXIMUM training level that was set at the factory. This means that when you identify what you plugged into the DITI's input by calling up the PAD TYPE NAME, a built in training of soft and hard hits will be implemented without any input from you. It also means that each and every time you call up that PAD TYPE, the dynamic response will be set and will have the same settings for EVERY INPUT on EVERY KIT.

That may be "good enough" for many situations, but of course we wouldn't stop there. Just like you can alter any of our PAD TYPE Settings by using the USER version of the PAD TYPE, you can also TRAIN each and every PAD Type to your own playing dynamics. When you Train a pad, you are reTraining a PAD TYPEs minimum and maximum playing range. This is GLOBAL when using PAD TYPES. When you train a pad type, all pads using that PAD TYPE name will respond to your training values.

But again, why stop there. You might have an instance where you want a pad with the same PAD TYPE to respond differently in a particular KIT or Input. So the DITI allows you to OVERRIDE the dynamics of the PAD TYPE so that you can TRAIN every pad on every kit individually. This gives the user enormous control of one's performance on a particular pad, especially considering that you also have minimum and maximum velocity settings and curves per pad as well. We told you we were obsessed with dynamics!



When you are training a PAD TYPE, and have set the "TRAIN OVERRIDE" settings in the KIT EDIT screens to NO,

the Training screen looks like this.



When you are training a PAD, and have set the "TRAIN OVERRIDE" settings in the KIT midi to YES,



the Training screen looks like this.



Here are the rules regarding the TRAINING.

When Dynamic Override is set to YES in KIT EDIT, the min/max dynamic settings from the kit will be used for playing. Changes to the min/max dynamic settings (via manual or training) will affect the values in the kit for only the zone selected.

When Dynamic Override is set to NO, the min/max dynamic settings from the pad type will be used for playing. Changes to the min/max dynamic settings (via manual or training) will affect the values in the pad type and all other zones with that same pad type if the user pad type is selected for that zone.

Changing the Dynamic Override between YES and NO allow you to toggle between the min/max dynamic settings stored in the kit and the settings stored in the pad type.

DAMPEN MODE FSR AND PIEZO DAMPEN



FSR DAMPEN MODE

The DAMPEN MODE function on the DITI is designed to dampen or choke a sound. Because FSR triggers work on pressure, the DITI can detect a slow rise in pressure caused by fingers pushing on a pad. When it detects this gesture, a dampening routine begins. Dampening has been used on KAT controllers since the late 1980's. When DAMPEN is turned on, the DITI will send a note off command when pressure is applied to the FSR trigger pad after a note has been turned on.

In addition to this, if a note is assigned to slot 5, it will play that note as well. Why? Some modules use a different note number for shutting off notes. This feature gives the DITI alternate ways of dampening (choking) a sound.

Slot 5 is interesting because it can also be used as a **DEAD STROKE**. Instead of sending out a note designed for dampening, it could also be used to play another sound on the dampen gesture.

NOTE: Dampening is not the same thing as cymbal choking.

More on this in the Cymbal Choking Section.

TIP: Do not use any of the "C" GAIN Settings. You need to use a GAIN Setting with "R" in it. Start by using a GAIN of R4.

A Note about Dampening

The DITI actually recognizes two different types of dampening gestures. They are described below.

Initial Attack Dampening: striking pad with finger/mallet and then maintaining contact with the pad to dampen the note.

Previous Note Dampening: dampening motion performed by slowly pressing finger/mallet to the pad to dampen a previously played note.

Also in the Global Screens you can adjust how the dampening gestures react. Check out Damp Count, Damp Upper Threshold, Damp Lower Threshold and Damp Ration in Globals Section of the manual.

PIEZO DAMPENING

An exciting new feature on the DITI is that ordinary single zone piezo triggers can have a choke dampening function as well. This is how dampening works on a piezo trigger.

When you dynamically train a pad in the TRAIN Screen, the DITI asks you to hit the pad hard then soft. Your minimum and maximum velocity settings are superimposed within this dynamic playing range. When Dampening is turned on and TRIGGER is the INPUT Type, the DITI uses playing dynamics below your trained soft hit to send out a note off command.

Dampening turned on therefore has no effect on the playability or dynamic range of the pad, but it extends the function of your playing dynamics by using a velocity range below your training.

You can of course TRAIN your soft hit a little harder so that you extend the range of the Dampening Function. This is what makes the DITI so powerful and different from any other Trigger to MIDI converter on the market.

TIPS: You can manually set the triggering point for the dampen function in the Global Screens.

The CHOKEON function in SLOT 4 does NOT pertain to Dampening. This feature is used in the SWITCH INPUT TYPE.

Slot 5 however does function. When the Piezo Dampening Function is detected, besides sending a note off for slot one and aftertouch, it will also play the note number assigned to Slot 5. If you do not want to hear a sound, just assign Slot 5 to OFF.

ASSIGNING THE GATE TIME

Assigning the **GATE TIME** 25mS-1000mS plus Special Gate Functions



On this display, you can change the Gate Time on the selected pad. Gate Time is the amount of sustain or how long the note plays after it is struck.

Gate Times are expressed in 100mS intervals. 1000mS = 1 second. The settings go from 100mS up to 1 second (1000mS)

You will see an " * " indicating that the MIDI GATE has been changed.

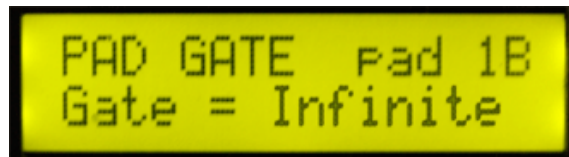
Press the Enter Key to Store the new Gate Time Setting. Notice that the “ * “ disappears.

SPECIAL GATE TIME FUNCTIONS

The DITI also allows the GATE function to perform special functions that relate to how long a sound or note will play. They Include

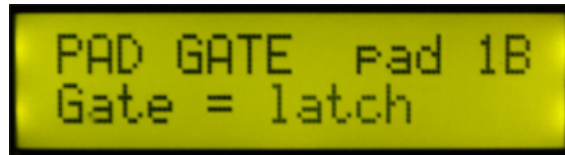
INFINITE GATE

When this setting is Entered, the DITI will only play NOTE ON Commands and will not send out



any NOTE OFFs. Normally, the DITI sends out a NOTE OFF Command after the Programmed GATE Time expires. This can be an effective mode when trying to create cymbal rolls or when you do not want to sound to be shut off.

LATCH MODE



This is a great mode for controlling LOOPS. In this Mode, each strike of the pad alternates between a NOTE OFF or a NOTE ON.

GATE MODE OFF, ROLL, VELOCITY GATE

ROLL MODE



In this Mode, NOTE OFFs are not sent until after you stop playing on a pad. This allows you to play cymbal rolls without the “machine gun” effect. After you stop playing, the DITI waits until the assigned gate time expires, then it sends out ONE note OFF command for that Note Number. One note off usually shuts off all of the note ons.

GATE MODE VELOCITY GATE



Velocity Gate Mode controls how long a sound lasts by how hard you hit. You assign your normal Gate time on the previous screen, then you assign a Gate Value in the Gate Mode Screen. As you play louder, the gate time moves from the assigned pad gate value to the Gate Mode value. This means that notes can get longer or shorter, depending on how you set the VELGATE Gate Time.

SUSTAIN FSR PRESSURE Function

When using FSR pads like the Aquarian inHEAD™ or onHEAD™, the DITI allows you to control the sustain of the sound simply by pressing on the pad. If you press and hold down the pad, one note will sound and will not shut off until you release the pad. This is how a piano works naturally, but it's not the way other drum controllers function, unless of course it is an Alternate Mode KAT Controller such as the malletKAT, drumKAT or trapKAT! This is a special by-product of FSR responding to pressure, not vibration.

TIP: Try using a Gain Setting of R4. Note that some GAIN settings will not work at all for capturing sustain, especially true for any Gain settings with the value C. Also, do not use Latch or Infinite Gate Times when trying to sustain an FSR pad.

PAD CONTROL MODES

Note Shift
Velocity Control
Control Paths
Slot Shift
OFF



The DITI offers special modes that use pressure and pad velocity in some very unique ways. **Note Shift Mode** uses velocity to send out a range of note numbers controlled by your soft and hard hits. **Velocity Control Mode** uses your playing velocity to send out controller values to any controller number.

NOTE SHIFT MODE



Note Shift is a powerful feature that was first introduced on the drumKAT many years ago.

This is how it works. When you assign any trigger input to NOTE SHIFT in the PAD CNTRL screen, your playing velocity (how hard you hit) on the pad determines what note number to play. There is a range of notes that NOTE SHIFT will play. The lowest note is assigned to SLOT ONE. This is the base note. When you turn on the NOTE SHIFT in the PAD CONTROL Screen, you can then assign the note number that is the highest note in the Note Shift. It can be a higher or lower note number than the note number assigned to slot one. This means that the note shift will either go Up or Down when playing.

On the next screen to the right, you can assign the dynamic range that the NOTE SHIFT will operate in. This is not the velocity of the note. The notes velocity or volume comes from the min/max velocity setting that is associated with the SLOTS. The MINIMUM and MAXIMUM settings assigned here come from the DYNAMIC TRAINING. When you first train your pad, a Minimum and Maximum Dynamic Range is recorded and stored for that input. By Default, these same values are also displayed on this screen as well. If you don't change them, the NOTE SHIFT will shift from the lowest note value set in SLOT ONE, to the highest note value assigned in the Note Shift Screen as you play from soft to loud.

If you change the minimum setting to a higher number, then the note shift will not start until that dynamic is reached. If you lower the maximum setting, then the note shift will stop changing when that dynamic is reached.

This means that you can control exactly when the note shift starts and ends by setting this “range of operation”.

This feature is even more powerful than the NOTE SHIFT Mode implemented in the drumKAT, because the note shift happens only in the specified velocity range. The normal velocity minimum and maximum settings effect how loud the notes play when playing soft to loud, while the minimum and maximum in the NOTE SHIFT range, tell the DITl when to turn on and off the NOTE SHIFT.

Note that the min/max range settings of Note Shift go from 0000 to 1024 to match the 1024 levels of dynamics establish by the A/D converters. Four values for the minimum setting and 4 values on the maximum setting. YES... Its a busy screen. When you place the cursor on the Min or Max setting, only four values will blink.

In the example above, the minimum value is 0371, and the maximum value is 0466, and the * means that the values were edited.

VELOCITY SHIFT



Velocity Shift is a really powerful feature that converts your playing velocity to a controller value. What this means is that instead of sending out a note number with different velocity values as you play from soft to hard, Velocity Shift sends out a controller value assigned to the Controller Number that you assign in PAD CONTROL Screen.



Velocity Shift has its own minimum and maximum effect settings. This establishes the “range of effect”. When you play your softest, the Controller value sends out the minimum value that you set in the minimum setting. When you play your hardest, the controller value will send out the value programmed in the maximum setting.

The controller range goes from 000-127.

ControllerCC# also goes from 000-127 as well as PITCH BEND UP (PbUP) and PITCH BEND DOWN (PbDn)

To turn on PAD CONTROL , set the PAD CONTROL Screen to VELOCITY SHIFT

Next, assign the controller number.

Next, Assign the velocity effect range.

The CC# number is assigned in the Velocity Control Screen So if for example, you set the Velocity Control to PAN, as you play from soft to hard, the DITI will send out pan messages going from left to right within the RANGE of the minimum and maximum ranges.

The feature works independently from the SLOTS. This means that you can also send out note numbers along with the Controller Values. Both the Slots and the Controller have their own minimum and maximum ranges. This is a real powerful feature.

If you don't want to hear any notes, but just want to have the pad send out controller data, set SLOT one to OFF and make sure that the SOUNDS screen is set to ONE Sound.

POSITIONAL SENSING

But there's more, and this is where it gets really interesting. For years folks have heard of companies having “positional sensing” on their sound modules. It turns out that Controller number 16 is the CC# that controls this. The sound module either plays different samples or filters determined by how hard you hit the drum. ROLAND™, BFD™, ADDICTIVE DRUMS™ are some examples of companies and software programs that use CC#16 for effecting the sound.

On the DITI, set SLOT ONE to the note number that responds to Positional Sensing. Note Number 38 is usually for the SNARE DRUM. Set the SOUNDS screen to One Sound

Turn on VELOCITY SHIFT, and assign the Controller Number to 16
Set the range of the Velocity Shift, say 00-127

Now, as you play from soft to loud, you will hear the effect of the controller 16 to that note number.

CONTROL PATHS



Another variation of PAD Control is Control Paths. What this feature does is to assign a Controller Number, a Range, Steps and Direction on any pad. What this means is that you can send out discrete values of any controller number (including pitch bend) controlled by how many steps (how many strikes). The values move from the minimum setting up to the maximum setting in steps. When it reaches the maximum, it reverses direction.

On the CTRL PATHS Screen, set the CC# Number you want to send. The MIDI channel is determined by channel set for the entire pad.



Set the Minimum and Maximum Range you want for that Controller #.



Set how many Steps you want for the CC#'s value to go from Minimum to Maximum (up to 32 steps)

This function is designed to control the knobs on your synths without having to push or touch anything. Because it is independent from the note number, you can play on the pad, hear the sound, and enjoy the effect transforming with each strike.

SLOT SHIFT



Slot shift is a cool way to get up to 32 notes in a velocity shift fashion. You determine how many notes you want to shift to. When you set a slot of OFF, that will tell the DITI how many notes you want to shift by your playing volume. The DITI divides the amount of slots by they minimum and maximum velocity settings

ASSIGNING THE FSR TRIGGER SWITCH (controlling cross stick or rim shot sounds)

Whenever a drummer wants to play a cross stick sound, they would lean their hand on the snare drum, then would tap the rim with the shaft of the stick to get the cross stick sound. When the rim was just struck, you would hear the rim shot sound.



SWITCH BY = NONE, 1A--12B

All throughout the pages of this manual, you might have noticed that the DIT1 constantly takes advantage of the power of FSR to create useful powerful functions that cannot be produced with ordinary piezo triggers.

FSR SWITCHES is one of those features. This function controls the sound output of one trigger depending on a condition of another trigger... WHAT??

Think about playing a cross stick sound on your drum. Now play a rim shot sound on the same rim surface. The sound of that rim was determined by the pressure (your hand) on the snare drum (another trigger)

What the DIT1 does when this function is turned on is to decide if the sound should be a cross stick (slot two) or a rim shot (slot one) dependent on if there is pressure (your hand) on the snare drum (FSR pad that you are pressing). The sound can be anything of course, but the function of pressure to determine what sound to play is what SWITCH BY is all about.

Because multiple Inputs are involved (an FSR pad, and one other Trigger), the DIT1 allows you to decide what Trigger Input should be effected by the pressure on the FSR pad assigned to SWITCH PAD.

This means that when editing any Trigger Input, you can go to the "SWITCH BY" Screen and assign what FSR pad will affect this trigger. When pressure is detected from the assigned Trigger Input (that is displayed on the screen), the current trigger plays the note from SLOT 2 instead of SLOT 1.

Any Trigger Input can use the "SWITCH BY" function. The rule to remember is that the trigger input that you are assigning to the current trigger *MUST* be an FSR trigger pad. In order for this FSR pad to work with pressure or sustain, the GAIN must NOT have the letter C in its setting. Start my using R4 (or just 4) for the Gain setting on the FSR pad. Also make sure that if you are using a B input, it must be set to Trigger. The input that powers the FSR can not also be used to be the switch pad modifier.

SETTING UP AN FSR PAD or FSR FOOTSWITCH FOR SUSTAIN / PRESSURE / CONTINUOUS CONTROL

Normally, when you call up a PAD Type that is set for FSR, the DITI will automatically preset the GAIN level that is optimized for triggering. When you want to use the pad to control sustain, a different GAIN is needed. Sustain is when you press on the pad, and the DITI does NOT send out a Note Off Command until after you release the pad. Remember that you can not have a gate time of INFINITE. You must have a timed gate. But in order for the DITI to see pad pressure, it must not have any GAIN setting with the C letter in it. The C for capacitor processes the signal so that it see's the peaks of the signal, but not the continuous movement of pressure. A Gain Setting of R is needed for the DITI to recognize pressure. We have found that a Gain setting of R4 is the first setting to try. When this setting is used (on the A Input with the B input set to FSR), the DITI will see continuous pressure movement.

Setting up an FSR pad Trigger or an FSR Foot Switch (PMCP pedal) in this way allows the DITI to use the INPUT TYPE=CONTROLL CC#. The DITI will then send out continuous control values based on the pressure of the pad (the CC# number is assigned to Slot 1).

You might notice, that when using the R setting, the DITI may not interpret strikes as well. This is especially true if you are using an FSR footswitch like the PMCP. If you see the DITI triggering on the upstroke, then simply change the Gain or raise the threshold.

When using the PMCP FSR Trigger Foot switch, a decision has to be made as to how you want to use the footswitch. If you want it to trigger notes or send out functions like "Kit Advance, or Alternate Reset, then set the PAD TYPE to PMCP for TRIGGER. If you want to send out Continuous Controller Data, then set the PAD TYPE to PMCP for C. CNTRL.

ASSIGNING THE SOUND FUNCTION

On this display, you can change the SOUNDS Function on the selected pad. SOUNDS define what happens when you strike the pad. The DITI is capable of playing more than one note number at a time determined by velocity or an alternating note pattern.

The DITI therefore can play up to 32 alternating notes per pad, plus a list of velocity shifting presets. There is also multi note capability. Below is a listing of SOUNDS types and a definition of how the pad functions when you strike it.

**SOUNDS =
SIMULTANEOUS**



Here you can assign from one to four sounds that will play simultaneously. The sounds come from slots 1-4.

**SOUNDS=
VELOCITY SWITCH**



Here you can assign from one to four sounds that will shift slots depending on how hard you hit.

In the Global Section, you will find a screen where you can manually set the switch points.



These settings affect all SWITCHES, CROSSFADES and LAYERING SOUND MODES. IMPORTANT: These velocity shift points are affected by the PAD TYPES CURVE settings. This means that even though two different pads can have the same SOUNDS Setting, the response can be different because the Curve controls how fast a sound goes from soft to loud.

