

C R E A T I V E U S E O F

SIMMONS

Trixer



CONTENTS



Concept	4
Trixer	4



Packing List	5
Supplied	5
Optional	5



Before You Start	6
Selecting the Correct Voltage	6
Connecting to the Mains	7
Changing the Fuse	7
Looking After Trixer	8



Connecting Up	9
Acoustic Inputs	9
Bug/Pad Inputs	9
FX Loop	9
Send	9
Return Left & Right	11
Mix Outputs	11
Left/Mono & Right	11
MIDI	11
MIDI In	11
MIDI Out	11
MIDI Thru	11
A Typical Setup	11



Getting Started	13
Power Up	13
User Controls	13
Displays	13
Buttons	14



Mixer	15
Drum Channel Controls	15
Acoustic Gain	15
Digital Tuning	15
Acoustic/Digital Mix	15
FX Send	15
Level	15



Learning the Inputs	20
Using Learn™	22
Selecting the Drum Channel	22
Learning the Profile	23



Using Kits	25
Selecting Kits	26
Trigger Status	27
AutoTrigger	27



Using Reverb	28
Selecting the Reverb Type	28



Using MIDI	30
MIDI Input	30
MIDI Output	30
MIDI Note	32
Selecting the Drum Channel	32
Selecting a Drum's MIDI Note	33
Easy Note Assign	33
MIDI Channel	34
Accessing the MIDI Channel	34
Selecting the MIDI Channel	35
MIDI Omni Mode	36
Accessing Omni Mode	36
Turning Omni On or Off	37



Appendix	38
MIDI Implementation Chart	38
Default Settings	39
Specification	40



CONCEPT

TRIXER

Trixer is a *Triggered Mixer*. Each of its 6 Mixer Channels has a Digital Drum Sample which is replayed when triggered by an Acoustic signal. Mixing these Acoustic and Digital sounds together Trixer produces 'Acoustic Drum Reinforcement', containing all the subtle nuances of Acoustic skins combined with the power and depth of Digital Samples.

Trixer actually comprises four sections :

- An Acoustic/MIDI Trigger Interface
- A Sampled Drum Voice Module
- A Mixer
- A Digital Reverb

The Acoustic Trigger section allows you to connect Drum mic's or bugs directly to the Trixer. Using Simmons' unique Learn™ facility, Trixer can analyse the envelope profiles of your Acoustic Drums then automatically compute the optimum trigger settings for its on-board Digital Drum Samples. A MIDI interface allows you to connect additional MIDI instruments.

Each Digital Sample is derived from the SDX sound library. These Samples can be pitched plus or minus a fifth, allowing you to tune to your Acoustic Kit. Four different Digital Drum Kits are built in, with access to others via convenient Memory Cards.

The Mixer lets you blend these dynamic Digital sounds with the original sound of your Acoustics. Each Channel has an Acoustic/Digital balance control and overall level controls to adjust the reinforced mix.

Last, but not least, the built-in Digital Reverb lets you place your hybrid Kit in a variety of room simulations, ranging from a cupboard to an auditorium. Reversed and Gated effects can also be produced or, using the FX Loop, you can connect other external treatments.

Welcome to Trixer, Acoustic Drum Reinforcement for the drummer who likes the best of both worlds ...



PACKING LIST

SUPPLIED

After unpacking your Trixer, check that you have been supplied with the following components :

- 1 Trixer Console
- 1 Left-hand Rack Mount Bracket
- 1 Right-hand Rack Mount Bracket
- 1 Mains Lead
- 1 Trixer User Manual

OPTIONAL

The following options are available for the Trixer and can be supplied by your Simmons Dealer :

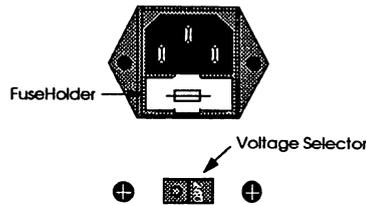
6 Acoustic Trigger Bugs	STB6
Simmons Piezo Pads	SPM1
Trixer Memory Card	TMC
Leads	



BEFORE YOU START

SELECTING THE CORRECT VOLTAGE

Before you do anything check that the voltage selector, located under the mains socket inlet indicates that the correct voltage setting has been selected for your area.



240V - UK, Europe & Australia
120V - USA, Canada & Japan

The current Voltage setting is shown on the body of the switch. If it is incorrect for your area it can be changed as follows ...

- Remove the IEC mains lead from the socket.
- Insert a small, pointed instrument, such as a pen or pencil into the circular indent in the switch.
- Slide the switch until the correct legend is showing.
- Insert a small, flat-bladed screwdriver into the slot between the socket cavity and the Fuseholder and lever the Fuseholder free.
- Check that a Fuse with the correct rating has been fitted.
- Push the Fuseholder fully home.

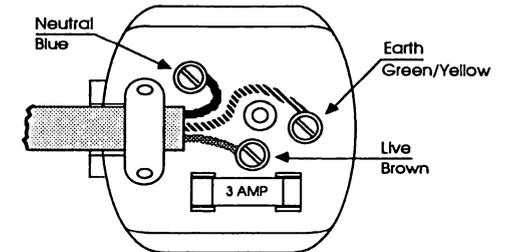
The Fuseholder has a small compartment, behind the legend, which you can use to hold a spare Fuse.

CONNECTING TO THE MAINS

European Mains voltages

Connect an appropriate mains plug to the mains cable according to the following colour code.

Brown - Live
Blue - Neutral
Green/Yellow - Earth (Ground)



CHANGING THE FUSE

The Fuse is located in a holder under the IEC connector. If you have to replace the Fuse for any reason, make sure that you replace it with the correct rating.

500mA(T) Anti-Surge

Replace the Fuse as follows ...

- Remove the IEC mains lead from the socket.
- Insert a small, flat-bladed screwdriver into the slot between the socket cavity and the Fuseholder and lever the Fuseholder free.
- Replace the blown Fuse with a new one.
- Push the Fuseholder fully home.
- Make sure that the Voltage selector switch indicates the correct setting for your area.

If the Fuse blows repeatedly, refer the unit to your local Simmons Service Centre.

LOOKING AFTER TRIXER

Trixer is a computer-based instrument and as such should be treated with care. A few simple rules, if followed, will avoid problems in the future.

Try and use a clean power source, away from equipment that may produce transient spikes through the mains, i.e. electric motors, heavy switch gear etc. These are unsympathetic to electronic music products.

Trixer is supplied with a three core power lead. Make sure that the instrument is always Earthed, by connecting to a grounded AC power source.

Do not place the Trixer on top of speaker cabinets or amplifiers which might subject it to excessive vibration or heat.

Do not subject the Trixer to sudden shocks, such as dropping it !



CONNECTING UP

Trixer interfaces with the world through the sockets situated on the Rear Panel. A detail of this Panel is shown on the following page.

ACOUSTIC INPUTS

Six Acoustic Inputs allow signals to be connected from Acoustic sources ranging from Drum Mics to Line level signals. The Acoustic Gain control on the Drum's channel allows the gain of each input to be adjusted to cater for these inputs.

The Learn™ facility is used to create a clean trigger from each Acoustic signal. See page 20 for more information.

All 6 inputs are 1/4" Mono Jacks.

BUG/PAD INPUTS

Another Six Inputs are provided for Bugs or Simmons Pads. Bugs should be used with mics to create a trigger from your Acoustic Drums in situations with high ambient noise, such as at a live performance. At smaller venues you can use Bugs instead of mics, mixing the Trixer's Digital Drums with the natural level of your Acoustics. Alternatively, connect Simmons Piezo Pads to any of these inputs to trigger Trixer's Drums without any Acoustic signal.

Connecting a Bug or Pad will disconnect the equivalent Acoustic Input from the Learn™ processor, but will leave it in the mix.

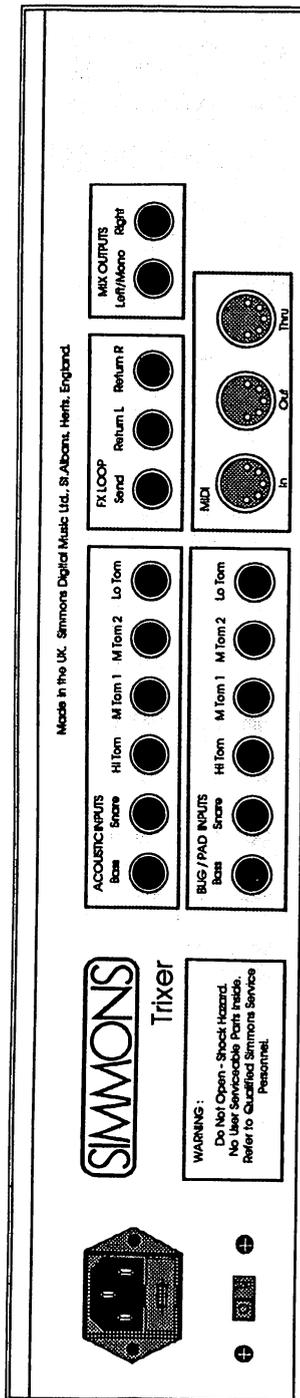
All 6 inputs are 1/4" Mono Jacks.

FX LOOP

SEND

The Pre-Fader Send signal is normally fed to the internal Reverb. This can, however, be connected to an external Effects Unit. When a jack is inserted the internal Reverb is connected Post-Fader so that an overall ambience can still be added to the mix.

Send Output is a 1/4" Mono Jack.



Creative Use of Trixer

RETURN LEFT & RIGHT

Stereo Returns from an external Effects Unit can be connected into the mix through these inputs. The level of the returned signals can be adjusted using the FX Return controls on the front panel.

Both Inputs are 1/4" Mono Jack.

MIX OUTPUTS

LEFT/MONO & RIGHT

Stereo Output is available from the two Mix sockets, Left and Right. Connecting to the Left Output only provides a Mono mix. When another jack is inserted into the Right, individual Left and Right signals are produced.

Both Outputs are 1/4" Mono Jacks.

MIDI

MIDI IN

Connecting a MIDI instrument to MIDI In allows the Trixer Drums to be triggered from MIDI Notes. Trixer's Kits will also be selected when Program Changes are received.

MIDI OUT

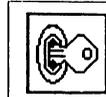
When any of the Drums are triggered a MIDI Note is transmitted from this socket. When Kits are selected MIDI Program Changes are transmitted.

MIDI THRU

MIDI Thru provides a buffered version of the MIDI In data, allowing Trixer to be connected in a chain of MIDI instruments, all receiving data from one master unit.