SOUNDS= SNDS LAYE



Here you can assign from one to four sounds that will layer in slots depending on how hard you hit. This means that you can have one to four sounds come in as you play from soft to loud.

In the Global Section, you will find a screen where you can manually set the switch points.



These settings affect all SWITCHES, CROSSFADES and LAYERING SOUND MODES. IMPORTANT: These velocity shift points are affected by the PAD TYPES CURVE settings. This means that even though two different pads can have the same SOUNDS Setting, the response can be different because the Curve controls how fast a sound goes from soft to loud.

**SOUNDS=
CROSSFADE**



Here you can assign from one to four sounds that will crossfade slots depending on how hard you hit. This mode also has a BLENDING feature, so that you can control how much the crossfade allows two sounds to play at once.



In the Global Section, you will find a screen where you can manually set the switch points.



These



settings affect all SWITCHES, CROSSFADES and LAYERING SOUND MODES.

IMPORTANT: These velocity shift points are affected by the PAD TYPES CURVE settings. This means that even though two different pads can have the same SOUNDS Setting, the response can be different because the Curve controls how fast a sound goes from soft to loud.



SOUNDS = ALTERNATING SOUNDS

Like the name suggests, the DITI will play alternating sounds every time you strike the pad. This means that you can play up to 32 alternating notes on a single pad just by repeatedly striking the pad. If you want to have just 16 alternating notes, then simply assign the 17th NOTE SLOT to aREST (alternate reset). The DITI will then play SLOTS 1 through 16, then start over again. You can also take advantage of the aFREEZ and aREST2 functions to reset the alternate pattern at will or freeze the alternating pattern at the slot that you want.

aREST2 by the way resets the alternate note pattern to slot number 2. aFREEZ locks the sound on that slot until it is released with an aREST. How do you do that?

SPECIAL KIT FUNCTION WHEN USING aFREEZ and aREST in SLOT ONE

Whenever an aFREEZ or aREST (2) is placed into slot ONE, the function becomes global for all alternating patterns in the kit. All alternating patterns either restart or lock in place until that global pad is struck again.

At that is the reason why aREST2 makes sense. If you want to play in groups of 8 or 16, tapping on a RESET would disrupt that pattern unless the REST started on the second slot. Cool yes?

aREV

This is the Alternate Reverse Function. This function works in two different ways. If aREV is assigned to SLOT 1 and the Sounds Mode is set to One Sound, then ALL Alternating pads on that kit start playing in reverse. Here's an example. You assign a pad to play 1,2,3,4...1,2,3,4. If you strike another pad with aREV on slot one, then the pad will play 4,3,2,1...4,3,2,1

If the Sound Mode is assigned to SIMULTANEOUS, then this function can be assigned to any of the first 4 slots.

If aREV is assigned to an Alternate Mode, say slot 5, then this function acts like a loop. It will play the following 1, 2,3,4 (aRev), 3,2,1,2,3,4,3,2,1, etc

PAD LINKING



Like the drumKAT and trapKAT, it is possible to link any pad to any pad. This means that you can link a pad say pad 1B to 2B. When you strike pad 1B, functions that are in both 1B and 2B will sound at the same time. This can be a very powerful function. Unlike the trapKAT that allows for one link or the drumKAT turbo that allows up to 3 linked pads, the DITI can link up to 6 pads at once. Striking just one pad can send out a whole host of sounds!

To the right of the "link To" assignment, there is a percentage parameter. It goes from 10% to 200%. This is a velocity scaling setting. Now you can control the relative volume between the pad you are playing on and the linked pad.

LINK TOGGLE

A rectangular display with a black border and a light green background. It contains two lines of text in a monospaced font: "MIDI NOTE Pad 8B" on the top line and "Slot 01 =LTOG-G*" on the bottom line.A rectangular display with a black border and a light green background. It contains two lines of text in a monospaced font: "MIDI NOTE Pad 8B" on the top line and "Slot 01 =LTOG-L*" on the bottom line.

Besides setting up any pad to be LINKED to one another, it is also possible to toggle that link on and off locally for that one pad or globally for the entire Kit. The special note numbers needed for these functions are LTOG-G (Link Toggle GLOBAL) or LTOG-L (Link Toggle Local)

HiHAT SELECT



NONE
GM HiHAT
HATNOTE

The DITI allows you to set trigger inputs 8A or 8B or 9A or 9B to HiHAT Select. There are three modes, GM, HATNOTE and NONE to play in conjunction with the HiHAT pedal on input 7A . This means that you can have up to 4 different pads assigned to HIHAT MODE. Depending on the pedal position, the DITI will play different note numbers when the pad is struck.

There are three basic types of HiHAT mode, NONE, GM HiHAT and HATNOTE.

NONE



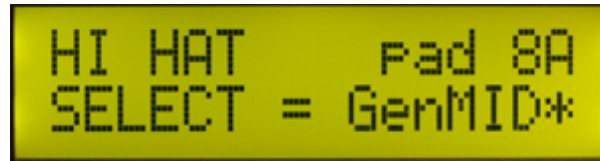
In this mode, you are relying on the drum software to determine what sound is being played for the HiHAT. In this case, the drum software relies on Continuous Controller information coming from the Hi Hat pedal. You must set the FOOT CONTROLLER Function to either Controller #4 or Controller # 1 on the DITI.

The chick and splash sound usually is provided by the drum software's interpretation of how fast you are playing the pedal. If you need the DITI to provide the chick and splash sounds, you can by assigning a note number to the CHK input. The splash can be set on SLOT 2 of the CHK input. (more on CHK and CTL discussed in the Global Section). When the Pad Selection is set to CHK, special functions become visible in the Global screens where you can set the chic and splash sensitivities.

When using the HI HAT MODE selected to NONE, you will need to assign the NOTE NUMBER provided by the drum software company to a dedicated HiHAT pad on the DITI.

That Hi HAT pad provides the velocity information, and the Hi HAT pedal determines what sound to play.

GM HIHAT



In this mode, the pad assigned to GM HiHAT will play an open or closed sound, MIDI notes 42 or 46 depending on the position of the pedal. The chick and splash sounds are controlled by the position of the foot pedal. The Hi HAT pad should be assigned to MIDI NOTE number....

Chick = MIDI NOTE #44

Closed = MIDI NOTE #42

Open+ MIDI NOTE # 46

When you first Select the GM Hi HAT, the DITI will pre assign these note numbers to the selected trigger pad (8 or 9)

HATNOTE



In this mode, the pad assigned to HATNOTE plays 8 different note numbers depending on the position of the HiHAT pedal. This mode is preassigned to work specifically with the gigKAT, or KS controllers from Alternate Mode. Other drum companies use multiple note numbers for Hi HAT position, so this is a really powerful feature.

Use SLOTS 1 through 8 to set up note numbers for the Hi HAT. If you are only using say 4 or 5 notes for the HiHAT, spread them (by repeating them) along the 8 SLOT numbers. This is another great way to control where the sound plays depending on the pedal position.

When you Select HATNOTE, the DITI presets the 8 note slots for the gigKAT. You can change them as you need to depending on your synth.

TIP

Only Trigger input 8A-8B and 9A-9B can be assigned to HATNOTE MODE.

It is also possible to change the default note values for these modes. The DITI automatically assigns these HiHAT note numbers to the Note Positions 1 through 8.

Reminder:

Please note that some VST drum Software like BFD, Addictive Drums, Superior Drummer, etc, do not rely on this mode for controlling HiHAT. Instead, these software products use Continuous Controller information derived from the position of the HiHAT pedal to determine what sound to play. In this case, the HiHAT Select is set to NONE. Simply set the MIDI note number needed by the software to control hi hat sounds.

If the VST is controlling the chick and splash sounds as well, then the CHK note number should be set to OFF.

CHIC TYPE

Assigning the **CHIC TYPE**



CONTROL
TRIGGER

Most of the popular Hi HAT pedals on the market use only continuous controller information to determine the position of the chick sound. The chick sound and its velocity information is interpreted by how fast you are moving the pedal. Splash is also interpreted this way.

For these pedal devices, the DITI CHIC TYPE needs to be assigned to **CONTROL**. This means that the chick sound is controlled by the movement of the pedal.

If you do not want to rely on the DITI or the VST Software to provide the velocity of the Chick, you can assign the CHIC TYPE to TRIGGER. Input 7B is then assigned to the chick sound. You will need a hiHAT pedal like the eHAT or the drumtech HatPedal that has a separate piezo output for the chick sound. You will also need a stereo cable adapter that splits the signal so that you can access both the A and B channels of Input 7.

FOOT CONTROLLER



FOOT CONTROLLER
Controller OFF



FOOT CONTROLLER
Controller #04



FOOT CONTROLLER
Controller Vol *



FOOT CONTROLLER
Controller Pitc*

OFF
CONTROLLER #1
CONTROLLER #4
CONTROLLER VOLUME
CONTROLLER PITCH

The DITI allows the Foot Controller Pedal to send out more than just chic and splash information.

Controller # 4 is used by many drum software companies to determine pedal board position. Used in conjunction with a trigger pad assigned to the HiHAT MIDI note number (determined by the software/sound module), the DITI will be able to control the sounds of opened through closed with HHAT pedal.

The controller pedal can also be used to control the pitch of a sound (like a pitch wheel on a keyboard) when the pedal is set to Pitch.

Controller #1 and Volume are assignable functions for the foot controller as well.

Choices for The FOOT CONTROLLER are

CC Controller #1

CC Controller #4

Controller Vol. Yes, the DITI can send out VOLUME Commands using the Hi HAT pedal

Controller Pitc The DITI can send out Pitch Bend Commands on the assigned MIDI Channel.

Controller OFF

MIDI MIXER /CONTROLLER



The DITI has the ability to send up to 8 Controller Values when entering a Kit. Each CC# has its own MIDI Channel and stored Value. It can function as a MIDI MIXER, controlling the volume sliders on a soft synth mixer's channel, or it can control knob settings on any synth. Changes to the CC values happen in real time.

The top line displays 1 of 8 controllers along with the value. The bottom line displays the CC# and the MIDI Channel.

EDITING PATCH NAMES



Assigning the **EDIT PATCH NAME**

There are 33 User Kits in the DITI. Each Kit can have its own unique name. There are also 50 Sound Patches per KIT that are part of a KIT TYPE. These Sound Patches can also have their names changed by you.

Use the Left /Right arrows to move the cursor to the letter position that you want to change, and use the Up/Down Arrows to change the letter or number. Push the Enter Button to lock in the Name. You will notice that the asterisk disappears when you push on the ENTER button

PATCH VOLUME CONTROL



Assigning the **KIT VOLUME**

00-127, OFF

The DITI functions as a digital mixer because it can store a MIDI volume level of your choice for the patch kit. The assigned MIDI Volume value is sent on whatever MIDI Channel the Patch Volume Channel is set to. Every time you use the left or right arrows, the DITI sends out a new patch and volume number.

PATCH PROGRAM CHANGE



Assigning the **PATCH PROGRAM CHANGE**

000-127, OFF

The DITI sends out a PATCH PROGRAM Change per Kit. The MIDI Channel for the Program Change must be defined in the PATCH Program Change Channel Screen.

s out a PATCH Bank, Program and Volume Change per Kit on an assigned MIDI Channel when calling up a KIT. **When the user uses the left and right arrows, the DITI only sends out a program number, volume number and a new PATCH name.** By default, the program number is incremented by one, but it is possible to change that number to any Bank, Program change number and Patch Name.

PATCH PROGRAM CHANGE MIDI CHANNEL



Assigning the **PATCH PROGRAM CHANGE CHANNEL 1-16**

CREATING A CHAIN OF PATCH PROGRAMS

Within Each KIT, you can create the Sound Patches that you want in any order. But how do you quickly get back to the beginning?

Assign the Program Change to RESET



When you are in Play mode and assign a pad or PMCP footswitch to PC-ADV (program change advance), the Sound Patch will return to the beginning when RST is assigned. Please note that when you are using the Left/Right Arrows, you can still edit and program past the “loop”, the RESET Program assignment.

BANK LSB BANK MSB



Assigning the **PATCH BANK MSB/LSB**

A Bank Change command consists of sending out two numbers, an LSB number and an MSB number. (LSB=least significant byte, MSB=most significant byte) A Bank is a collection of Program Numbers (sounds) usually 127 Programs per Bank.

The DITI sounds out the Bank Change Command on the MIDI Channel that the PATCH Program Change Command is set to. Every time you enter a new KIT on the DITI, it automatically sends out the BANK, VOLUME and PROGRAM CHANGE assigned to the PATCH on the specified MIDI Channel. This program change is used to call up the SOUND (the kit) on your drum module.

AUXILIARY PATCH CHANGES PER KIT

If you are using a multi timbral synth, you might need to send out more than one program change. Thankfully, the DITI can send out 4 additional MSB/LSB Bank, Program and Volume Change commands Each on their own MIDI Channel.



There are four Slots, each slot holds an MSB /LSB Bank Change command as well as Program Change and Volume Commands, each on their own channel.

Use the Right Arrow to scroll to these screens and use the UP and Down Arrows to call up one of the four slots and the value needed for the function.

ALL NOTES OFF COMMAND



If a note ever gets stuck on, you can instantly send an ALL NOTES OFF COMMAND. To find it quickly in the Edit Screens, Press on the Edit Button and hold until it jumps to the first screen. Tap the Left Arrow.

Simply press the Enter Button. If a Gate Time is set to INFINITE and the DITI is plugged into a non drum module (synth), the note will appear to be stuck on because the DITI, does not send out a NOTE OFF in this Mode. The All Notes Off Command fixes this problem.

MIDI EQUALIZER



The DITI has built in dynamic curves that are designed for each of the PAD TYPES. Every trigger pad either gets a curve named after itself, or uses a common dynamic curve such as “linear or exponential”.

We try to make each of the trigger pads respond in a linear way. But what about the sound module? Different manufactures each have their own Global dynamic response to velocity.

This can be a problem if you use different sound modules or notice that all of the pads have this unwanted bump of volume in a particular playing range.

Enter “the MIDI EQUALIZER”. Now you have the power to create a GLOBAL response curve for EACH KIT in the DITI. This is a real powerful feature, and we believe are to the first to ever implement it.

This is how it works. The Equalizer breaks up the MIDI velocity range into 10 segments. That’s about 12.7 velocities values in each segment. When this screen is active and you play on any pad, the DITI automatically displays what segment you just played in. If you are not happy with the response, you can raise or lower that segments values by + or - 9 values. This gives you the ability to tailor the overall response of your sound module to your playing style. Cool yes?

UNDERSTANDING KITS and KIT TYPES

In Play Mode, you can call up the name of the sound module that you are using. This is what we call KIT TYPES. The Up and Down arrow changes the name of the module.

When a KIT TYPE is entered, the bottom line of the display contains the list of sounds that are in the module. Usually the first 50 presets listed in the module are loaded in. You can scroll through the list by using the Left or Right Arrows. Some modules might not have any presets that are stored, so the left and right arrows don't do anything. USER KIT TYPES do not have stored names, but if you use the left or right arrows, the program change will increment or decrement. For our gigKAT, the DITI will display the full drum sound listing, several hundred presets!

All of these Sound Programs are not really stored completely. Just their name, bank and program number. You can change the order of these sound programs simply changing the program change. Now you can create your own collection of sound programs in the order that you want. This is called, setting up a CHAIN.

All of the other in the KIT TYPE are shared by the Sound Patches. This means for example that if you changed a pad's MIDI note number, all of the sound programs in that KIT TYPE would also use that MIDI note number for all of the sound programs. This is a really cool function because all you have to do is set up ONE kit in the KIT TYPE, and all of the Sounds will use these new parameter settings. This makes editing fast, and allows you to enjoy all of the sounds in that kit in the same way.

TO REINITIALIZE A SINGLE KIT

Any edits that you make to the KIT will be saved automatically. If you want to reset the Kit back to the factory setting, simply HOLD DOWN THE ENTER KEY.

Of course you can create your own USER KIT from scratch. There are 33 USER KITS that you can have total control over with settings unique to that one KIT. By using the Up and Down arrows, you can create your own CHAIN of USER kits as well.

On the bottom line of the display in USER KITS, you will see the Program Change Name (you can edit that name if you want), the Program Change Number (assigned in the Edit Screen), and finally the Sound Patch Number 1-50

When you reinitialize the DITI, the DITI still remembers the ROM KIT TYPES (the Factory Kits), but your individual USER Kits will be lost.

If you save your Kits via a SYSEX Dump, all Edits made by you will be stored and ready for reload when you send an ALL KITS or individual KIT DUMP back into the DITI.

Every KIT can have its own set of PAD TYPES. If you move to different drum modules (KITS), make sure that the right PAD TYPE is set for each input.

The following is a list of parameters stored in a KIT TYPE

Sound Module Name (KIT NAME)

Up to 50 Sound Patches

12 PAD TYPES

TRAINING for EACH INPUT A and B (includes dynamic levels, envelope, scan time, etc)

MIDI FUNCTIONS INCLUDING

Channel

Slot 1-32 Note numbers

Min and Max Velocity

Dampen On/Off

Gate Settings

Sounds Setting

Pad Control Options (note shift, Velocity Shift, Switch Pad)

Switch By Function

Link Function

Equalizer

Hihat Functions

Chic Type

Foot Controller Assignment

Patch Program Change Settings (Bank, Program Change, Volume, Channel)

One set of 4 Auxiliary Programs per Kit (sent when entering new KIT (not patch))

GLOBAL SCREENS

SELECT EDIT PAD



AUTOMATIC 1A-12B

PAD 1A	PAD CTL
PAD 1B	PAD CHK
PAD 2A	PAD 8A
PAD 2B	PAD 8B
PAD 3A	PAD 9A
PAD 3B	PAD 9B
PAD 4A	PAD 10A
PAD 4B	PAD 10B
PAD 5A	PAD 11A
PAD 5B	PAD 11B
PAD 6A	PAD 12A
PAD 6B	PAD 12B

The DITI has two ways of selecting trigger pads.

When “SELECT EDIT PAD” is set to AUTOMATIC, then the DITI will automatically display the trigger pad that is struck. This is great for quickly calling up settings on triggers and for moving around quickly on different triggers.

There will be times when you want to LOCK in a trigger for editing. This is most useful when the Trigger Interaction Training has not been performed. This is also a way to guarantee that you are editing the desired pad. To access this mode, use the Up/ Down arrows to find the trigger you are looking for. If Automatic is not displayed next to the Trigger Input number, then the DITI will rely on you to change the Trigger Input when you are editing.

If you are using a single zone FSR trigger like the onHEAD or inHEAD, only the A zone will show up on AUTOMATIC Trigger select when you strike the pad. That is because the B zone isn't really a trigger. It is a power source for the FSR.

PAD TYPES BUILT INTO DITI

PAD TYPE Pad 8B uPMCPforC.CNTRL*	PAD TYPE Pad 8B uRoIndCY15R BEL*	PAD TYPE Pad 8B u Yam PCY 135Y *	PAD TYPE pad 8B uRoIndCY15R EDG*	PAD TYPE pad 8B u TRIGGER ZONE *
PAD TYPE pad 8B u Yam XP 120 SD*	PAD TYPE pad 8B u Yam XP 120 SD*	PAD TYPE Pad 8B uonHEAD CMPRESD*	PAD TYPE pad 8B uonHEAD FullRNG*	PAD TYPE pad 8B u eKIC *
PAD TYPE pad 8B uFSR CONTROLLER*	PAD TYPE pad 8B uinHEAD FullRNG*	PAD TYPE pad 8B uinHEAD Compres*	PAD TYPE pad 8B uinHEAD FullRNG*	PAD TYPE pad 8B uPMCPforTRIGGER*
PAD TYPE Pad 8B u eHAT 2 *	PAD TYPE Pad 8B ualtZONEforBASS*	PAD TYPE Pad 8B 1 USER PAD TYPE*	PAD TYPE Pad 8B 9 USER PAD TYPE*	PAD TYPE Pad 8B I ImportPadType*
PAD TYPE Pad 8B u FSR=TRIG-PWR *	PAD TYPE Pad 8B u FSR=SUST-TRIG*	PAD TYPE pad 8B u altZONE *	PAD TYPE Pad 8B u FSR=SUST-SUST*	PAD TYPE Pad 8B u FSR=SUST-PWR *
	PAD TYPE pad 8B u FSR=TRIG-SUST*		PAD TYPE pad 8B u FSR=TRIG-TRIG*	

PAD TYPES onLINE

altzone

altzone for bass

aquarian ebd

aquarian kick

dauz 6" pad

ehat 2

ekic

fsr controller

fsr zone

inhead full range

inhead compressed

inhead+rim

onhead full range

onhead compressed

onhead +rim

pmcp for hihat

pmcp for c. control

pmcp for trigger

roland mesh

roland cy15r bell

roladn cy15r edge

roland FD8 hihat

yamaha pcy 135y

yamaha xp 80

yamaha pcy 100y

yamaha xp 100

trigger zone

user pad type

+++ REALLY IMPORTANT STUFF +++

The **PAD TYPE** is designed to take the headache out of programming. If you haven't noticed already, there are lots of GLOBAL Edits for each trigger input. It is a time consuming task to set up every trigger input. It can also be intimidating and confusing because there is so much power under the hood of the DITI with lots of choices and variables at your fingertips.

We don't want you to suffer.....really!

The PAD TYPE essentially PROGRAMS the DITI for you. I'll say that again because it is sooo important.

SETTING UP THE "PAD TYPE" PROGRAMS THE DITI FOR YOU!

What this means is that most of the parameters that are in the Global Screens, that affect how the pad plays, is programmed for you. Simply load in the correct PAD TYPE and hit Enter.

What is a **PAD TYPE**?

There are many different kinds of trigger pads that will function in the DITI. Each one of these triggers needs its' own unique set of parameter values to make them play properly. There is a long list (and constantly growing) list of pads that are in the market today. Your task is to:

Know what you are plugging into the DITI.....say an onHEAD™ trigger pad from Aquarian.

The onHEAD is a PAD TYPE.

Know what input you are plugging it intosay Input 2

Find the word onHEAD™ in the PAD TYPE Screen.

HIT ENTER

The DITI will automatically load in the PAD TYPE (i.e. ONHEAD) with the proper GAIN structures, INPUT Type Setting, Training Range, MASK Time and ENVELOPE Settings and much more.

Of course you can always "tweak" these settings yourself and we encourage you to do that. Everyone plays differently, and this means that some settings might need to be

tweaked to make you happy. Even your our choice of drum stick can become a “tweak” factor.

For that reason there are FACTORY PAD Types (f) and USER PAD TYPES (u). When you enter the PAD TYPE Screen, your first choice is to decide if you want to use the factory pad type, or if you want to call up a user pad type. When working on a factory PAD Type, if you hit ENTER, the DITI will automatically save the edit and put you into the User pad type with the same name. You can reset the User Pad type back to its Factory setting by press holding the ENTER key for several seconds when the cursor is on the USER PAD Types Name

IMPORTANT POINT TO REMEMBER REGARDING PAD TYPES

It’s really great that you only need to call up the PAD TYPE that matches your brand trigger BUT if you tweak, the DITI REMEMBERS EVERYTHING FOR THAT PAD TYPE, on EVERY KIT IN THE ENTIRE INSTRUMENT.

What this means is that if you start tweaking a PAD TYPE, and you only want to effect the ONE pad that you are working on, you will need to copy this PAD TYPE to one of the USER PAD TYPES to accommodate your tweaks. If you don’t, every time you call up the edited PAD TYPE on any kit, your tweaks will be there.

The concept of the PAD TYPE is that you call up the your brand trigger and the settings are there, ready to go. If you don't like them, you can change them and it will be remembered. But that PAD TYPE is GLOBAL parameter and its settings will always be the same for all kits.

IMPORTING /EXPORTING PAD TYPES

Because there so many PAD TYPES , each taking up lots of precious memory, we decided to have some of them available on our website instead of having long lists. This gives you the option of selecting what PAD TYPES you want in the DITI, and allows you to save your own if you need more of them.

EXPORTING a PADTYPE is easy. Just push and hold down the ENTER key when the cursor is blinking on any PADTYPE. The data is automatically sent out the MIDI OUT port. Make sure that your software is “waiting to receive” a SYSEX Dump.

IMPORTING a PADTYPE. Whenever a PADTYPE SYS EX dump is sent to the MIDI IN Port, the DITI will automatically load in the PADTYPE. There is a special location in memory for importing one PADTYPE. If you want to import more than one PADTYPE,

you will need to COPY the existing PADTYPE to a USER PADTYPE Location (User - through User 9)as the incoming PADTYPE dump will overwrite the existing one.

PAD TYPEs also include a TRAINING setting. This is the minimum and maximum velocity range of your playing. Every time you call up that PAD TYPE in your Kit, the training values stored in the PAD Type will be in effect. You can retrain the PAD TYPEs, training to you personal liking when using the USER version of the PAD Type. Every time you call up this PAD TYPE, those settings will be used.

The DITI has a DYNAMIC OVERRIDE setting in each KIT however that allows you to store unique Training Values on EACH KIT on EVERY PAD. This is called DYNAMIC OVERRIDE. By turning on DYNAMIC OVERRIDE on any particular pad, the user is allowed to tweak each pad's training values per Kit.

There are 9 USER PAD TYPES that you can copy to. You can also name any of these USER PAD TYPES.

PAD TRAINING

The DITI LEARNs how you play through the TRAINING feature. When you TRAIN the DITI, it loads in the dynamic range values automatically. This is the best way to get started on the DITI. By simply telling the DITI what your hard and soft hits are, it will tailor the dynamics of the trigger to your own personal playing style. It also creates a Global envelope for that trigger input that helps control false and double triggering.

As you want to improve the way a pad responds, you can dig into this manual and learn the tricks to make it happen.

After you scroll through the list and find the name of the trigger pad that most closely matches your trigger pad in the PAD TYPE screen, press ENTER. The DITI will then load in all of the default parameters for that pad. You can of course change any of these values. These "presets" act as a great starting point for optimal trigger performance.

Once you finish setting up all of the PAD TYPES, you have to assign the note numbers and channel numbers to the Kit right? Don't want to..... ok... Find one of the KIT TYPE templates that matches the sound module or drum software you are using, then voila, you are ready to start playing!

Not so bad after all right?

Here is the list of parameters that are saved in a PAD TYPE

Input Type
Exclusive
Gain
Threshold
Mask Time
Equalizer
Dynamic Curve

PAD TRAINING

Max Dynamic
Min Dynamic
Scan Count
Interaction

TO REVIEW ABOUT PAD TYPES

A PAD TYPE is like a separate entity in the DITI. Once you edit a FACTORY OR USER PAD TYPE, its settings apply to EVERY INPUT on EVERY KIT TYPE that uses that PAD TYPE. That means you only have to edit the PAD TYPE **ONCE** for the entire DITI for that particular trigger. If you want a variation response for that brand trigger, you can override the training settings in KIT EDIT (OVERRIDE =YES), or you can copy the PAD TYPE and modify it for your response variation.



This is really important, so let's say it another way.

If you want to use ONE Training (soft and hard hits) for a PAD TYPE for all of the kits, simply call up the Factory or User PAD TYPE, TRAIN it if you want, and enjoy that response on the entire instrument.

If you want to tweak that PAD TYPE's Training, but don't want to effect the entire instrument, you can:

- a) copy that PAD TYPE to a USER PAD Type, retrain it to your liking, than use that instead OR
- b) override the PAD TYPES TRAINING completely but calling up the OVERRIDE screen in the KIT EDIT. When you do this, the Training that you do will be for that pad on that kit only.

To help you know what you are training, look at the TRAIN Screens below

When Train Override setting is set to OFF in the KIT EDIT SCREENS,



Training will be for that PAD TYPE and will effect ALL pads using that PAD TYPE as long as the TRAIN OVERRIDE IS OFF

If you want to train just for that kit and do not want to effect the Global PAD TYPE TRAINING then..



Set the TRAIN OVERRIDE setting to YES in the KIT EDIT for that particular pad. Then TRAIN that one PAD. In the TRAIN Screen, you will see that you training only that one pad.

A THING ABOUT THRESHOLDS auto calibration

This “thing” applies to players using FSR triggers. If you have ever used a KAT product like the malletKAT or trapKAT, you might recall that the instrument calibrates the FSR every time you turn the instrument on. This is because FSR works on pressure.

The DITI does the same thing. Every time you turn on the DITI, it looks at all of the trigger inputs and evaluates if any of the FSR inputs have any pressure (load) on the signal. The DITI looks at these values and creates a new "idle" level. This ensures that there will be no false triggering.

That means DON'T lean on the pads while you are powering it up.

So Here's the Thing.....

It's always best to plug in all of your triggers before your turn on the DITI so that it can properly calibrate the pads for you

BUT

If you do plug in an FSR pad while the DITI is on, simply press on the TRAIN button twice (on and off). This action tells the DITI to recalibrate the thresholds.

INPUT TYPE

INPUT TYPE



TRIGGER
FSR
SWITCH
CONTROL CC#
HIHAT CONTROLLER
PRESSURE CONTROLLER

Selecting the INPUT TYPE on the DITI defines what kind of trigger you are using on the input and also defines what the function is. When you enter the PAD TYPE on the proceeding screen, the DITI automatically sets this INPUT TYPE. You can however experiment with these settings or start from scratch by creating your own User PAD Type, then define what INPUT Type you need. You are know entering the “advanced” section of the DITI

INPUT TYPES

INPUT TYPE = TRIGGER



When a trigger input is set to TRIGGER, the DITI is looking for voltage. Piezo Trigger pads are this variety of a trigger, and is the most common electronic pad on the market. If an inHEAD™ or onHEAD™ is using the inBOX™ Converter, then those FSR pads are converted to a voltage trigger as well. It's INPUT name therefore is a TRIGGER because the inBOX converted the FSR signal into a voltage signal. Why this you might ask? The inBOX allows an FSR trigger to work with standard drum machines that require voltage for their trigger inputs.

Some examples of PAD TYPES that would use TRIGGER as the INPUT TYPE are

- Piezo Triggers
- Aquarian EBD
- Dauz Pads
- Single Zone Cymbal Pads

Note that some PAD TYPES will use the TRIGGER Input Type on only one of the jacks inputs. FSR trigger pads will use the Trigger Input Type on the A input (FSR on the B Input). Membrane Switch pads will also use the TRIGGER Input Type on the A input as well. (SWITCH on the B input)

INPUT TYPE = FSR


When a trigger input is set to FSR, this tells the DITI to set the B input as the power source for FSR sensors. Single zone FSR pads like the Aquarian inHEAD™ and onHEAD™ are pads that use this setting. In this case, a stereo cable is used. The "A" input is set to INPUT TYPE =TRIGGER, and the "B" input is set to **INPUT TYPE =FSR**. Now the FSR pad is being powered by the B input, and the performance velocity is being tracked by the A Trigger Input.

BTW. If you had set the PAD TYPE to onHEAD™ or inHEAD™, both the A and B INPUT Types would be automatically loaded in with this configuration.

If you see the words DITI DIRECT on the onHEAD or inHEAD product, then that FSR trigger can plug directly into DITI without the inBOX. It's input type would be named FSR.

If you are using the original version of the Aquarian inHEAD or onHEAD that was originally sold with the inBOX, then you will need a simple Tip/Sleeve to Tip/Ring converter sold separately. This rewires the original tip sleeve configuration of the jack to a tip ring configuration, allowing the DITI to power the FSR without an inBOX.



If you see the words DITI DIRECT  on the onHEAD or inHEAD product, then that FSR trigger can plug directly into DITI without the inBOX or the DITI Converter. It's input type would be named FSR.

Why is this you might ask?

Drum modules (Roland, Yamaha, Alesis, Pearl) use voltage to sense triggering. They require a Tip/Sleeve configuration. The DITI on the other hand uses pressure to detect triggering. It requires a power source from the ring of the stereo cable. It may sound a bit confusing, but now you can use FSR pads with the DITI or you can plug them into a drum module with the use of the inBOX

AQUARIAN CONVERTER JACK

If you have purchased an Aquarian inHEAD or onHEAD without the DITI DIRECT logo, fear not! This simple "Aquarian Converter Jack" will switch the wires so that these triggers can be plugged into the DITI without the need for an inBOX



MULTI ZONE FSR

If we wanted to connect a 3 ZONE FSR Trigger Pad to the DITI, then the INPUT TYPE would have a slightly different configuration. Two Stereo Jacks and two Trigger Inputs would be needed for a three zone sensor.

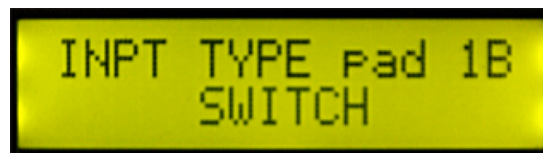
If we were using inputs 1 and 2 on the DITI, 1B would be set to FSR , and 1A would be set to TRIGGER. 3A and 3B would both be set to TRIGGER. The Input B on Trigger One powers all of the zones on the sensor and converts them to TRIGGERS.

Note: On Multi Zone FSR Triggers, there is a “common” lead. This feeds power to the other triggers on the multiZone. It is the “common” input that is set to FSR on the B channel. The common input will be noted on the FSR Multi zone.

When using trigger pads like the **jamKAT™** mini, this type of configuration is used

These special inputs create a dual zone system, that is an FSR tom tom on the B input (ring) plus rim shot sounds (or whatever) on the A input (tip) . It essentially turns the drum with an onHEAD or inHEAD on it into a two zone sensor.

INPUT TYPE = SWITCH MODE



MEMBRANE SWITCH TRIGGER PADS **Damp Switch, 2 and 3 Zone SWITCH Input Types**

The DITI is designed to work with Dual Zone and Three Zone Trigger pads that use a membrane switch on the rim or bell of the trigger pad. KAT, Roland and Yamaha are manufacturers that use this system where the velocity of the pad is gathered by a piezo sensor

in the middle of the pad, but the sound module plays one of a multiple of sounds depending on whether pressure is placed on the membrane switch which is on the rim, or on the bell of the trigger pad itself. Some manufacturers also use a three zone system on their cymbals. The piezo is on the bow of the cymbal pad, and on both the bell and the rim are resistors (switches) that tell the system what sound to play. These switches can also function as a choke mechanism when the edge of the cymbal pad is pressed on.

The DITI addresses all of these trigger pad functions into one INPUT Type called SWITCH on Input B. PLEASE NOTE THAT **DAMPEN MODE must be ENABLED** in the KIT EDIT Screen. The PAD TYPE setting does not automatically change this to Enabled.



This is how it works.

IMPORTANT. INPUT A plays notes based on the piezo trigger. The Input Type for the A input is set to TRIGGER. If the membrane switch is not activated, MIDI note assignments are played from the A Input.

Any of the SOUND functions can be activated. This means that the bow of the cymbal or the “head” of the drum can include velocity switching, multiple notes or even alternating notes depending on the setting that is chosen in the SOUNDS function. The A Input can also have the LINK function active, allowing it play notes and functions from other inputs

When TRAINING, the DITI sees the voltage generated from the piezo and sets the dynamic range based on your soft and hard hits.

WHEN THE MEMBRANE IS DETECTED

INPUT B is activated. Slots 2,3,4,5,6 and 7 perform specific functions.



Left value is the Training Value Results of the piezo being trained on the rim or bell for Input B
Right Value is the Membrane Switch Training Value.

Here is where it gets real interesting.... When you TRAIN the edge, bell or rim of the trigger pad, the DITI reads the piezo’s voltage AGAIN, but this time from the position of the edge, bell or rim. This is a real powerful feature because the DITI creates a unique dynamic range setting from the piezo but at a further distance from the head. This means that the dynamics on the edge, bell or rim are not compromised. A complete range from 00-127 is now possible, complete with its own curve that is totally independent from the head.

When you TRAIN the edge, bell or rim, the DITI also stores a SWITCH RESISTOR VALUE. When the DITI detects this resistance value, it plays notes from the different SLOTS on INPUT B.

Here is how it works.