A TYPICAL SETUP

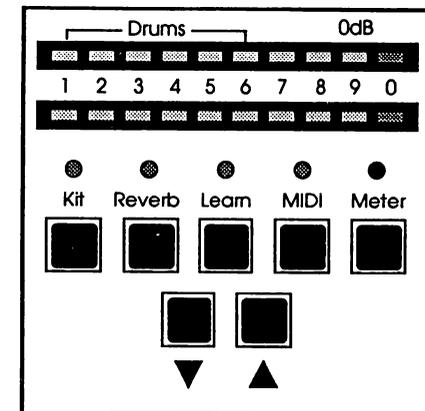
The diagram on the next page shows how Trixer would be connected in situation where a full Acoustic Kit was both Miked and Bugged. Trixer's versatile Trigger inputs allow several variations of this setup to be created. Kits can be only Miked or only Bugged, or have a combination of Mics, Bugs, Simmons piezo Pads and MIDI Trigger sources.



GETTING STARTED

POWER UP

Once you have connected up your Acoustic Inputs and the Mix Outputs, connect Trixer to the mains and power-up. All of the LED's in the Control Panel should come on for a short period, then go off leaving two LEDs on, one in each bar. These indicate the Trixer's Software Version and will go out, leaving only the Meter LED on, after another short delay.

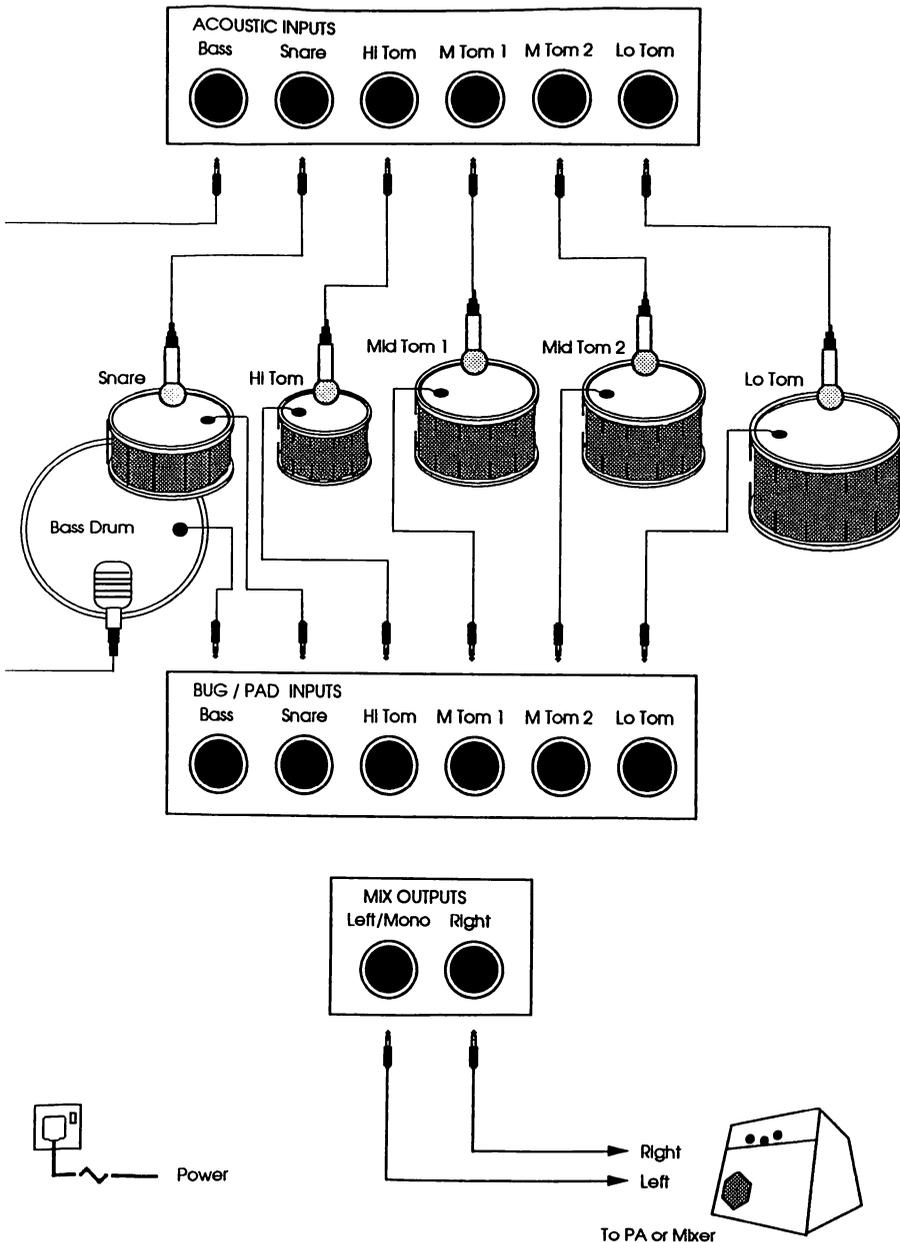


USER CONTROLS

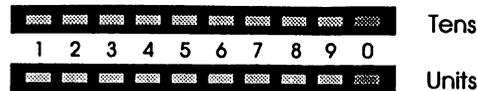
DISPLAYS

The two Bar-graph displays are used as level indicators for Left and Right channels or to show all numeric information in Kit, Reverb, Learn or MIDI modes.

The current mode is displayed by a single LED above each switch. We are currently in Meter mode, indicated by the lit Meter LED. In this mode the display acts like a cassette deck meter, indicating the output level of the Left and Right channels. The upper bar shows the Right-hand channel while the lower bar shows the Left-hand channel.



When Kit, Reverb, Learn or MIDI modes are selected the Bar-graphs are used to display numbers from 1 to 99. To make up a two digit number, the lower bar shows the units digit from 1 to 9, while the upper bar shows the Tens digit from 1 to 9. Therefore any number from 1 to 99 can be represented by one LED on in each bar.



BUTTONS

Five buttons allow access to all of Trixer's functions ...



KIT

Allows the current Kit and Trigger status to be viewed. Any one of the 4 Digital Drum Kits can be selected. If a Trixer Memory Card is inserted, additional Kits can be accessed.



REVERB

Allows the current Reverb Type to be viewed and any one of the 30 Reverb Types to be selected.



LEARN

Allows Trixer to Learn the Profile, or Envelope Shape, of any one of the 6 Acoustic or Bug Inputs.



MIDI

Allows the current MIDI Note for each Drum and the MIDI Channel for the instrument to be viewed and selected.



METER

Enables the Stereo Level Meter.



UP/DOWN

The two buttons below the main group are the Up and Down buttons. These are used for all numeric entry in Kit, Reverb, Learn and MIDI modes. They auto repeat if you hold either button down for more than a second.



USING THE MIXER

At first glance the Trixer looks very much like a normal acoustic Mixer. However, there are several features which differ from conventional machines. A detail of the Front Panel is shown on the following page.

DRUM CHANNEL CONTROLS



ACOUSTIC GAIN

The Acoustic Gain can be adjusted, allowing signals ranging from line to mic level to be matched. Adjust the level so that the clip LED comes on briefly for maximum input.



DIGITAL TUNING

Digital Tuning allows the pitch of the Drum Sample to be adjusted. When the control is in the middle of its range the Drum will playback at its normal pitch. Adjusting the Tuning allows the pitch to be increased or decreased by up to seven semitones, or a fifth.



ACOUSTIC / DIGITAL MIX

The Acoustic/Digital Mix allows the signal from the Acoustic Input to be mixed with the Digital sample. Turning the control fully anti-clockwise results in an all-acoustic sound while turning the control fully clockwise results in an all-digital sound.