First you need to active the CHOKE FUNCTION in SLOT FOUR. Turn on either “Choke Aftertouch” or “Choke Note Off”. This tells the DITI to recognize the resistor, SWITCH notes by calling up the various SLOT note numbers and to either send a note off or note aftertouch command when the membrane is pressed.

SLOTS in SWITCH MODE (INPUT B)

Slot One note value is set to the same MIDI note as Slot One on Input A. When the CHOKE is initiated the B Input, slot one will send a note off, corresponding to the note on in slot one on Input A.

For a two zone trigger pad, the DITI will play the note number assigned to **SLOT TWO** on INPUT B, when the Switch Resistor Value is Detected. It will also send a note off and/or aftertouch command when the pad is choked.

For a three zone trigger pad, there are two membrane switches with different resistor values. The DITI will play the note number assigned to **SLOT THREE** on INPUT B if the Switch Resistor value exceeds the value stored when Training. This means that if you are TRAINING a three zone trigger pad, take notice of the display and look at the resistor value when hitting the pad hard. Play on both the bell and the edge to determine which value is higher. (The DITI displays these values in real time when TRAINING)

Whichever membrane (bell or edge) has the lower value, that will be assigned to SLOT TWO. Keep in mind also that you are also training the dynamics of the bell or rim. The training values are assigned for both, so choose which position you want to control the dynamic range for notes assigned to slot two and three.

SLOT FOUR activates the SWITCHING of the SLOTS and it also controls sending out **Aftertouch** or **Note Off** when the membrane is pressed (choking a cymbal). Remember that the DAMPEN FUNCTION must be Enabled in the KIT EDIT.

SLOT FIVE

If a Choke is detected, and a note number is assigned to Slot Five, a NOTE OFF is sent. Some drum software (like ADDICTIVE DRUMS) use this note number to shut off the note ons in slot one and two.

SLOTS 6 and 7

Some multi zone cymbals (i.e. Roland) uses two separate cables to control the different sounds on the cymbal pad. In order for the DITI to shut off notes from this other input, extra note offs and aftertouch commands are sent. If notes are assigned to Slots 6 or 7 and choking is detected, these extra commands are sent out as well.

Remember you must be using a stereo cable when using these trigger pads because we are detecting two types of sensors...the piezo on the tip and the membrane switch on the ring of the jack.

NOTES

Slot ONE will only send a NOTE OFF and an Aftertouch command if a note is assigned to it. The note ON comes from slot ONE on the A Input. If you want the choke function to shut off the A input slot one note, then assign that same note number to slot one on the B channel.

EVEN MORE INTERESTING (SLOTS 6 through 32)

Let's say that you are using alternate notes and or Linking, and you want the choke function to shut off some or all of these notes assigned to Input A. No problem. Slots 6 through 32 will send a NOTE OFF to any note number assigned to those slot locations when the choke is performed.

Think of how cool this could be controlling lots of loops, toggling them on and off in the switch mode.

The trained resistor value is stored in the Global Screens and can be tweaked if choking is sometimes problematic. Sometimes you have to find the sweet spot on the switch in order to get consistent results.

WHAT IS THE DIFFERENCE BETWEEN CYMBAL CHOKING, and DAMPENING?

The DITI is designed to function with as many different technologies as possible. Manufacturers design their own way of recognizing dampen and choke gestures, so we have to figure out what they are and create functions for them.

MEMBRANE SWITCHES

When using a drum trigger or cymbal trigger that uses a membrane switch as the sensing technology, the DITI looks for the resistance caused by the activation of the membrane switch, and either plays a different note or sends out a choke gesture. The choke gesture for membrane switches on the DITI is called CHOKEON that is used in SLOT 4 of the TRIGGER. When CHOKEON is active, the DITI sends out a note off and a polyphonic aftertouch command for that note. It also has the ability to send out an alternative note number in slot 5.

FSR DAMPEN

If you do not have a membrane switch trigger pad, you still can dampen or choke a sound if you turn on DAMPEN in the EDIT Screens. The DITI uses two different ways of dampening depending if you are using an FSR Trigger or a PIEZO Trigger.

If DAMPEN is turned on and you have an FSR trigger pad, the DITI reads the pressure on the pad, and can determine that you are pressing on the pad rather than striking on it. It then sends a note off and polyphonic aftertouch command for SLOT ONE when this gesture is detected. It will also send out a note number that is programmed in SLOT FIVE. This makes a DEAD STROKE possible.

THE CHOKE ON Features does NOT function in this mode. This special DITI note number is used for membrane switch triggers only.

PIEZO DAMPEN

Piezo Dampen does the same thing as FSR dampen, but it uses a completely different approach to detect dampening on a piezo.

Piezo triggers do not detect pressure. But the choking and dampen function can still be performed on this type of trigger. This is how it works. When you train your pad, it creates your MINIMUM and MAXIMUM Training Values. The DITI knows what you are calling your softest hit. When DAMPEN is turned on and you are using a piezo trigger, any strike that is below this minimum value initiates the dampen gesture.

You can set that “tripping point” in your TRAINING or manually in the Global Screens. Just look for the MINIMUM Dynamic value that was calculated when you trained that pad.

INPUT TYPE = CC# Continuous Controller



Sensing Pressure has its distinct benefits because of the marvelous things that you can do with it using FSR trigger pads and the DITI. Below are variations of specific INPUT TYPE functions that sense pressure and converts them to continuous control data.

This stands for CONTINUOUS CONTROL DATA. When an FSR pad is set to Input Type CC, the pad sends out a number between 1-127 as pressure is applied to it. There are 127 different types of CC Messages. Things like modulation, HiHAT control, LFO control, are examples of the different types of CC messages that can be sent out. The DITI can send out any of these 127 messages.

The way it works is that SLOT ONE becomes the Continuous Control #. Because there are 127 MIDI note numbers, it is the perfect place to assign the CC Number

A value between 00 and 127 is sent determined by the pressure it senses on the pad.

Please note that there is only one CC value number sent with each strike. Your dynamic playing effects the pads velocity and controller amount at the same time.

TIPS REGARDING CONTROLL CC

- When using the INPUT TYPE “Controll CC#”, start by using the PAD TYPE =FSR CONTROLLER. It will preset most of these settings.
- You must TRAIN your FSR PAD. The training is slightly different for this function.
 - You need to manually call up the “A” pad for training. Do not use the Automatic pad select feature.
 - Training is done by pressing and holding the pad for the max dynamic training. Once you set the pressure for the pad, hold it steady and hit ENTER. When you release the pad, you will see the minimum value displayed, HIT ENTER.
 - If you see any jittering on the CC data, just raise the threshold.
 - In the EDIT SCREENS, use SLOT ONE for selecting the Controller #. Pressing on the pad will send continuous controller values instead of velocity values.

- You can set the range of controller values by using minimum and maximum velocity settings in the EDIT Screen.

POSITIONAL SENSING USING CC# CC# + SOUND

When an input type is set to CC, SLOT ONE is assigned to a CC Controller Number. But remember, the DITI can send out more than sound at a time. If you set the SOUND function to TWO SIMULATE SOUNDS, then the DITI can also send out a note number and its velocity along with the continuous controller data.

This is an really important function because you can simulate positional sensing on a Roland Sound Module or Additive Drums and others simply by setting the CC# to 16.

The same with BFD from expansion, by assigning the CC# 16 , you can get positional sensing on the snare drum.

The fun doesn't stop there, you can assign things like PANNING to SLOT Oneor PITCH BEND and get fantastic effects by using the combination of CC# + the sound assigned to Slot 2

Regarding using the inputs with FSR FOOTSWITCHES

SETTING UP AN FSR PAD or FSR FOORSWITCH FOR SUSTAIN / PRESSURE / CONTINUOUS CONTROL

Normally, when you call up a PAD Type that is set for FSR, the DITI will automatically preset the GAIN level that is optimized for triggering. When you want to use the pad to control sustain, a different GAIN is needed. Sustain is when you press on the pad, and the DITI does NOT send out a note off until after you release the pad. Remember that you can not have a gate time of INFINITE. You must have a timed gate. But in order for the DITI to see pad pressure, it must not have any GAIN setting with the C letter in it. The C for capacitor processes the signal so that it see's the peaks of the signal, but not the continuous movement of pressure. A Gain Setting of R is needed for the DITI the recognize pressure. We have found that a Gain setting of R4 is the first setting to try. When this setting is used (on the A Input with the B input set to FSR), the DITI will see continuous pressure movement.

Setting up an FSR Trigger or FSR footswitch in this way allows the DITI to use the INPUT TYPE=FSR Pressure. The DITI will then send out continuous control values based on the pressure of the pad (the CC# is assigned to Slot 1). You can get both CC data and a note at the same time by changing the SOUNDS selection to 2SOUNDS SIMULTANEOUS.

You might notice, that when using the R setting, the DITI may not interpret strikes as well. This is especially true if you are using an FSR footswitch like the PMCP. If you see the DITI triggering on the upstroke, then simply change the Gain.

When using the PMCP FSR Trigger Footswitch, a decision has to be made as to how you want to use the footswitch. If you want it to trigger notes or send out functions like “Kit Advance, or Alternate Reset, then set up the Gain number that uses the C word. If you want to use the footswitch as a continuous controller pedal, then use the R word, such as R4.

SETTING CONTINUOUS CONTROLLERS IN REAL TIME

INPUT TYPE = CONTROL FREEZE



Control Freeze is very similar to Control CC# but the difference is that when you press and hold on the pad, the DITI locks in that value. Now you can use pressure on the pad to control a Mixer or to define a value and position on of the synths knobs.

If you working on this manually, you must make sure that the Gain is set to an R position, most likely R4. You should also TRAIN the Input.

TIP. You might find that it works better when you train the minimum with some pressure value other than 000. The FSR is very sensitive down in the lower pressure zones.

To unfreeze a position, simply touch the pad softly. It will jump down to that value.

You can press up and down to get the value that you need, but if you slow down too much, it will lock.

There are two screens in the Global Section that help to fine tune how the freeze operates.

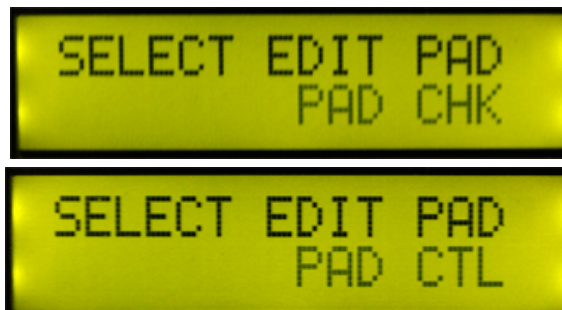


Strip Rate - this is the time interval, in msec, between taking controller readings. The lower the number (the scanning time), the better the resolution of the values but if too low it becomes hard to freeze the value.



Sensitivity - the controller will be determined to be stopped if the difference between all the controller readings in a "sample period" are within this value. The sample period is 10 times the Strip Rat

INPUT TYPE = HAT CONTROLLER input 7 (padCTL and padCHK)



The DITI has a dedicated input for HiHAT control. It is input 7. When editing Trigger Input 7, you will see the name “padCTL” instead of the name 7A. This A input is designed for Continuous Controller HiHAT pedals. This input uses the tip for hihat control, so a mono 1/4” cable will function.

To TRAIN the HiHAT pedal press and HOLD the TRAIN button until you see CONTROLLER TRAINING. Now press the pedal all the way down, hold it down and hit enter. Release the pedal and hit enter.

Alternate Mode has its own HiHAT pedal called the eHAT2. It uses FSR technology for sensing, and we believe has the widest dynamic range on the market.

Note that the ring of 7 (7B) can also be used as a trigger. When editing, you will notice the name padCHK instead of 7B. When using both a continuous controller and a dedicated chick trigger, a stereo 1/4” cable is needed. Hihat controllers like the eHAT1 and hat pedal have a dedicated trigger for the chick sound.

The DITI can derive a chick sound from either the A input or the B. In the KIT EDIT Screens, you must choose between CONTROL or TRIGGER for the Chick Type. If you set the Chick Type to CONTROL, the chick is calculated by the speed of your movement. When TRAINING the padCTL input, the DITI determines the range. If you set the Chick Type to Trigger, then the velocity of the chick is determined by the piezo element. It is necessary for you to properly TRAIN both the padCHK and the padCTL for proper continuous control, and chick and splash control regardless of which Chick Type you use.

For more information on TRAINING the HiHAT pedal, go to the section on TRAIN

MEET OUR NEW HiHAT PEDAL.....eHAT2

Our new hatKAT2 pedal, fits underneath your bass drum pedal (as long as it has a base plate). This pedal is an FSR HiHAT pedal. It has an incredible range and feel because we are using nubounce rubber as the spring mechanism. Alternate Mode sells the



hatKAT2 as a stand alone trigger that you connect to your own pedal or we sell a bundle with our own bass drum pedal.

You will find that this pedal has the widest dynamic range of any pedal on the market!

EXCLUSIVE MODE

On/Off



The DITI has a special mode called EXCLUSIVE to help eliminate crosstalk when two different piezo triggers are on the same drum, connected to Inputs A and B

When a trigger is stuck, the DITI looks to see what input has the highest velocity. The DITI will only allow one signal to sound at a time.

GAIN CONTROL

GAIN



Settings

1-4

C 1 - C4

R 1- R4

RC-1 RC4

An explanation of the GAIN NAMES and what they mean.

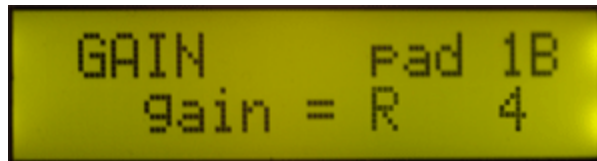
GAIN

There are sixteen possible GAIN settings for the DITI, which may be broken down into three different groups.

The first group of GAIN sensitivity goes from 1- 4, 1 being the highest sensitivity. These gain settings determines the sensitivity and range of a trigger. It determines how soft a hit will respond, and what the hardest hit the DITI will accept before it clips.

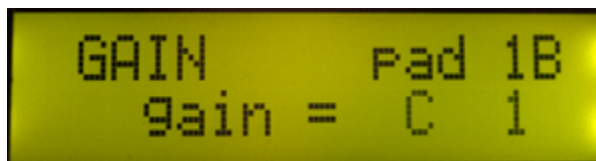


When TRAINING a pad, you may have to change the GAIN to eliminate clipping. Start with the highest GAIN setting (Gain =1), and lower it if clips when striking with your hard hit. When you Train, if you see the MAXIMUM Training Value to be about 850, then you are probably clipping. Also, if you see values in the 800's when not giving it a hard hit, then you need to lower the GAIN by raising the value from 1 to 2, 3 or 4.



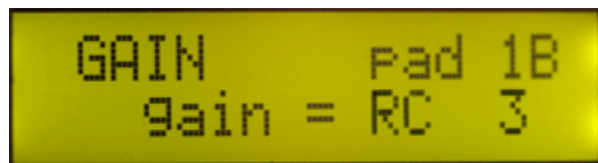
The second Group of GAIN Settings has a pull-down resistor, represented by the letter “R” in the GAIN value. Depending on the type of trigger pad used, and how you play, it may be advantageous to have the R enabled. Generally, adding the pull-down resistor will decrease the apparent sensitivity of the trigger pad, but may also improve the overall response of the pad, making its performance more natural. The only way to really know is to try it and see how the pad responds after the TRAINING is performed.

The final Group of GAIN Settings is a capacitor which is added in series with the signal from the trigger pad, indicated by “C” in the GAIN value. The capacitor has the effect of acting like a high-pass filter. The C Gains accentuates rapidly changing signals while blocking slowly changing signals. For certain types of pads or playing styles it may enhance the playability by having the capacitor enabled.



Experiment with the GAIN settings to determine what works best for your particular pad and playing style. You can't damage the DITI with a “wrong” setting (but you CAN make it play poorly!)

it is also possible to have both the pull down resistor R and the C capacitor in the Gain structure. This is represented by RC in the Gain Settings



TIPS FOR SETTING THE RIGHT GAIN SETTING

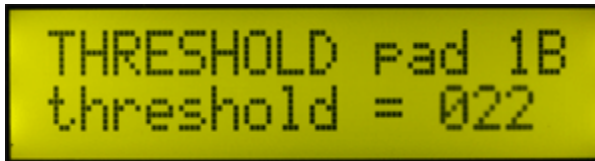
Yes, there are many different types of Gain Structure Choices that you can pick on the DITI. This design allows the DITI to work with most of the trigger pads on the market. It also gives you the opportunity to see how the various GAIN settings affect how the trigger performs.

Gains 1-4 are the Gain numbers to try first. If you notice double triggering, then, experiment with the C settings. The C setting adds a capacitor to the circuit that help control minute changes in the voltages that could contribute to false triggering.

The R setting adds a resistor to the circuit.

During the Training of the pad, when you strike the pad hard and soft, you will get the feedback you need to see if you are getting the desired dynamics. During this process, you can change the Gain Setting by using the UP or Down Arrows. After you press on the Arrow, try to Train Again and look at the dynamic range of the trigger. The goal is to find a Gain Setting that will give you a wide range of numbers from soft to hard hits.

THRESHOLD



THRESHOLD Pad 1B
threshold = 022

THRESHOLD 000-200

This screen controls the low end sensitivity of the trigger pad. The lower the number, the more sensitive the pad becomes on small hits. Too low of a threshold setting can cause the pad to false trigger. Too high of a threshold setting can cause the pad to become insensitive to soft hits.

The goal is to get the lowest threshold setting without false or double triggering. The GAIN setting will have a tremendous effect on the threshold. Finding the right balance between the Gain and Threshold is the trick to great triggering.

MASK TIME

MASK TIME



MASK TIME Pad 1B
mask time = 042

010-200

Piezo triggers can vibrate for a long time. 200mS is an eternity in drumming. If a trigger vibrates for a long time, it is possible that double triggering will be heard. The MASK TIME setting is like a window. When the trigger is struck, the window is closed until after the Mask Time (measured in milliseconds) expires. During this mask time, the vibrations coming from the trigger are ignored. Once the window is open again, hopefully the vibrations are BELOW the THRESHOLD Setting, and no False Triggering will take place.