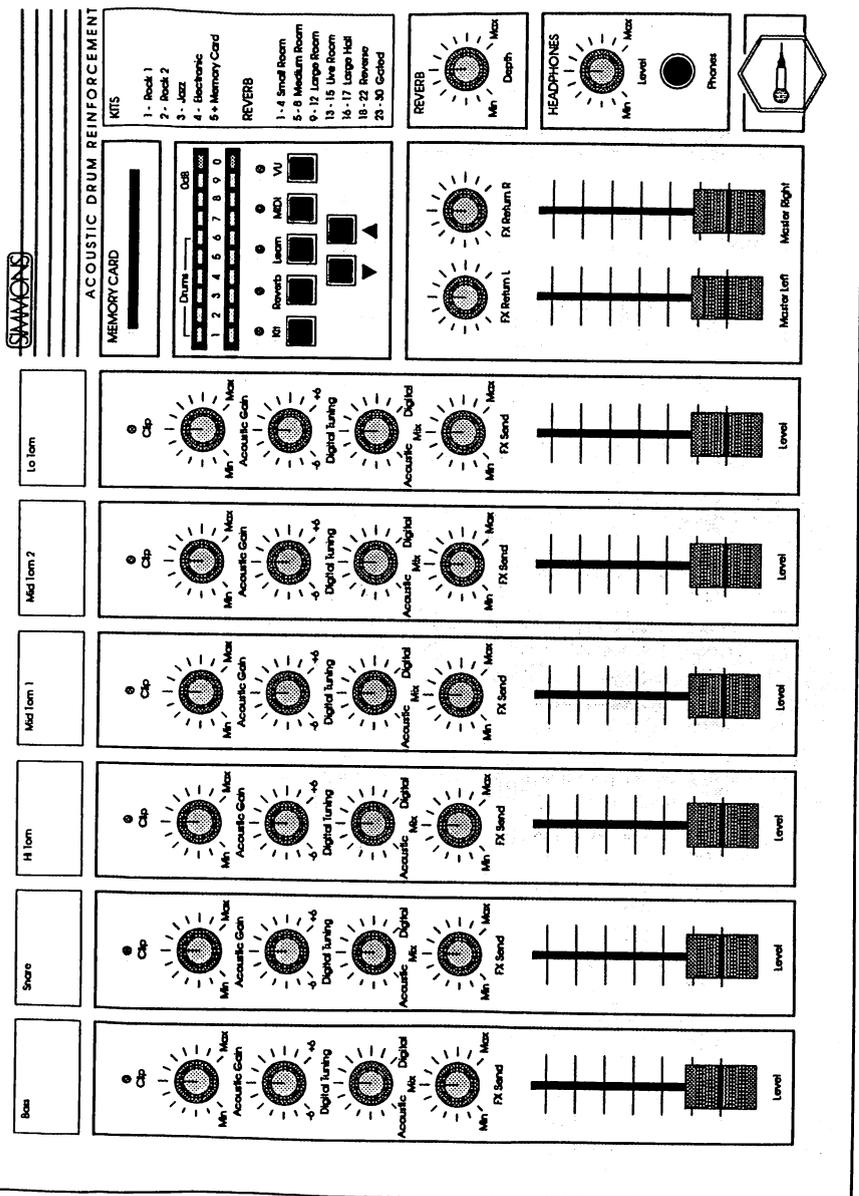
FX SEND

FX Send is connected pre-fader allowing the amount of Acoustic/Digital mix sent to the internal Reverb to be adjusted for each Drum regardless of the level mix. This signal can be sent to an external Effect by connecting to the Send output on the rear panel. Remember that inserting a jack into the Send socket will disconnect the pre-fader signals from the Internal Reverb.



LEVEL

The overall level of the Acoustic/Digital Drum in the mix can be adjusted by the Level Slider.



MASTER CONTROLS



FX RETURNS

Stereo signals returning from an external Effects unit can be connected to the FX Returns on the rear panel. The Left and Right FX Return controls adjust the amount of Effect to be added to the mix. These inputs could also be used to add other instruments into the mix.



MASTER LEFT & RIGHT

The overall Stereo output is controlled by the Master Left and Right sliders.



REVERB DEPTH

Stereo Reverb can be added using the Depth control. This is a stereo control adjusting the Left and Right outputs of the Reverb together.



HEADPHONE LEVEL

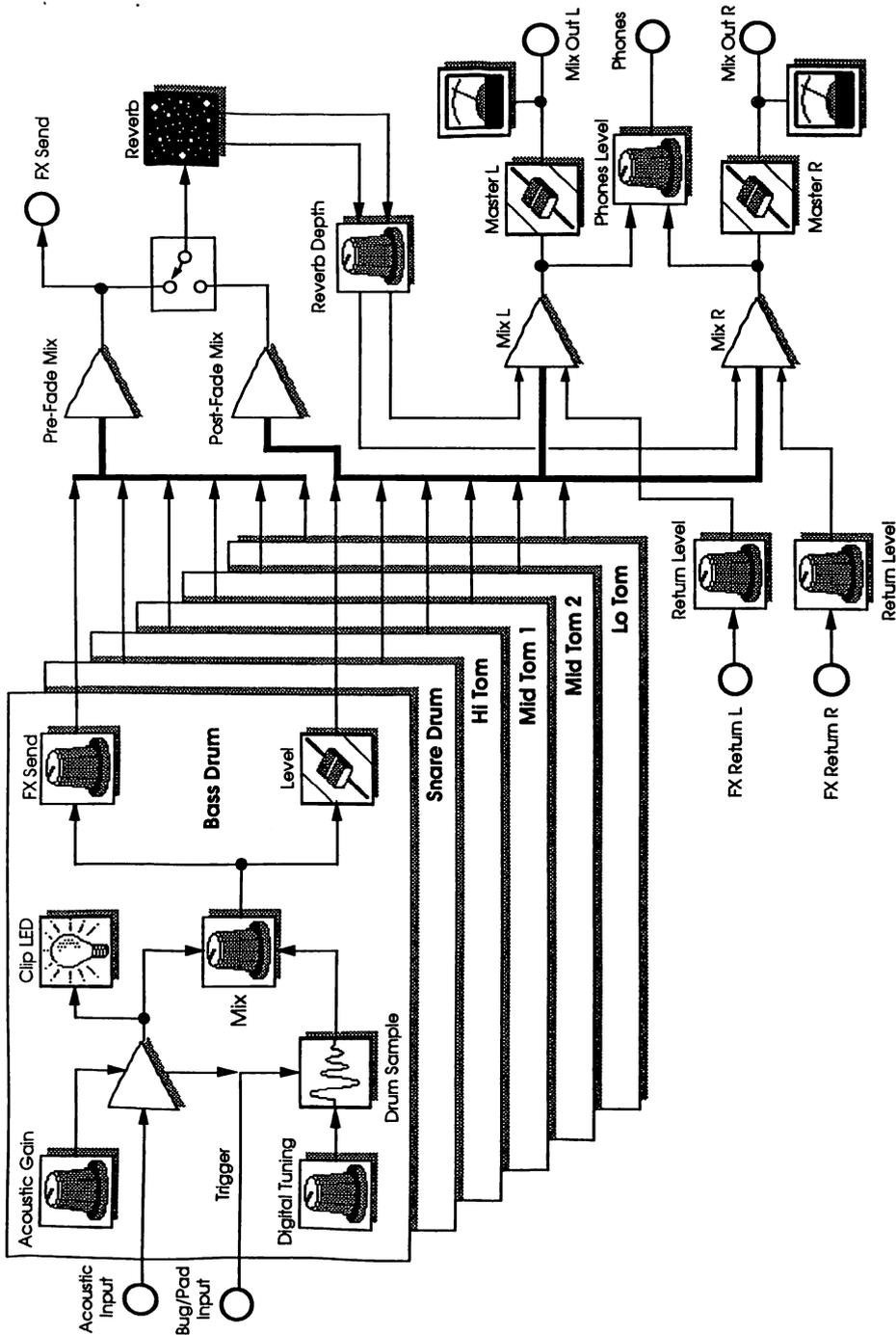
The Headphone volume can be adjusted using Level. This is a stereo control adjusting the Left and Right channels together.

PHONES

Stereo Headphones can be connected to this socket allowing you to listen to the Trixer without external amplification or to monitor the pre-master fader mix. High impedance (600Ω) headphones such as those found on 'Walkmans' are recommended. Ideally use Headphones designed for Digital or CD reproduction.

MEMORY CARD

A slot above the Control Panel allows a Memory Card to be inserted into Trixer. Memory Cards are a convenient, yet robust way of storing Digital sounds. Each Memory Card can hold 6 Drum Samples, one for each channel, and two Kit setups. Trixer will recognise when a Card has been inserted and allow the additional Kits to be selected in Kit mode. Contact your Simmons Dealer for the latest details about the Trixer Memory Card library.



MIXER OVERVIEW

The diagram opposite provides a graphic overview of the Mixer. The six Drum channels are identical except for their Digital Samples and therefore only one, the Bass Drum, is shown in detail.

DRUM COMPONENTS

Acoustic Inputs are first amplified by the mixer pre-amp before reaching the Acoustic/Digital Mix control. The level of this signal is set by the Acoustic Gain control with the Clip LED providing an indication of possible distortion.

The signal from the Acoustic pre-amp to the Drum Sample is the Trigger path. If there is nothing connected to the Bug/Pad Input the Acoustic Input will be processed by the Learn™ circuitry to create a clean Trigger for the Drum Sample. If a Bug or Pad is connected to the Bug / Pad Input, the Trigger from the Acoustic signal will be disconnected. The Learn™ processor will now create a Trigger from the Bug / Pad signal. The Acoustic signal is still present in the mix so that a Drum can be Miked and Bugged. The Digital Tuning control sets the playback pitch of the Drum Sample.

The balance between Acoustic and Digital signals is set by the Acoustic/Digital Mix control. This mix is available at the channel's FX Send and Level controls.

FX LOOP

The Pre-Fade Mix comprises of the FX Sends for each of the 6 Drum Channels, which is normally sent to the Internal Reverb. If a jack is inserted into the FX Loop Send socket, the input to the Reverb will be re-directed to a Post-Fade Mix. This allows you to connect an external Effects unit, but still have the use of the Internal Reverb. Stereo Returns from an external unit are connected via the FX Return Left and Right sockets. The level can be set by the FX Return controls.

MASTER MIX

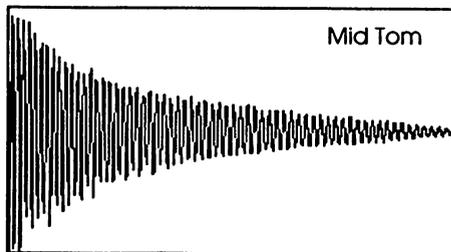
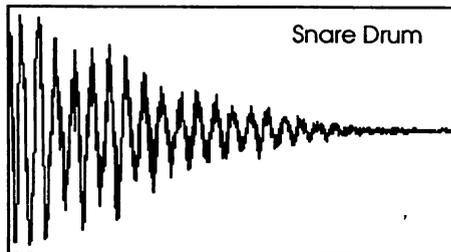
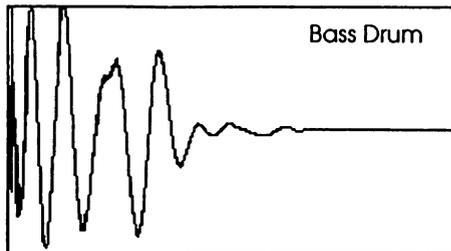
The final mix comprises of the Drum Channels, Internal Reverb Returns and FX Returns. The panning of the Drums is preset with Bass and Snare in the centre and the Hi to Lo Toms arranged from Left to Right. The Master Left and Right sliders control the Stereo Output.



LEARNING THE INPUTS

Before you can Trigger the Trixer you must Learn™ the Acoustic or Bug / Pad Inputs. To understand the problems involved in Triggering from an Acoustic Drum it is necessary to look at the waveforms created when a Drum is hit.

The following diagrams show what the waveforms of a Bass Drum, Snare and Mid Tom look Like ...



Imagine a line drawn from start to finish, enclosing each waveform. This would define the envelope shape of the Drum. The Bass Drum would have a very short envelope with a fast decay, the Snare would be slightly longer and the Tom longer still, with a more gradual decay.

To Trigger a Digital Sample we only really need to know when the Drum was hit and how hard, so that the Digital Drum can be started when the Acoustic Drum starts and with the same Dynamic control.

The problem is complicated by the chance of the Acoustic Drum being hit again before it has finished its natural decay. Such as in the case of a Flam or Drum roll. Therefore to Trigger correctly we have to follow the Acoustic Drum's envelope for the duration of the sound, making sure that the Digital Drum is not Triggered unless a new hit is detected.

With previous Drum Triggering equipment this has been a hit or miss affair (no pun intended!) Many complicated parameters would have to be adjusted through trial and error to create a reasonable Trigger for just one Drum.

Simmons have considerable experience in Triggering and have been researching into ways of simplifying the Acoustic Triggering nightmare. Learn™ is the result of this research and represents a significant leap in Triggering technology.

The Learn™ processor allows Trixer to produce a reliable Trigger quickly and easily, by automatically matching the signal level and then 'Learning' the Profile, or Envelope Shape, of the Acoustic signal.