DYNAMIC CURVE



The Dynamic Curve controls how evenly the signal goes from soft to loud when you are playing. There are 16 points in the CURVE. Each point is called a VALUE. (00-15). Every Value Point gets assigned a number from 00-127. This value number represents the actual MIDI velocity at that point.

The outermost points represent the entire MIDI RANGE of the Curve. This means that if you set the outermost points (values 0 and 15) to say 24-90, then that becomes the absolute limits of the velocity range for that trigger regardless of the MIDI velocity settings you program in the User Kit.

An even spacing of soft to loud is a LINEAR CURVE.

Rather than just having basic curves like linear, exponential, logarithmic, etc, we have created curves based on the response of some of the trigger devices on the market. What Gain Setting you use and how you play (your TRAINING of the DITI) will definitely have an effect on the curve. Also what sound module you use interacts with the DITI's curve because it has its own set of velocity curves. Confusing...yes! The good news is that most sound modules start off with its own linear curve, so the dynamic wars are at a minimal.

With the name of each curve, we will list the 16 point settings used. This way if you want to make changes, you can manually load in these values into one of the USER Curves and start tweaking from there.

When zeroing in on your own curve, use a program like MIDI MONITOR to see when you are getting an unwanted jump in velocity. Then you will know where to move one of the points up and down.

It is important to mention again that the GAIN Setting and the TRAINING that you do on the trigger can have a tremendous effect on how the trigger pad responds.

The best thing to do is to experiment with these Curves to find the best one that responds to your playing style.

TIP

The number that you are seeing in the curve is the actual MIDI VELOCITY Point. So when you are looking at a MIDI Scope and seeing velocity values as you are playing, you can go to that point in the curve and move it up or down to get the response you are looking for.

BUILT IN DYNAMIC CURVES

Altzone

Compressed Linear

Exponential

FSRT

Hand Drum

Logarithmic

Loud

FSR Shelf 1, 2 and 3

FSR Compressed

FSR Full Range

Piezo

Piezo Cymbal

Spline S

Yamaha XP 100 SD

When a PAD TYPE is called up using these Curves, the GAIN SETTING that was used to create the curve will be used. The curve listing below will specify what Gain Setting was used when the curve was created.

Remember that Curves are a personally thing. You can use any curve you like on any trigger.

What is the difference between a PAD TYPE and a CURVE?

A Curve is one component of the PAD TYPE. Even though the curve name might be the same name as the PAD TYPE, the curve parameter is where you define how you want the pad to respond.

CURVE LISTINGS

Product Curves INPUT TYPE 16 Point CURVES

CURVE	VELOCITY POINTS
altzone	1-9-14-19-25-29-34-44-54-59-69-79-89-99-119-127
compressed Linear	15-23-30-38-45-53-60-68-76-83-90-97-106-112-120-127
Exponential	5-10-16-23-29-36-42-49-57-65-75-84-96-105-116-127
FSRT	10-15-20-25-35-40-45-55-60-65-70-80-90-100-110-127
Hand Drum	10-20-25-37-45-51-60-65-76-80-85-90-99-104-110-127
Linear	01-09-17-25-34-42-51-59-68-76-85-93-102-110-119-127
Logarithmic	5-17-28-39-49-59-67-75-83-90-98-104-111-116-122-127
Loud	50-55-61-66-71-76-81-86-91-96-102-107-112-117-124-127
FSR Shelf 3	25-25-25-25-25-60-60-60-60-60-85-85-85-85-120
FSR Compressed	20-27-34-42-49-56-64-73-79-86-93-100-107-113-120-127
FSR FULL RANGE	10-20-29-39-49-56-68-74-81-89-94-98-104-114-119-127
FSR Shelf 1	15,15,20,50-50,55,58,65-72,75,78,105-108,112,115,127
FSR Shelf 2	15-26-37-50-52-55-56-58-68-79-82-84-86-90-109-127
Piezo	15-25-35-45-50-55-60-65-75-80-95-100-105-110-115-127
Piezo Cymbal	24-40-45-50-55-60-65-70-75-80-85-90-95-100-105-127
Spline S	5-8-14-20-28-37-49-63-77-89-99-106-114-120-124-127
Yam XP 100 SD	1-19-29-39-49-59-64-69-74-85-89-94-99-104-104-127

USER DYNAMIC CURVE

There are FIVE USER CURVES that you can create for yourself.

After ENTERing the USER DYN CURVE Number that you want to edit, use the right arrow key to move through the SIXTEEN VALUE Points in the Curve.

Value 00 represents the lowest MIDI Velocity in the Curve. Note that this value overwrites the MIDI velocity setting in the Kit Min Velocity Setting. This means that if you set this value to say 10, even if you set the min velocity to 0 in the kit, the smallest velocity that you will get is a 10. If on the other hand you program Value 0 to a setting of 0, and you program 24 in the min velocity setting of the kit, the smallest velocity that you will see when playing is 24 because the kit min velocity is above the lowest curve setting.

Values Parameters (0-15) are MIDI velocity points that you can raise or lower. When used in conjunction with a program like MIDI MONITOR, you can find the spot where you might want to raise or lower the velocity

Value 15 represents the highest MIDI Velocity in the Curve. If you set this value below 127, then the curve will prevent any velocities above that setting regardless of how hard you play or what your maximum velocity setting is in the kit.

After you press on the right arrow key, you will see the EDIT points for the Curve. There are 16 points to each curve. Each value that you see represents the MIDI Velocity along the curve.



By changing these values, you can extend the soft range, or quicken the rise time, etc. This is another one of those areas that need experimentation, especially if you are not happy with the linear curve one setting

DYNAMIC RANGE

MINIMUM DYNAMIC



0001-1023

MAXIMUM DYNAMIC



0001-1022

When you TRAIN the trigger pad, the DITI automatically remembers your softest and hardest hits, and translates them into values and stores them here. There are approximately 900 levels of dynamics that the DITI can recognize.

It is possible to tweak these values yourself, but the TRAINING function is all about recording your soft and hard hits and storing these values here.

Remember that there are two kinds of Trainings of Dynamics stored in the DITI. One is for the PAD TYPE. This means that every time you call up that PAD TYPE, its Training Dynamics will be used unless you decide to OVERRIDE It in the KIT EDIT Screens. When the OVERRIDE setting is set to YES, then you can freely TRAIN that pad for that particular Kit only.

PROGRAM CHANGE RECEIVE

It is possible to change KITS or Sound Programs via Bank or Program Changes coming into the DITI via the MIDI IN. Incoming Bank Change Commands (LSB changes...MSB ignored) changes the DITI's KITS. Incoming Program Change Commands changes the Sounds or Programs within the Kit. Simply assign a MIDI channel for each of these commands and the DITI will respond to these changes. A value of OFF means that Incoming Bank or Program Change commands will not effects Kits or Sound Programs



REINITIALIZING THE DITI

GLOBAL-REINITIALIZE



Global Reinitialize erases everything in the DITI and restores it to the Factory Settings. Remember all of your Training and Kit Edits will be erased when performing this function.

DATA DUMPING SYSTEM EXCLUSIVE

The DITI is capable of sending and receiving System Exclusive Messages. You can send this information to another DITI, or attach a USB MIDI Interface to your computer and store these files on the computer using programs like SYSEX LIBRARIAN for the MAC or MIDIOX for the PC or music sequence programs that store SYSEX Files.

There are several types of DUMPS that the DITI can perform

DATA DUMP KIT

This sends out all of the KIT information on the current active Kit. This includes all of the note number assignments, channel info, kit name, etc. The receiving DITI places the incoming Kit Dump to its current kit, not from the Kit number on the sending DITI.

DUMP ALL KITS

This sends out all of the KIT information on all 50+ Kits.

TIP: It's not likely that you are going to use all of the DEFAULT KITS that are preinstalled on the DITI. When you send an Individual KIT to the DITI via SYSEX, the DITI automatically stores that KIT into the current KIT location. This means that you can write over these default kits. Now you have more kits to create. Remember also that each of these Kits have 50 Program Changes attached to them. You can name them and control your synth. The note numbers assigned to the pads are the common denominator.

DATA DUMP GLOBAL

This sends out all of the Global Information which includes all of the settings in the Global Edit. The global parameters that are sent in a Global Dump are:

Pad Types

Envelope (can't view, but stored when Interaction Training)

Envelope Duration

Interaction parameters (can't view)th

User Dynamic Curve values

MIDI Merge setting

Splash Count Index

Chic Point Index

It is important to Save BOTH the ALL KITS and GLOBAL dumps because "PADTYPES" are stored in the Global Area while the Kit information is stored in the ALL KITS dump.

DATA DUMP KIT



DATA DUMP KIT
yes? press ENTER

DATA DUMP ALL KITS



DATADUMP ALLKITS
yes? press ENTER

DATA DUMP GLOBAL



DATADUMP GLOBAL
yes? press ENTER

The DITI will automatically receive SYSEX Dump Files. To send a SYSEX file, you must hit ENTER.

Both the receiving and sending DITI will provide screen feedback on the progress and success of the file.

COPY CURRENT KIT

COPY CURRENT KIT



1-60

There are 33 USER KITS In the DITI. You can copy any Kit to any Kit by using this function. Call up the Current Kit that you are using and want to copy. Then use the up or down arrows to assign where you want to copy the kit to. Hit Enter... Done.

COPY CURVE



When calling up factory curve, it is possible to quickly copy the 16 curve values to one of the four USER curves. When using this screen, the CURRENT curve in the kit will be copied to one of the four USER curves of your choice.

COPY INPUT



Each of the 12 inputs on the DITI contain KIT EDIT information (note numbers, channels, gate, etc) as well as PAD TYPE information (input types, gain, mask times, etc). The function conveniently copies ALL of the information on both the A and B inputs to any other input on the DITI.

COPY PAD



The Copy PAD Function is just like the COPY INPUT function except it does NOT copy the PAD TYPE info. This function copies all of the MIDI configurations (gate, note number, channel, Controls, etc) on both the A and B inputs

COPY PAD TYPE



The DITI has 9 USER PAD TYPES. You can copy the current PAD TYPE that you are editing, (u or f) and store it in one of them. You can also edit the names of this User Type.

MIDI MERGE

Merge is ON / OFF



Information coming in from the MIDI IN on the DITI can be routed to the MIDI OUT when the MIDI MERGE is set to ON. A good use for this would be when both triggers plugged into the DITI and another MIDI Controller plugged into the MIDI in jack can both route information to a single drum machine.

SCAN COUNT

SCAN COUNT



Here is where you can select how many SCANS or snapshots the DITI will look at the Trigger signal before deciding how big the signal is. The smaller the number of Scans, the quicker the signal will play with less latency (delay). The bigger the number of Scans, the more accurate the determination of how hard your hit was but this will add some delay.

Basically, the goal is to find the smallest number that gives accurate dynamics. FSR Trigger Pads are usually fine with 3 or 4 scans. Piezo trigger pads might need more scans as the signal takes a longer time to rise. Acoustic drum triggers often need more scans. You will need to experiment.

CONTROL FREEZE ADJUSTMENTS

There is an Input Type "CONTROL FREEZE" that allows you to pressure and hold a value on a pad. We have created two screens that allow you to tweak how this function performs.



Strip Rate - this is the time interval, in msec, between taking controller readings. The lower the number (the scanning time), the better the resolution of the values but

if too low it becomes hard to freeze the value.



Sensitivity - the controller will be determined to be stopped if the difference between all the controller readings in a "sample period" are within this value. The sample period is 10 times the Strip Rate

INTERACTION CONTROL

Interaction or false triggering has always been the challenge when dealing with trigger pads, especially piezo trigger pads because the sensors work on vibration and vibration is everywhere when you are playing.

Also double triggering on the same pad can also be a problem when the signal does not die down quickly.

The DITI has a special TRAIN function specifically design to address both of those issues. What it does it when you train for interaction, the DITI scans all of the other triggers and see if they are triggering. It suppresses those signals by imposing an envelope over the signal. It also temporarily raises the threshold on those offending pads. All of this is done automatically.

Just press the Interaction Button, tap the trigger you want to TRAIN and Hit the pad hard. WAIT ONE FULL SECOND BEFORE STRIKING AGAIN. The DITI needs to scan everything. After a second or so, you can hit the pad again hard to make sure that it got everything.

Notice the screens going nuts when you do this. That's the DITI scanning for interaction.

Play around after doing this to make sure that the interaction is gone. There are lots of tweaking that is available after the TRAIN process to help with interaction that still persists.

After you Train the pad, the DITI stores the envelope for that trigger. A value is placed in the ENVELOPE DURATION. That is a time value, approximately in mS.

Sometimes the DITI gets heavy handed in protecting from false triggers and puts a large value in this location. That is great except when you need buzz rolls. If you notice that notes are missing when playing your pad, simply go to this screen and lower it manually in the Global Screen.

ENVELOPE DURATION



```
ENV DUR Pad 1B
duration =102
```

You can also LOCK the duration value in so that the INTERACTION Training does not change or effect this value. To LOCK in this value, hold down the ENTER pad until you see an L. You can toggle this out



```
ENV DUR Pad 1B
duration =081L
```

Remember, if the Envelope Duration is set too high, the DITI will not be able to play fast strikes because the envelope duration functions similar to a mask time.

If Automatic Interaction Training did not get rid of all of the interaction, don't worry. There are still some tricks in the DITI's arsenal.

INTERACTION LEVEL



```
INTERACT Pad 1B
level = 07
```

Interaction Level temporarily raises the thresholds of the offending triggers at the level displayed. You can dramatically raise this level from 00-512. Default is 7

The important part to remember here is that raising this level is not for the pad that you are training. It is a number to change directly on the offending pad. This will raise the false triggering pad's threshold higher if needed.

After changing this level, you will need to TRAIN the pad again.


ENVELOPE THRESHOLD



ENVTHRESH Pad 1B
level = 062

This setting controls the sensitivity of the offending trigger pads. If you have trouble with a pad false triggering after you train it, raise the offending pad's ENVELOPE THRESHOLD.

Remember, this is not for the pad that you trained for interaction. It is for the trigger that is still interacting. You do not need to retrain the trigger after changing values to this parameter.



MIN ENV Pad 1B
min value = 036

000-100

This is for the pad you are training for double hits to itself. Set this BEFORE TRAINING. This value changes the shape of the envelope. It does not effect time, but instead controls the amplitude of the interaction envelope.

Important Information about the Envelope Training Screens

Interaction Training

When a pad is trained for interaction, a recording of the signal generated by the struck pad is saved along with a list of pads that interact with the struck pad. This recording is called the envelope and is used to prevent the struck pad from interacting with itself. This self-interaction is called double triggering. The list of interacting pads is used to prevent these pads from playing when the trained pad is struck during normal playing. The **Envelope Duration** is also set automatically during Interaction Training and this duration is a measure of

how long the envelope is used to prevent double triggering and pad interaction. This value can be reduced (but not increased) after Interaction Training by the user to manually reduce the time that the envelope is in effect.

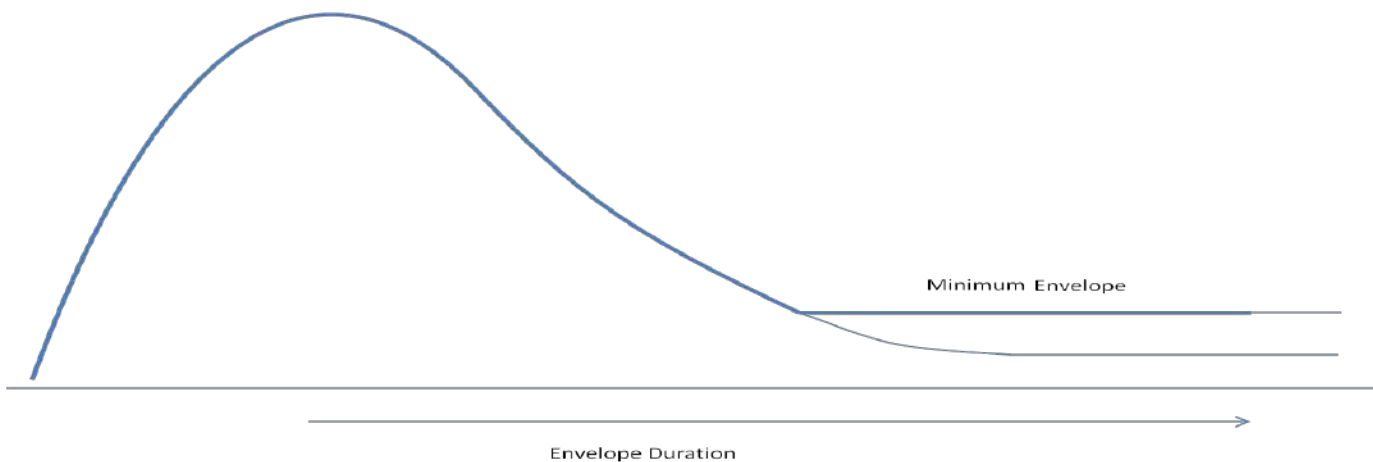
The **Minimum Envelope** should be set before Interaction Training. It sets the minimum value of the envelope and is used to adjust how difficult it is for the struck pad to double trigger. Setting a higher value will tend to prevent double triggering but will also prevent the pad from responding to light hits while the envelope is active. Setting a lower value will tend to allow more double triggering while allowing the pad to respond to light hits. Note that the **Minimum Envelope** cannot reduce the minimum value of the envelope recorded during training. It can only be used to prevent the envelope from going below the **Minimum Envelope** value.

The **Envelope Threshold** is manually set by the user and is temporarily added to the threshold of the struck pad after it has been struck and remains in effect only while the **Envelope Duration** is in effect. This has an effect similar to the **Minimum Envelope** but can be set by the user either before or after Envelope Training.

When a pad is struck, the threshold of all pads that interacted during Interaction Training is temporarily increased for as long as the **Envelope Duration** is in effect. The amount this threshold is increased is determined by Interaction Training and by the **Interaction Level** parameter. This parameter is set manually by the user and can be changed either before or after Interaction Training. Increasing the **Interaction Level** of a pad tends to prevent this pad from interacting with the struck pad but can also prevent the pads from responding to light hits while the **Envelope Duration** is in effect. Note that the **Interaction Level** parameter is set for the pad that is interacting with the struck pad.