The process is very similar to Sampling, only we are concerned with the overall shape of the Sample, not the waveform itself.

You simply select the Drum you wish to Learn, 'arm' the processor and then hit the Drum with what you consider to be your maximum dynamic. Trixer will immediately adjust the Learn gain so that this dynamic represents the maximum Digital Drum dynamic and then analyse the Acoustic signal for the duration of the sound. By hitting the Acoustic Drum with different dynamics you effectively adjust the Trigger Sensitivity.

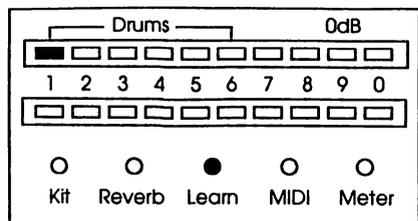
Once this has been done the Learn processor can reconstruct the envelope shape numerically every time the same Acoustic Drum is hit and compare its reconstruction to the incoming waveform. If the level is greater than the 'learned' value, this will be treated as a new hit and the Digital Drum will be re-triggered.

USING LEARN



Learn

To activate the Learn processor, press the Learn button.



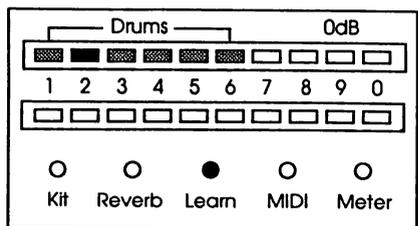
The LED lights indicating Learn mode and the current Drum LED is lit. Note that no sound will be generated and no MIDI is transmitted in Learn mode.

SELECTING THE DRUM CHANNEL

When the Learn button is first pressed you can select the Drum Channel you wish to Learn.



Press the Up or Down buttons to step to the required Drum, from 1 to 6.



The Drums are listed as 1 to 6 but represent the Channels as follows :

- 1 Bass
- 2 Snare
- 3 Hi Tom
- 4 Mid Tom 1
- 5 Mid Tom 2
- 6 Lo Tom

The Drum Channel you choose will be retained as the current Drum throughout all of the Trixer's modes.

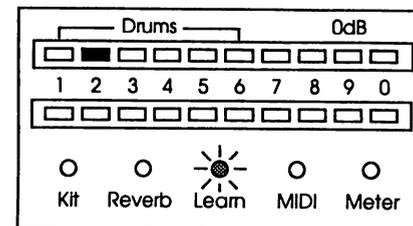


LEARNING THE PROFILE

Once you have selected the Drum Channel you can Learn it's Envelope Shape.

Learn

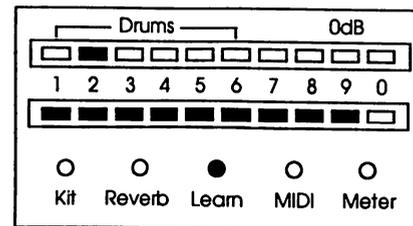
When the Learn button is pressed a second time the Profile Learn is armed. Pressing any of the other buttons will abort the Learn if you wish.



The Learn LED flashes indicating that Trixer is waiting for an acoustic signal to Learn.



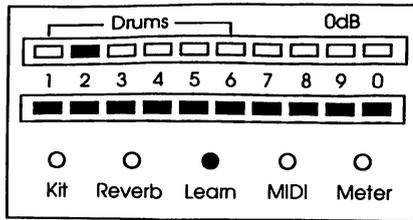
When a hit is received from the selected Drum, in this case the Snare, the Profile Learn is activated.



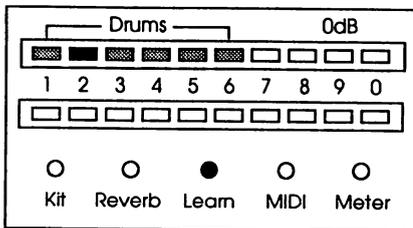
If the hit was good all of the green LEDs on the lower bar-graph will light while the Profile of the hit is analysed and reconstructed numerically. This takes around 2 seconds. Once the computation has finished the display will go to Kit mode, allowing you to try the new Trigger.

Repeat the Learn process for each of the Acoustic Inputs you have connected.

If the Gain is too high, causing the signal to clip during the Learn period, the red LED will light in addition to the green LEDs, indicating an error.



This Learn will be aborted and the display will return to the Drum Channel level waiting for a new hit.



This should only happen when using Acoustic Inputs with the gain set too high. Reduce the Acoustic Gain setting on the corresponding Drum Channel and hit the Drum again. Repeat if necessary to obtain a good Learn.