More TECHNICAL EXPLANATION OF HOW TRIGGER INTERACTION WORKS

Envelope Modified by Minimum Envelope and Envelope Duration



The envelope is a "picture" of the signal produced when a pad is struck and is created during Envelope Training. The envelope is used to prevent two types of interaction: interaction between the pad that is struck and the other pads, and interaction between the pad that is struck and itself (double triggering).

The four parameters related to the envelope that are adjustable by the user are:

Minimum Envelope

The envelope calculated during training will not be allowed to go below this value. Increasing this value will increase the ability to prevent double triggering. Increasing this value will increase the ability to prevent double triggering on pads that "ring" a long time.

Envelope Threshold

This is an additional value added to the threshold **while processing the envelope** to arrive at the total calculated threshold. Increasing this value will increase the ability to prevent double triggering on pads that "ring" a long time.

Envelope Duration

Determines how long the envelope is used to suppress interaction or double triggering. The envelope is no longer used to suppress double triggering or interaction once this interval expires. Increasing this value will increase the ability to prevent both types of interaction by extending the duration the envelope is applied.

Interaction Level

Increases the threshold of pads that interact with the struck pad. Increasing this value will increase the ability to prevent interaction between the pad that is struck and the other pads. It does not affect double triggering

MULTI ZONE FSR TRIGGERS

FSR Triggers need power to make them function. On the DITI, the RING (B Channel) is the power source for the sensor, and the TIP (A Channel) is the trigger. When you TRAIN an FSR Trigger, you need to TRAIN only the A channel. The B channel is set to FSR, and it is functioning as a power source and does not need to be trained.

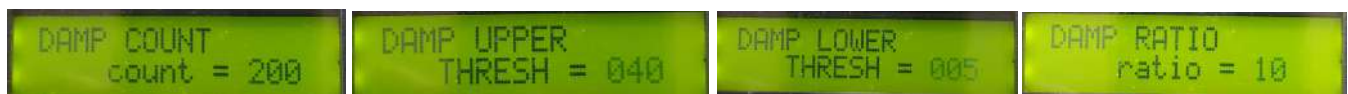
If you happen to have a multi zone sensor, the B Channel provides the power for all of the zones on that sensor, even though you are using more than one trigger input.

If you have a three zone sensor for example, and are using inputs one and two on the DITI, the A channel on input one would be set to Trigger and the B channel set to FSR. This normally is set for you automatically when you call up the PAD TYPE.

Multi Zone FSR's will not work with the TOM TOM Inputs.**MULTI ZONE FSR TRIGGERS**

FSR Triggers need power to make them function. On the DITI, the RING (B Channel)

DAMPEN MODE PARAMETERS



The DITI actually recognizes two different types of dampening gestures. They are described below.

Initial Attack Dampening: striking pad with finger/mallet and then maintaining contact with the pad to dampen the note.

Previous Note Dampening: dampening motion performed by slowly pressing finger/mallet to the pad to dampen a previously played note.

There are four screens that control how dampen gestures can be controlled.

Upper Damp Threshold

Applies only to Previous Note Dampening.

When scan count expires, if the reading is > **Upper Damp Threshold**, the the note will be played instead of dampening a previous note.

Damp Ratio

Applies only to Previous Note Dampening.

A measure of how slowly the signal must rise to be detected as a dampen motion. A smaller number means a slower rise is needed to be detected as a dampen motion.

Lower Damp Threshold

Applies only to Initial Attack Dampening.

The reading must be greater than the Lower Damp Threshold long enough for the Damp Count to expire for the initial attack note to be dampened.

Applies only to Initial Attack Dampening.

See the description for the Lower Damp Threshold.

INTERACTION MODE SCREENS

INTERACTION MODE



The DITI has Interaction Software that helps get rid of unwanted false triggers from other triggers (and itself) when a pad is struck. When you select a pad and strike it (repeatedly), the DITI stores an Envelope that controls the thresholds and mask times of the other pads plugged in.

IMPORTANT....wait about 1 second between hits so that the DITI doesn't think triggers are interacting!

TRAIN ENVELOPE



After you "tap on any pad", the screen changes to TRAIN ENVELOPE. Simply hit the pad a few times. You will notice that some leds blink on the DITI, sometimes when there aren't triggers plugged in. That's normal. The DITI is manipulating the thresholds and mask times during those strikes.

After hitting the pad several times, simply tap on the Interaction Button again to get out of INTERACTION MODE

TRAIN MODE SCREENS

PAD TYPE TRAIN

TRAIN MODE



When you first tap on the TRAIN MODE button, the DITI asks you to tap on any pad.

If you want to GLOBALLY TRAIN the pad, the TRAINING values will be stored as part of the parameters of the **PAD TYPE** that was selected for the trigger. That means that you only have to train the PAD TYPE ONCE. Every time you call up that PAD TYPE name, your Training Values will use used.

TRAIN MAXIMUM DYNAMIC



The DITI is now asking you to play the trigger with the maximum velocity that you expect to play at. Don't overplay. Be realistic. Soon after you strike the pad, the display will give you a value



0001-875

If you strike the pad again, the DITI will show you the new Maximum Train Value.

The Maximum value can change significantly depending on what GAIN value you chose. The goal is to find a good value spread between the soft and hard hit.

We have found that when the value gets near the 850 mark, there is a good chance that you are saturating the input. The remedy is to lower the GAIN

You can go back to the Global Screens, find the Gain Value and lower it by one OR you can use a shortcut. While you are in the Training Screen (with the MAXIMUM DYNAMIC showing), use the UP arrow to raise the Gain by one or use the DOWN arrow to lower the GAIN by one. If you keep repeating pressing either arrow, you will eventually go through all 16 Gain Structures. If you want to know what Gain you decided on, you will need to go to the Global Screen for verification. Remember, you can jump back and forth just by touching the Global or Train Buttons. If you hold down the button too long, it will jump back to the beginning of the Edit Screens.

When you decide on the Train value, tap the ENTER key. The DITI will then ask you to Train the Minimum Dynamic.



TRAIN MINIMUM DYNAMIC

Now play the pad soft. The minimum dynamic is displayed. Hit the ENTER key to get out of



TRAIN MODE.

If your soft hit does not get a response from the DITI, it means that you either have to lower the threshold in the Global Screen or have to RAISE the Gain Setting.

TIP: When you press on the TRAIN pad, the DITI resets the thresholds of all of the Trigger Inputs. If you plug a trigger in while the unit is on, pressing on the Train button TWICE (on then off) should adjust low end thresholds.

TRAIN MODE SCREENS OVERRIDE

As we just stated above, Training the pads normally store these values as part of the PAD TYPE used on that input. This means that these training values will be used every time you call up that PAD TYPE. But what if you want to really dig in, and Train EACH PAD on EACH KIT and not be limited by the Training in the PAD TYPE.

This is possible on the DITI by simply going to the pad that you want to Train, and in the KIT EDIT SCREEN change the OVERRIDE parameter from NO to YES. Now when you Train that pad, the values will be stored in the KIT on that PAD, and the PAD TYPE training values will be ignored.



In the KIT EDIT SCREEN, change the value to YES so that you can TRAIN that pad individually

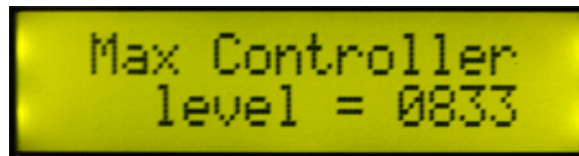


In the TRAIN SCREENS, the parameter changes from PAD TYPE to OVERRIDE TRAIN

TRAINING YOUR HIHAT PEDAL

Training your HiHAT pedal is similar to training your other pads on the DITI, but there are a few differences. Make sure that you are in the 7A input, padCTL before TRAINING.

In order to get to the HiHAT Training Screen, you must press the TRAIN button and HOLD IT DOWN until you see the MAX CONTROLLER Screen. Notice the high value.



Max Controller
level = 0833

Now press down on the pedal all of the way. If you are using the correct cable (mono tip) and have plugged in a compatible continuous HiHAT pedal, you will see the numbers get much lower.

After you press the pedal all of the way down, tap the ENTER button. Now the screen will change and ask for the minimum controller level. Release the pedal, then hit ENTER.

Tap on the TRAIN button again to exit TRAIN MODE.



Min Controller
level = 0249

Like all of the other trigger inputs, you can change the GAIN levels and see large differences in the overall range. You will also notice that not all of the GAIN level possibilities are available. This is the nature of this type of control input.

You should also TRAIN the padCHK input. First make sure that you are in fact EDITing the padCHK. You can assign this input by holding down the Global Edit button until it jumps to its first screen, SELECT EDIT PAD. Use the Up/Down arrows until you see padCHK.



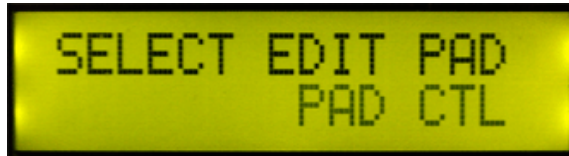
SELECT EDIT PAD
PAD CHK

Now tap on the TRAIN button, and TRAIN the chick just like you would an regular trigger.

Don't be surprised that the numbers are small. This is because the DITI is reading a range of movement, not the normal dynamic range
Please note that this TRAINING is necessary for proper dynamics of your HiHAT pedal.

In the Kit Edit Screens, you can tell the DITI if you are using a trigger (input b) or the controller (input a) for the chick and splash sounds.

When you have SELECTED padCTL in the Global Edit, a HiHAT CURVE becomes available in the Global Screens. There are 5 curves available for adjusting the continuous controller values.



NOTE DISPLAY

The DITI can display MIDI note numbers in two different ways... As a number from 00-127 or from musical names C0-G9. Set this Globally for all MIDI note number screen displays



REMOTE EDITING CONTROLLING EDITING VIA THE TRIGGER PADS

Using the Buttons on the DITI can be tiresome when doing lots of edits. We've created a way for you to use any of the DITI's trigger pad inputs to replace the buttons. You can globally assign what pad you want to function as the button on the DITI. You don't have to give up that pads playing function either because the DITI uses a foot switch (our PMCP foot switch) to tell the DITI that when pressed, it changes the trigger pads function from playing sounds to editing the DITI.

You only need to assign these pads once and it will function on all of the kits regardless what is plugged into the inputs.



NOTE:s

You must be using a PMCP Continuous Controller footswitch or a device that sends Continuous data. The DITI uses the U version of the PAD TYPE "PMCP for C. Control" in order to read the foot controller. Once you assign the FSW to an INPUT, in this special mode, the DITI ignores what the PAD TYPE setting is in the KIT, but instead assumes you are using this PAD TYPE. If you are using a pedal that does not perform correctly, you can call up this PAD TYPE, Train it and make other adjustments. As usual, the DITI stores these User Pad Type settings, and will then use these adjustments. This is really cool because you don't need to set up the Input Type for the FSW in every kit. This feature overrides the normal PADTYPE setting in that input.

When using the Up, Down, Left, Right and Enter Arrows, you must first be in GLOBAL or EDIT Modes. So the order of things are: Step on the FSW, hit the assigned Global or Edit Pad, then use the remote pads as if you were using the key pad.

ASSIGNING THE FOOT SWITCH FOR KIT ADVANCE / BACKWARDS PROGRAM ADVANCE / BACKWARDS / PROGRAM RESET

In the same manor, in combination of assigning the PMCP footswitch to a Trigger, you can assign trigger inputs to KIT ADVANCE/ KIT BACKUP/PROGRAM ADVANCE/BACKUP and also PROGRAM RESET which takes the SOUND PROGRAMS back to the Beginning.



DITI 2.5 KIT DEMO VIDEO LINKS

MeIBELL	https://www.youtube.com/watch?v=czhjut6pp5Y
Hand drum	https://www.youtube.com/watch?v=v2XJ5_1MI8w
Tabla Toys	https://www.youtube.com/watch?v=WeyHqaTpsuw
Switch	https://www.youtube.com/watch?v=HiX_QPRK0EQ
Mel Trans	https://www.youtube.com/watch?v=w6wKmv9nBGc
Shakers	https://www.youtube.com/watch?v=4EjWajvHpTw
Mr. Snappy	https://www.youtube.com/watch?v=Lt8hM72KWLo
Marimba JAM	https://www.youtube.com/watch?v=gIhGsPbBqQY
Mystery Tune	https://www.youtube.com/watch?v=XRn3b_WMLzY
JamKAT in G	https://www.youtube.com/watch?v=nKxp2uJ-HDs
Pizz Craz	https://www.youtube.com/watch?v=NbWpeqCmSGA
Pizz Craz 2	https://www.youtube.com/watch?v=bfGMJFL4Lnw
Cowbells	https://www.youtube.com/watch?v=gvqrf5b6wXo
dmi Trance	https://www.youtube.com/watch?v=aCQzN9qoh_w
Tune in 7	https://www.youtube.com/watch?v=oKlvs0SI6TU

Mr. Snappy	https://www.youtube.com/watch?v=2lz25mII6A8
Press and Hold	https://www.youtube.com/watch?v=lKxf6_cQNao
Tune in 5	https://www.youtube.com/watch?v=zUN--Yax_I
Brushes	https://www.youtube.com/watch?v=4CJsB0WK67k
J Brass	https://www.youtube.com/watch?v=eJlCo-KnmEo
alterJAM	https://www.youtube.com/watch?v=Y0GmcM_J8Ks
fluteKAT	https://www.youtube.com/watch?v=5BacoYuzOaA
Bass Drum	https://www.youtube.com/watch?v=iJa5mE7KbjE
Shakers	https://www.youtube.com/watch?v=YHI451eSfJ0

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Sample Declaration of Conformity

DECLARATION OF CONFORMITY



Manufacturer:
Alternate Mode Inc.
53 1st Ave.
Chicopee, MA 01020 USA
Phone: : 413 594-5190

Authorized Representative in EC:
Name, Title
Company Name
Address
Country
Phone

We hereby declare that the equipment listed herein conforms to the harmonized standards of the following European Commission Directives: 2004/108/EC and 2006/95/EC

Trade Name: Trigger-to-MIDI Interface
Model Numbers: DITI

Under 2004/108/EC

In accordance with EN 55022:2010, Emission
Class B ITE radiated and conducted emissions

In accordance with EN 55024:2010, Immunity
EN 61000-4-2:2009 Electrostatic Discharge: ±4kV contact, ±8kV air
EN 61000-4-3:2010 Radiated Immunity: 3V/m
EN 61000-4-4:2004 Electrical Fast Transients/Burst: ±1kV AC, ±0.5kV I/O
EN 61000-4-5:2006 Surges: ±1kV differential mode, ±2kV common mode
EN 61000-4-6:2009 Conducted Immunity: 3V
EN 61000-4-11:2004 Supply Dips and Variations: 30% and 100%

Test information is contained in a report by Atlas Compliance & Engineering, Inc.
Dated July 8, 2013
Report No.: 1328AMIditi_ce

Under 2006/95/EC

In accordance with EN 60950-1:2006/A12:2011

Test information is contained in a report by Atlas Compliance & Engineering, Inc. dated:
July 29, 2013

Report No.: 1331AMIditi_lvd

This Declaration is made July 8, 2013 by:

MARIO J DECINTIIS
Printed Name
Signature

PRESIDENT
Title
Alternate Mode Inc
Company

Sample Declaration of Conformity

DECLARATION OF CONFORMITY



Responsible Party:

Alternate Mode Inc.
53 1st Ave.
Chicopee, MA 01020 USA
Phone: 413 594-5190

We hereby declare that the equipment listed herein:

Trade Name: Trigger-to-MIDI Interface
Model Number: DITI

Conforms to the following specifications:

FCC CFR 47 Part 15 Subpart B Section 15.107(a) and
Section 15.109(g) Class B Digital Device
tested per ANSI C63.4-2009 procedures

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following
two conditions: (1) This device may not cause harmful interference, and (2) this device
must accept any interference received, including interference that may cause undesired
operation.

Test information is contained in a report by Atlas Compliance & Engineering, Inc.
Dated: April 12, 2013
Report Number: 1315AMIditi_fc

This Declaration is made April 12, 2013 by:

MARIO J DECINTIIS
Printed Name
Signature

PRESIDENT
Title
Chicopee, MA 01020
Place

APPENDIX A

ABOUT CABLES

AQUARIAN ELECTRONIC PRODUCTS

The inHEAD and onHEAD PED products use a male 1/8" attachment. The connector normally plugs directly into the inBOX that powers the sensor. The output of the inBOX has a female stereo 1/4" inch jack on it.

Available at Alternate Mode are

3' male to male 1/4" cable that plugs into your drum module or DITI. **\$5.99**

6" male to male 1/4" cable that plugs into your drum module or DITI **\$6.99**

Premium 10' male to male 1/4" cable that plugs into your drum module or DITI **\$9.99**



CONVERTING AQUARIAN ELECTRONIC PRODUCTS for use with the DITI

The Aquarian InHEADs and onHEADs use a Tip/Sleeve configuration for their products. The DITI uses a TIP/RING configuration so that the B channel on the DITI can power the A channel.

Alternate Mode offers a Converter Jack that connects to the Aquarian product and changes the configuration. This jack has a female 1/8" connector for the in/onHEAD, and a male 1/4" jack that can plug directly into the DITI.

The Aquarian to DITI Converter is **\$8.99**



Depending on your configuration, you may need an 1/8" female to 1/8" male extension cable before connecting to the Converter Jack. **\$6.99**



altZONE

The altzone FSR trigger from Alternate Mode is sold in two configurations.

altZONE for Aquarian. The connection on this sensor is a male 1/8" plug that goes into the inBOX



altZONE DITI DIRECT. The connection on this sensor is a female 1/4 plug that goes directly into the DITI



Alternate Mode will sell special DITI DIRECT versions of the inHEADs and onHEADs that will have the female 1/4" plug on it so that these triggers can plug directly into the DITI.

APPENDIX B

THE PCMP

(poor mans controller pedal)



The PCMP doesn't look like much, and it doesn't cost much, but is a little heavyweight in it's own right. The FSR Foot Controller has three distinct functions on the DITI.

When plugged "as is" into input 7A (foot pedal), the PCMP functions as a continuous controller hi hat pedal. It has an incredible dynamic range displaying even values across the entire MIDI spectrum.

When plugged into any of the DITI's other Inputs, with the PAD TYPE set to "PMCP for C.CNTRL", the PCMP can send out any Controller Number and Value when pressed on. This can be used for things like Pitch Bend or Sustain or any other CC# function. The PCMP needs a simple converter jack that changes the configuration from tip/sleeve to tip/ring.



When plugged into any of the DITI's other inputs with the PAD TYPE set to "PCMP for TRIGGER", the PCMP will send out MIDI note numbers with velocity information. There are special MIDI note numbers that perform functions such as Alternate Reset, or Alternate Freeze or Kit Advance. These are handy functions that can be set on the PCMP. The PCMP needs a simple converter jack that changes its configuration from tip/sleeve to tip/ring.

CABLE AND ADAPTER APPENDIX

AQUARIAN e HEAD TO DITI JACK (inHEAD, onHEAD, PED)

Tip Sleeve to Tip Ring



Aquarian inHEAD to DITI Adapter

Convert Aquarian inHEAD/onHEAD products to connect to the DITI without an inBOX
This converter jack allows you to use any Aquarian inHEAD, onHEAD or PED trigger from Aquarian Drumheads on the DITI without using the inBOX.

By inserting this jack between the trigger and the DITI, the jack converts the output of the trigger from Tip Sleeve to Tip Ring. The DITI needs this configuration in order to power the heads.

All Aquarian FSR triggers come with an 1/8" male jack attached to the output. This is provided so that the head can normally be plugged into the inBOX.

When the converter jack is attached, the output is a 1/4" male connector that can then be plugged directly into the DITI.



To extend the length of the cable, you can use a headphone extension cable that is 1/8" female on one side that attaches to the Aquarian product. Connect the other end to the DITI adapter so that it can be plugged directly into the DITI jack.

Alternate Mode sells onHEADS and inHEADS that have already been converted to the Tip Ring Configuration. These triggers have a 1/4" stereo female jack on it. Simply use a stereo 1/4" cable to connect them to the DITI. These triggers have a **DITI DIRECT** label on it.

On the DITI, set the PADTYPE to onHEAD, or inHEAD, etc.

Single Zone Style (Piezo) Dual Trigger Adapter Cable



Connect up to twenty-four piezo type triggers to the DITI
The DITI has twelve trigger inputs, and each input has an A and B. This design allows proper functioning of dual zone triggers (like cymbals or mesh heads), or FSR type pads that require external power.

This converter jack allows you to connect two piezo type (or single zone) triggers to any single input on the DITI, which is then separated into the A and B inputs. This allows the DITI to be expanded from twelve up to twenty four triggers!

PMCP Adapter Cable

Tip Sleeve to Tip Ring



Use a PMCP pedal to send Continuous Controller data from any DITI input. This cable is designed to work with the PMCP FSR PEDAL (Poor Man's Controller Pedal). Use this when you want to use the pedal to send out Continuous Controller Data.

Use this on any input other than 7A which is a dedicated HIHAT Controller input. **For 7A, you do NOT need this converter cable. Just plug the PMCP directly into the 7A (CTL) input.**

This cable converts the Tip Sleeve configuration of the PMCP to a Tip Ring Configuration, needed by the DITI. Set the PAD TYPE on the DITI to "PMCP for C. CNTRL"

REMEMBER...this adapter is not required on DITI input 7A, which is designated as a dedicated HIHAT controller input..

The Input on this cable is a 1/4" Female Jack. Plug the output of the PMCP directly into this. The Output is a 1/4" male jack. Plug this directly into any of the inputs except 7A. This cable converts the Tip Sleeve configuration of the PMCP to a Tip Ring Configuration, needed by the DITI.

Set the PAD TYPE on the DITI to "PMCP for C. CNTRL"

The DITI will automatically set the GAIN to R4, the Max Train to 474 and the Min Train to 008

If you decide to use the PMCP on the TOM TOM Inputs, you will need to either RETRAIN the pedal or change the MAX TRAINING to 261 in order to get the full dynamic range.

DITI FSR + RIM Dual Trigger Adapter



Add a secondary piezo trigger to an FSR input.

The four TOM inputs (DITI inputs 3-6) have optimized circuitry allowing the input to both power and trigger the FSR and have an piezo trigger on the same jack.

This is a specialized cable. One of the female 1/4" jacks accepts an FSR trigger in the Tip Ring Configuration (DITI DIRECT) The other female 1/4" jack accepts a piezo trigger.

The FSR is routed to the B Channel on the DITI. The Piezo is Routed to the Tip or A channel on the DITI.

On the DITI, set the PADTYPE to "FSR+RIM"

k.

One of the female 1/4" jacks accepts an FSR trigger in the Tip Ring Configuration (DITI DIRECT)

The other female 1/4" jack accepts a piezo trigger.

The FSR is routed to the B Channel on the DITI. The Piezo is Routed to the Tip or A channel on the DITI.

DITI FUNCTION & SCREEN LISTING

INTERFACE

UP-DOWN ARROWS

- CHANGE KIT in PLAY MODE
- CHANGE VALUES IN EDIT MODE

LEFT – RIGHT ARROWS

- CHANGE SOUND PROGRAM in PLAY MODE
- MOVE CURSOR IN EDIT MODE

ENTER

- Saves ALL EDITS
- Asterisk disappears to confirm SAVE EDIT

DISPLAY

- Top line displays KIT in PLAY MODE
- Bottom line displays SOUND PROGRAM in PLAY MODE
- Top line displays FUNCTION and PAD # in EDIT MODE
- Bottom line displays FUNCTION NAME and VALUE in EDIT MODE

LEDS

- Yellow LEDS represent A CHANNEL
- RED LEDS represent B CHANNEL

EDIT MODE BUTTON
Stores Parameters of the KIT

MIDI CHANNEL

- (1-16)

MIDI NOTE

-
- Slots (1-16)
- Note numbers 00-127
- Transposition values T-12---T+12
- Special KAT Functions
- Off
- Sequencer Start, Stop, Continue
- Alternate Reset 1&2
- Alternate Freeze
- Program Change Advance / Backwards
- Kit Change Advance / Backwards
- Choke Aftertouch
- Choke Note

MIN VELOCITY

- 000-127

MAXIMUM VELOCITY

- 000-127

DAMPEN

- Enable / Disable

PAD GATE

- Infinite
- Roll
- Latch
- 100mS-6000mS

SOUNDS

- 1-4 Simultaneous
- 1-4 Layering
- 1-4 Crossfading with Blending Control

- 1-4 Velocity Shift
- Alternating

EQUALIZER

- Each KIT separate Equalizer Settings
- 10 Segments
- Auto Detect on Hit
- -9-+9 velocity change

PAD CONTROL

- Off
- NOTE SHIFT
- NS Note Value 000- 127
- Min / Max Range 0000 – 0000
- VELOCITY SHIFT
- VS Note Range 000-127
- Min/ Max Range 000-127
- CONTROL PATH
- CC#, Min/Max Range 000-127
- Steps and Direction

SWITCH BY

- Any FSR PAD

TRANSPOSE

- INFINITE
COUNT 001-127

LINK MODE

- Link Any Pad to Any Pad (6 link limit)

HI HAT MODE

- for Inputs 8 and 9
- NONE
- General MIDI
- HAT NOTE
- Input 7 for Chick and Splash

CHIC TYPE

- CONTROL

- TRIGGER

FOOT CONTROLLER

- Controller #04
- Controller #01
- Controller Volume
- Controller Pitch
- Off

EDIT KIT NAME

- For USER KITS ONLY

EDIT PATCH NAME

- PROGRAM CHANGE
- BANK LSB AND MSB
- VOLUME CHANGE
- PROGRAM CHANNEL

AUXILIARY PROGRAM CHANGE

- SLOTS 1-4 (Up to 4 Aux Program Change Per Kit)
- PROGRAM CHANGE
- BANK LSB AND MSB
- VOLUME
- CHANNEL

DNAMIC OVERRIDE

- YES OR NO

KITS INCLUDE

- All Functions in KIT EDIT (listed above)
- PAD TYPE for Each Input A& B (listed below)
- EQUALIZER SETTING
- MIN / MAXIMUM DYNAMIC TRAINING VALUES PER INPUT PER KIT When Dynamic Override is Activated

GLOBAL FUNCTIONS

Stores PAD TYPE Parameters and GLOBAL Functions

SELECT EDIT PAD

- **1A-1B-----12A-12B**
- **Auto Detect**

PAD TYPE FUNCTIONS INCLUDE

(Each Kit uses one PAD TYPE per Input)

(PAD TYPES are GLOBAL)

any change to a PAD TYPE Globally effects ALL Kits using that PAD TYPE

- **PAD TYPE**
- Factory and User
- Trigger Zone
- Yam XP 100
- Yam PCY 100
- Yam XP 80
- Yam PCY 135Y
- Rolnd FD8 HiHAT
- Rolnd Cy15R Edge
- Rolnd Cy15R Bel
- Rolnd Mesh
- PMCP for Trigger
- PMCP for C. Control
- PMCP for HiHAT
- onHEAD + RIM
- onHEAD Compressed
- onHEAD Full Range
- inHEAD+ RIM
- inHEAD for Toms
- INHEAD Compressed
- inHEAD Full Range
- FSR ZONE
- FSR Controller
- eKIC
- eHAT2
- DAUZ 6" Pad
- Aquarian Kick

- Aquarian EBD
- altZONE for Bass
- altZONE

- **INPUT TYPE**
- Trigger
- FSR
- HIHAT CONTROLLER
- CONTROLL CC#
- SWITCH
- FSRT

EXCLUSIVE

- No /Yes

GAIN

- 1-4
- R1- R4
- C1-C4
- RC1-RC4

THRESHOLD

- 000-200

MASK TIME

- 10mS -200mS

DYNAMIC CURVE

- Linear Curve
- Compress Linear
- FSRT
- Piezo Curve
- FSR Full Range
- Yam XP 100 SD
- Piezo Cymbal
- altZONE
- Logarithmic
- Exponential

- Spline S Curve
- Loud
- Hand Drum
- FSR Compressed
- FSR Shelf 1,2,3
- User Curve 1-5

SCAN COUNT

- 02-100

KIT FUNCTIONS in GLOBAL

MINIMUM and MAXIMUM DYNAMIC VALUES

- Values Stored when Training
- User can alter Min/Max Values
- Each Kit has Dynamic Values per Input
- 0001-1023

GLOBAL FUNCTIONS INCLUDE

- **USER CURVE**
- 15 segments
- MIDI velocity Range 000-127

GLOBAL REINITIALIZE

DATA DUMP KIT

DATA DUMP ALL KITS

DATA DUMP GLOBAL

COPY CURRENT KIT

COPY PAD

COPY PAD TYPE

COPY CURRENT CURVE TO USER CURVE 1-5 MIDI MERGE

TRAINING ENVELOPE

INTERACT LEVEL

- 001-512

ENVELOPE LEVEL

- 000-100

MINIMUM ENVELOPE

- 00-100

ENVELOPE DURATION

- 10-400

ENVELOPE THRESHOLD

- 000-200

INTERACTION MODE

- **TRAIN ENVELOPE**
- tapping on pad trains pad for false triggering and interaction with other pads

TRAIN

- Hit Pad Hard
- Hit Pad Soft

KIT TYPE LISTINGS

KIT TYPE ROLAND TD30

BANK	DITI PC	PROGRAM CHANGE#	KIT NAME
msb xx lsb xx	0	1	Studio
off off	1	2	LA Metal
	2	3	Swingin
	3	4	Burnin
	4	5	Birch
	5	6	Nashville
	6	7	LoudROck
	7	8	JJ DnB
	8	9	Djembe
	9	10	Stage
	10	11	RockMaster
	11	12	LoudJazz
	12	13	Overhead
	13	14	Loooose
	14	15	Fusion
	15	16	Room
	16	17	RadioMix
	17	18	R&B
	18	19	Brushes
	19	20	Vision
	20	21	AstroNote
	21	22	acidfunk
	22	23	PunkRock
	23	24	OpenMaple
	24	25	70's Rock
	25	26	DrySound
	26	27	Flat@Shallow
	27	28	RvsTrashy
	28	29	melodious
	29	30	Hard n Bass
	30	31	BuzzKicker
	31	32	FatPressed
	32	33	DrumnDubstep
	33	34	ReMixulator

34	35	Acoustronic
35	36	HipHop
36	37	90'sHouse
37	38	D N B
38	39	SuperLoop
39	40	process
40	41	RockGig
41	42	Hard BeBop
42	43	Rock Solid
43	44	2nd Line
44	45	ROBO
45	46	SATURATED
46	47	piccolo
47	48	FATPressed
48	49	BigHall
49	50	

KIT TYPE ROLAND TD-15_11

DITI PC	PROGRAM CHANGE#	KIT NAME
0	1	Premium
1	2	Alternative
2	3	Heavy
3	4	Compact
4	5	Wah Wah Hop
5	6	Ambient
6	7	Crisp Disco
7	8	Drum n Bass
8	9	Savanna
9	10	Brushes
10	11	Studio
11	12	Shuffle
12	13	Vintage Rock
13	14	Rockin Gate
14	15	Tight Groove
15	16	Light
16	17	Vintage Jazz
17	18	Jazz Funk
18	19	Unplugged
19	20	4 on Floor

20	21	Nu RnB
21	22	Minimal
22	23	Lo Fi
23	24	Wide Beatzzz
24	25	Shorty
25	26	808 Ambient
26	27	Electronica
27	28	Impact
28	29	Solid
29	30	Rock Stage
30	31	Mellow
31	32	Lite Pop
32	33	Tight Funk
33	34	Garage
34	35	Funky Jazz
35	36	Fusion
36	37	Mixture
37	38	Metal
38	39	Ballad
39	40	Loose
40	41	Rough Groove
41	42	Breaker
42	43	Raspy Beat
43	44	House
44	45	Hip Hop
45	46	Latin
46	47	Samba
47	48	Ele Drum
48	49	808
49	50	909

KIT TYPE ROLAND TD20

BANK DITI PC	PROGRAM CHANGE#	KIT NAME
msb xx lsb xx 0	1	VPro
off off 1	2	Slamin
2	3	METAL
3	4	JazzCombo
4	5	OverDrive
5	6	Titanium
6	7	RotoKIT

7	8	UNIVERSE
8	9	Skanky
9	10	Brushes
10	11	Spark
11	12	GT
12	13	Antique
13	14	BreakBeats
14	15	Studio
15	16	Groover
16	17	Mallet
17	18	Drumline
18	19	JazzGig
19	20	Airtime
20	21	Sploink
21	22	Boogaloo
22	23	Zeppy
23	24	Arena
24	25	Maple
25	26	Shallow
26	27	Ballad
27	28	Raspy
28	29	PopReggae
29	30	BrassBiggie
30	31	WetBooth
31	32	70s Record
32	33	Lite
33	34	Mellow
34	35	Stadium
35	36	TiteOctas
36	37	90s Power
37	38	FxJungle
38	39	Tekno
39	40	TR 808
40	41	TR 909
41	42	Hex Drum
42	43	Cosmosis
43	44	Technology
44	45	OrchPerc
45	46	Survivor
46	47	Latin Toys
47	48	Africian Perc
48	49	Tabla Sitar

KIT TYPE Roland TD6

BANK	DITI PC	PROGRAM CHANGE#	KIT NAME
msb xx lsb xx	0	1	AcuStick
off off	1	2	Rock It
	2	3	Groove
	3	4	Jazzy
	4	5	Ballad X
	5	6	TR 808
	6	7	Brushes
	7	8	Tekno
	8	9	LatnPerc
	9	10	Orch Set
	10	11	HipHop
	11	12	JazzFunk
	12	13	Syn&Bass
	13	14	1ManBand
	14	15	DryTight
	15	16	Guitars
	16	17	Mexi Mix
	17	18	DrumSolo
	18	19	Voices
	19	20	Natural
	20	21	Crack
	21	22	Fusion
	22	23	Buzz
	23	24	TKO
	24	25	PowrFusn
	25	26	Pocket
	26	27	Studio1
	27	28	Dry
	28	29	Ringer
	29	30	RockBand
	30	31	HevyRock
	31	32	DenkiRok
	32	33	A Team
	33	34	Rocker X
	34	35	HardRock
	35	36	HevyMetl

36	37	RokCnrt
37	38	JazzOne
38	39	B-Bop X
39	40	BIG Band
40	41	Sizzle
41	42	BrushAmb
42	43	BrshSwel
43	44	Electro
44	45	TR 909
45	46	808Mix
46	47	909Mix
47	48	808...9
48	49	Dance808
49	50	Snowki

KIT TYPE YAMAHA DTX500

BANK	DITI PC	PROGRAM CHANGE#	KIT NAME
msb 125 lsb 00	0	1	Oak Custom
	1	2	Maple Custom
	2	3	Beech Custom
	3	4	Rock Kit
	4	5	Gate Kit
	5	6	HipHop Kit
	6	7	Synth Drums
	7	8	Street Beat
	8	9	Brazil Kit
	9	10	SM Kit
	10	11	Studio Kit
	11	12	Dry Beat
	12	13	SessionMastr
	13	14	T8 Kit
	14	15	T9 Kit
	15	16	DnB Kit
	16	17	Nu Electro
	17	18	Perk Kit
	18	19	Social Cuban
	19	20	SFX Kit
	20	21	Funky Men
	21	22	Power Kit

22	23	Reso Kit
23	24	Phase Drum
24	25	Jazz Kit
25	26	Brush Kit
26	27	Matsuri
27	28	AsianGypsy
28	29	Elec Class
29	30	Hey DJ
30	31	Vox Kit
31	32	Vintage Kit
32	33	Room Kit
33	34	Afro Kit
34	35	Latin Club
35	36	Drum Corps
36	37	Orchestra
37	38	Dubstep
38	39	R&B Cool
39	40	WikkidPocket
40	41	Raggae Kit
41	42	BrokenFunk
42	43	GoGo1988
43	44	Re-O
44	45	Elec 5/4
45	46	Backbone
46	47	Groovin
47	48	8/8 Craze
48	49	Bs @Base
49	50	GM Standard

KIT TYPE YAMAHA DTX v2

BANK	DITI PC	PROGRAM CHANGE#	KIT NAME
msb 125 lsb 00	0	1	Acoustkt
	1	2	RockLive
	2	3	PowerKit
	3	4	BigRoomD
	4	5	RockDry1
	5	6	RockDry2
	6	7	RockDry3
	7	8	RockDry4

8	9	RockDry5
9	10	HipDanse
10	11	HardGtBD
11	12	kik3itm
12	13	N.Y. 3
13	14	N.Y. 4
14	15	LivinIrg
15	16	Hats!dog
16	17	DownTown
17	18	Space123
18	19	SD!Panic
19	20	Reggae
20	21	Tabla
21	22	AlterPer
22	23	SFX 1
23	24	SFX 2
24	25	Piano
25	26	Vibe
26	27	SteelDrm
27	28	Strings
28	29	Bass
29	30	User Kit
30	31	User Kit
31	32	User Kit
32	33	Acoustic
33	34	Rock 1
34	35	Hip-Hop
35	36	Industry
36	37	N.Y. 1
37	38	N.Y. 2
38	39	Country
39	40	BeBop
40	41	Rock 2
41	42	1970 kit
42	43	X-Fade
43	44	Studio
44	45	Dance 1
45	46	Dance 2
46	47	HHpDncMX
47	48	WldDncMX
48	49	IndustMX
49	50	Banana

KIT TYPE YAMAHA DTX MULTI 12

BANK	DITI PC	PROGRAM CHANGE#	KIT NAME
msb=125 lsb=0	0	1	PercMaster
	1	2	80s Electro
	2	3	Sweet RnB
	3	4	Tabla Hand
	4	5	Conga Hand
	5	6	HandScrchl
	6	7	FillsMaker
	7	8	Movix FX
	8	9	Oak Custom
	9	10	HardRock
	10	11	Mbira
	11	12	Japan
	12	13	NuRezo Kit
	13	14	E Trad Kit
	14	15	Electro Kit
	15	16	E Gate
	16	17	EleTomSet
	17	18	Toycussion
	18	19	The Ambient
	19	20	SynT&P Set
	20	21	UpliftTranc
	21	22	TraxMaster
	22	23	Leftfiled
	23	24	TECH Keys
	24	25	Ragga Guy
	25	26	Dim RnB
	26	27	HouseClassic
	27	28	Cuban Stick
	28	29	Brazil
	29	30	India
	30	31	Indy Melody
	31	32	Indian Drum
	32	33	Bollywood
	33	34	Tabla Ensem
	34	35	Takio Drums
	35	36	Arabic
	36	37	Africa
	37	38	Drum Corps

38	39	Orchestra
39	40	RealTimpan
40	41	TublarBel
41	42	SynMarimba
42	43	Vibraphone
43	44	SteelPan
44	45	Balafon
45	46	LargeMetal
46	47	BrassyLight
47	48	Vocal Drums
48	49	Hipgig
49	50	Cocktail Dr

KIT TYPE ALESIS DM 10

BANK	DITI PC	PROGRAM CHANGE#	KIT NAME
msb xx lsb xx	0	0	Fusion
off off	1	1	Big Mellow
	2	2	CableSnare
	3	3	Bop Brush
	4	4	Big Wet
	5	5	Clav Jam
	6	6	Wood Pop
	7	7	Dry Rocker
	8	8	Big Rocker
	9	9	Crank It
	10	10	Trig Samp
	11	11	Evil Drums
	12	12	Absolute
	13	13	Ballad
	14	14	Big BackBt
	15	15	Dry Honk
	16	16	ClassicR&B
	17	17	Dead Snare
	18	18	Deep Dish
	19	19	Rocker Jam
	20	20	JungleVerb
	21	21	Deli World
	22	22	Trash Funk
	23	23	Fat Back
	24	24	Africa

25	25	Latin Set
26	26	NuAge Perc
27	27	Latin Set
28	28	Keystone
29	29	Rnd Latin
30	30	Elec Tech
31	31	Elec Hop
32	32	Electro
33	33	Ethno Tek
34	34	9 OH 9
35	35	Film Flam
36	36	SquareBdge
37	37	Old SKool
38	38	Hiss Hop
39	39	Nu Jack
40	40	Pop Brush
41	41	PingySnare
42	42	Mini Me
43	43	Thick Rock
44	44	Levee
45	45	Deep Jam
46	46	Picc Verb
47	47	Slick Jazz
48	48	Picc Funk
49	49	Think Thin
50	50	Indo Ethno

KIT TYPE ROLAND TD20X

BANK	DITI PC	PROGRAM CHANGE#	KIT NAME
msb xx lsb xx	0	1	TD 20X
off off	1	2	50s King
	2	3	Cntrl Room
	3	4	Metal Core
	4	5	FunkGroove
	5	6	40s Bop
	6	7	process
	7	8	Cajon
	8	9	melodious
	9	10	Premium
	10	11	SwingJazz

11	12	BluesRock
12	13	DryStudio
13	14	2HH House
14	15	TechFusion
15	16	LetitBeat
16	17	neotype
17	18	jazzbop
18	19	RawBeat
19	20	Vintage Rock
20	21	D-N-B
21	22	GarageRock
22	23	80's Funk
23	24	Cashmirror
24	25	Breaks
25	26	90s Rock
26	27	jazzclub
27	28	Jive
28	29	AmbRock
29	30	cosmic
30	31	crossover
31	32	Vintage Jazz
32	33	Coolth
33	34	U-Blue
34	35	FunkyJungle
35	36	natural
36	37	LA beBop
37	38	MBsHouse
38	39	Bronze
39	40	DarkComper
40	41	Drums&DJ
41	42	GATED
42	43	RotoFXCity
43	44	PopDelay
44	45	1985
45	46	Dizzy
46	47	Brazil Perc
47	48	Latin Drums
48	49	Asian
49	50	Flanger

KIT TYPE YAMAHA DTX900

BANK	DITI PC	PROGRAM CHANGE#	KIT NAME
msb 125	0	1	Oak Custom
lsb 00	1	2	BirchCstmAbs
	2	3	Power Kit
	3	4	Power Kit
	4	5	Club Set
	5	6	HipHop Kit
	6	7	70s NY
	7	8	Funk Master
	8	9	Jazz Funky
	9	10	PercsMaster
	10	11	MapleCstmAbs
	11	12	BeechCstmAbs
	12	13	Rock Kit
	13	14	Grunge
	14	15	R&B
	15	16	Electric Funk
	16	17	Tower Funk
	17	18	80's West Coast
	18	19	AJ Happy
	19	20	Waaaaaaah
	20	21	Vintage
	21	22	Groove Jam
	22	23	Hard Rock
	23	24	Punkish
	24	25	TradeElectric
	25	26	House Kit
	26	27	Small Jazz
	27	28	Cocktail
	28	29	Amby
	29	30	Sci-Fi
	30	31	Compact Kit
	31	32	Jazz Kit
	32	33	Rhythm Trees
	33	34	Heavy Comp
	34	35	Movin
	35	36	Dance&Perc
	36	37	Abstract
	37	38	Brush Kit
	38	39	Orchestra

39	40	AfterHours
40	41	RX5/11
41	42	Old School
42	43	SFX
43	44	Human Kit
44	45	Reggae Kit
45	46	Cuban
46	47	Brazil
47	48	Asian
48	49	African
49	50	GM Standard

KIT TYPE Pearl RED BOX

BANK	DITIPC	PROGRAM CHANGE#	KIT NAME
msb xx lsb xx	0	0	Temp Tasty
off off	1	1	1Up 2 Down
	2	2	Heartland
	3	3	StudioCity
	4	4	NowMetal
	5	5	ShoTime
	6	6	ModJazz
	7	7	Picante
	8	8	80sMonster
	9	9	Wonder Gig
	10	10	NashVegas
	11	11	HoodHop
	12	12	70sVibe
	13	13	Dub it Up
	14	14	HydroGate
	15	15	RockABye
	16	16	Headbanger
	17	17	Temp Tasty
	18	18	Cockaillt
	19	19	Big Ballad
	20	20	SpaceCake
	21	21	8HUNDRED8
	22	22	Mi Casa
	23	23	Punchy
	24	24	4EvrFusion

25	25	Laugh Trax
26	26	BluePlanet
27	27	FunkFX
28	28	Dance Mix
29	29	Shout Out
30	30	Bump N Go
31	31	MetalBand
32	32	Havana
33	33	ScaryOscar
34	34	WarmNWorn
35	35	GreenEyed
36	36	SnareYaGo
37	37	VintageMod
38	38	Eastern Trip
39	39	Music Row
40	40	TurnTable
41	41	TranzDance
42	42	BoardTape
43	43	9inch
44	44	Arena Live
45	45	Classic Mo
46	46	Bourbon St
47	47	SoundTrack
48	48	Brushes
49	49	70s Alive
50	50	TechnoEcho

KIT TYPE ROLAND TD 10

BANK	DITI PC	PROGRAM CHANGE#	KIT NAME
msb xx lsb xx	0	1	StudioV
off off	1	2	BigRock
	2	3	Tight
	3	4	JazzSizl
	4	5	SuperBwl
	5	6	Freak'n
	6	7	OldScool
	7	8	Tex Mex
	8	9	GroovIn
	9	10	BtDelayy

10	11	Latin Set
11	12	Orch Set
12	13	BrasRing
13	14	TR-808
14	15	TR-909
15	16	Dr Spin
16	17	Memphis
17	18	Cartoon
18	19	KornBall
19	20	X-Stick
20	21	Big Band
21	22	lowFI
22	23	CarTUNE
23	24	Natural
24	25	Dirty
25	26	808 Ambient
26	27	Far East
27	28	HEAVy
28	29	NextDoor
29	30	Latin 3D
30	31	Vintage
31	32	MIDIbrsh
32	33	SockHop
33	34	Woody
34	35	GoFigure
35	36	70's Rock
36	37	Brushes
37	38	Electro
38	39	Rock
39	40	Analog
40	41	Fusion
41	42	Jazz
42	43	SLAPBACK
43	44	COMpress
44	45	LivnRoom
45	46	KitCopy1
46	47	KitCopy2
47	48	KitCopy3
48	49	KitCopy4
49	50	KitCopy5

KIT TYPE **gigKAT Bank 4 1-50**

BANK	DITI PC	PROGRAM CHANGE#	KIT NAME
msb 00 lsb 04	0	0	
	1	1	Open Rock
	2	2	Squash Rock
	3	3	Full Room
	4	4	East Space
	5	5	CopperRing
	6	6	Birch Wood
	7	7	DeadRocker
	8	8	Ring-tone
	9	9	Gadd'sLair
	10	10	Hinomaru
	11	11	KirkeeB
	12	12	25thAnniv
	13	13	LA A Kit1
	14	14	LA A Kit2
	15	15	LA A Kit3
	16	16	LA B Kit1
	17	17	LA B Kit2
	18	18	LA B Kit3
	19	19	Pomele
	20	20	Kirkee B2
	21	21	J Geils
	22	22	Tightie
	23	23	Low Rock
	24	24	Drum&Bass
	25	25	Flabby
	26	26	Boxy Tubs
	27	27	West Boxy
	28	28	Big Buzz
	29	29	Schnizzle
	30	30	BonzosRm
	31	31	Old Traps
	32	32	Fat Boy
	33	33	ModernRok
	34	34	80s Power
	35	35	WoolyPckt
	36	36	Reso-King
	37	37	Los Feliz
	38	38	Mahogany

39	39	80s PTS
40	40	FabFringe
41	41	LouStools
42	42	Orngcrush
43	43	Static
44	44	LiteBrite
45	45	Brush 1
46	46	Brush 2
47	47	PillowFuz
48	48	Thigpen
49	49	Fnessence
50	50	Proc Pop

KIT TYPE gigKAT Bank 4 51-100

BANK	DITI PC	PROGRAM CHANGE#	KIT NAME
msb 00 lsb 04	51	51	Jersey
	52	52	HardKnock
	53	53	CoralBox
	54	54	Cold Cash
	55	55	Spooge
	56	56	DJ Dub
	57	57	Beatx 101
	58	58	Rhythmcon
	59	59	Superfly
	60	60	Lay Down
	61	61	TrashFunk
	62	62	RadioEcho
	63	63	TouchTone
	64	64	Sweeper
	65	65	ScratchMe
	66	66	Ice Heart
	67	67	ChakraJam
	68	68	Voice Box
	69	69	Mil\$Man
	70	70	Strange Hits
	71	71	Strange Hits2
	72	72	VinylNoyzCombo
	73	73	Recrd Start/Stop

74	74	5Kits Templte
75	75	Aud Kik/Snr Mono
76	76	Aud Kik/Sn Streo
77	77	Stereo Kick Drums
78	78	Mono Kick Drums
79	79	StereoSnareDrums
80	80	MonoSnare Drums
81	81	Tom toms
82	82	Hi Hats
83	83	Rdes&Crshs&Rolls
84	84	E Perc/Sound FX
85	85	Vocal Percussion
86	86	Drum Percussion
87	87	WoodMetlShakPerc
88	88	Accessory A
89	89	Accessory B
90	90	Accessory C
91	91	BongoConga
92	92	Bendir
93	93	Bodhran
94	94	BodhrnBendir
95	95	Djembe
96	96	DumBekDjembe
97	97	FrameDrums
98	98	FrameHybrid
99	99	Gourd
100	100	Tabla

KIT TYPE **gigKAT Bank 4 101-127**

BANK	DITIPC	PROGRAM CHANGE#	KIT NAME
msb 00 lsb 04	101	101	Talking Drum
	102	102	KatMan Dude
	103	103	PolyRitmico
	104	104	Carnival
	105	105	Hitn Rung 1
	106	106	Hitn Rung 2
	107	107	Hitn Rung 3
	108	108	Hitn Rung Keys

109	109	SoftBars
110	110	XyLoomBa
111	111	Asian Metal
112	112	TablaBars
113	113	SlitBars
114	114	GourdBars
115	115	MamboBars
116	116	MIXnMatch Perc 1
117	117	MIXnMatch Perc 2
118	118	MIXnMatch Perc 3
119	119	MIXnMatch Perc 4
120	120	HoldnSilde
121	121	Birdy BIRDy
122	122	SacredShrine
123	123	Tera Nova
124	124	Oody Oody
125	125	FlexiCrotale
126	126	BitnGlitter
127	127	DripnGlitr

KIT TYPE gigKAT Bank 5 1-50

BANK	DITIPC	PROGRAM CHANGE#	KIT NAME
msb 00 lsb 05	0	0	0
	1	1	Brt Natural Kit
	2	2	SmoothRocker Kit
	3	3	Low Rocker Kit
	4	4	SuperNatural Kit
	5	5	Big Woosh Kit
	6	6	Fat Nat Kit
	7	7	Abe Junior Kit
	8	8	Charlemagne Kit
	9	9	H Fact Kit
	10	10	SoftCookie Kit
	11	11	Brushes Kit
	12	12	HipgigJunior Kit
	13	13	Cocktail Kit
	14	14	BeatBoxBrush Kit
	15	15	Jinglehop Kit
	16	16	Tiny Bopper Kit

17	17	Moven Air Kit
18	18	Alis Punch Kit
19	19	Rock Trance Kit
20	20	Ringling Pop Kit
21	21	Marley Kit
22	22	Ltric Nat Kit
23	23	TrashPan Tom Kit
24	24	Tin Man Kit
25	25	Cheapo Dist Kit
26	26	AngryBastard Kit
27	27	Vibra Lunch Kit
28	28	Ricochet Kit
29	29	Frida Gate Kit
30	30	Metallic Cut Kit
31	31	Cannibal Kit
32	32	Tunnel Feel Kit
33	33	Tuna Slap Kit
34	34	Plywood Kit
35	35	Door Knocker Kit
36	36	Slapstick Kit
37	37	Scratchbox Kit
38	38	Anvil Head Kit
39	39	Cat Scratch Kit
40	40	Scream Kit
41	41	Mangled Kit
42	42	Rawhide Kit
43	43	Shrugie Kit
44	44	Big Dog Kit
45	45	Sweeper Kit
46	46	Gravel Dump Kit
47	47	Mudflap Kit
48	48	Mud Slinger Kit
49	49	Shrugs Bros Kit
50	50	Wet Sponge Kit

KIT TYPE gigKAT Bank 5 51-100

BANK	PROGRAM CHANGE#	KIT NAME
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msb 00 lsb 05

51	Succotash Kit
52	Backsweep Kit
53	Bug Zapper Kit
54	Elektro Sand Kit
55	Sandy Bottm Kit
56	Box o Sand Kit
57	Fine Grit Kit
58	Matchmaker Kit
59	Zucchinni Kit
60	Pump da Well Kit
61	Ltrk Reflux Kit
62	Squash Clap Kit
63	Scoopit Up Kit
64	Tone Keeper Kit
65	Phase E Kit
66	Straw Blow Kit
67	Falling Star Kit
68	Super Ball Kit
69	Pixie Dust Kit
70	Air Waves Kit
71	Tub Floater Kit
72	Why Not Kit
73	Turnablism Kit
74	Stud3and4C
75	RadKings3
76	Resonant Traps
77	Ambient Rock1
78	Coliseum Kit
79	RipperKit1
80	TripTrash
81	Beatbox2
82	SumpKit
83	ElectroKit2
84	Paper TOm
85	
86	GlubFlange Kit
87	DryFatty Kit
88	Drums w Bass 1
89	
90	GateClapDrumLE
91	Dub Kit
92	Rock Room Drums

93	ResNoise Kit
94	144ms Gated Kit
95	FatNoise Kit
96	Hypd Natural Kit
97	Rango Kit
98	NoiseSlap Toms
99	16Layer Cake Kit
100	HopRoom Kit