NOTE :

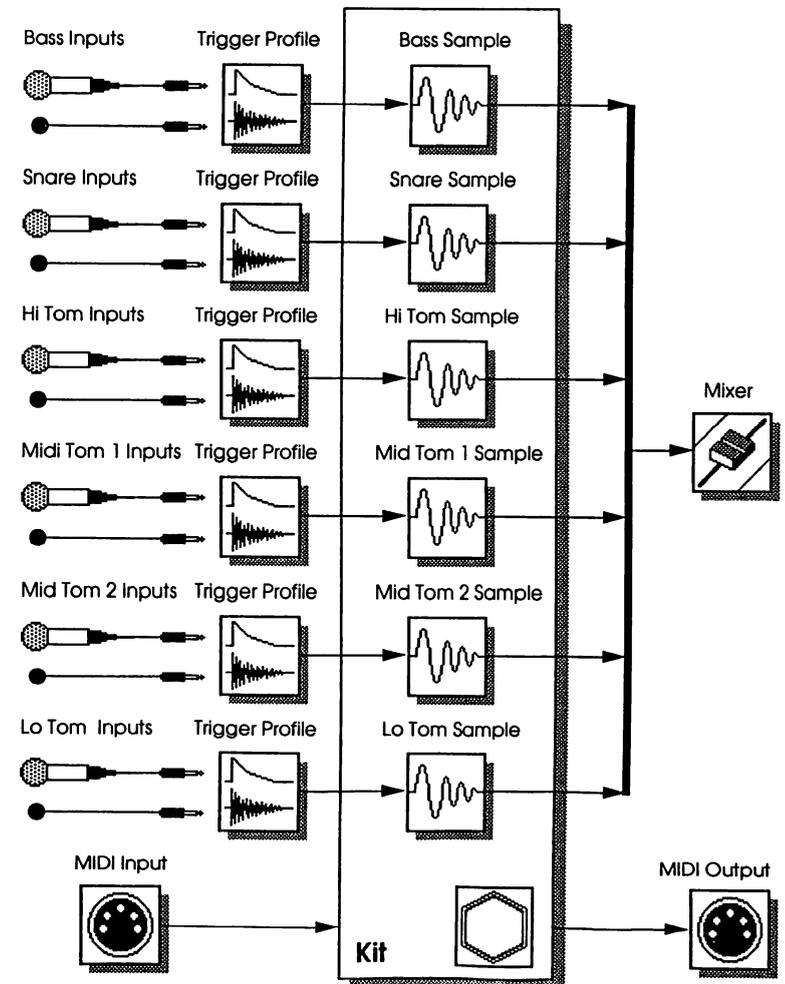
All Learn data is retained for each of the Drum Channels. However, every time you change the Trigger source, move the miking position, or even the venue you will change the shape of the Acoustic signals and therefore have to re-learn the profiles.



USING KITS

A Kit is basically a collection of 6 Digital Samples, one for each of the Drum Channels. The diagram below shows a Kit with it's Drum Samples.

Each Sample in the Kit is Triggered by it's own profile. These Trigger Profiles are produced by Learning each Acoustic or Bug / Pad Input as discussed in the last section. The audio output of each Sample is connected to the Mixer as described in the Drum Mixer section.



Using Kits

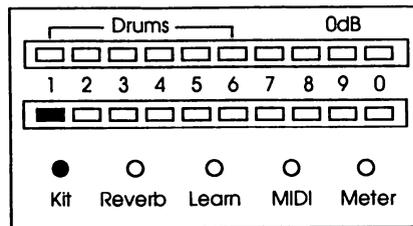
Trixer's Kits can also communicate with MIDI Instruments. Drum Samples can be Triggered from MIDI Notes and Kits can be selected from MIDI Program Changes received at MIDI In. Conversely MIDI Notes will be transmitted from MIDI Out when a Drum Sample is Triggered and MIDI Program Changes will be transmitted when Kits are selected. See the MIDI section (page 30) for further details.

SELECTING KITS



Kit

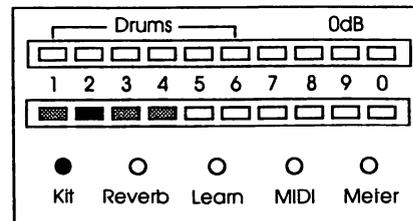
To activate Kit mode, press the Kit button.



The LED lights indicating Kit mode and the current Kit is displayed, in this case Kit 1. Trixer always retains the current kit on power-down.



Any of the 4 preset Kits can now be selected. Press the Up or Down buttons to step to the required Kit.



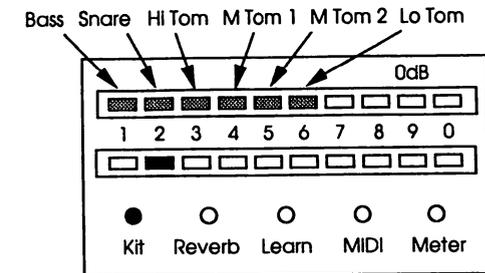
If a Memory Card is inserted you will be able to select additional Kits, displayed as numbers 5 onwards. The number of Kits available is printed on the Card's label.



Try playing the different Kits from your Acoustic Drums.

TRIGGER STATUS

When a Drum is Triggered the corresponding LED lights in the upper bar-graph. You may find this useful to confirm which Drum Channel you are playing.



AUTOTRIGGER

If you wish to trigger the 6 Drums in each Kit, without playing them, you can use Trixer's AutoTrigger facility. This can be useful when setting up the Trixer in a live situation, since you can hear what the mix sounds like in front of the PA.



Press and hold the Meter button then press Up and Down together. The AutoTrigger will start to Trigger each drum in turn at a preset rate.

Return to Kit mode to select different Kits.

Repeating the Meter/Up/Down combination will switch off the AutoTrigger.

USING REVERB

Trixer has an internal Digital Reverb unit allowing you to add room simulation and other Stereo effects to your Acoustic / Digital Drums. A 16 bit DSP circuit provides this Reverb with a range of 30 high-quality effects.

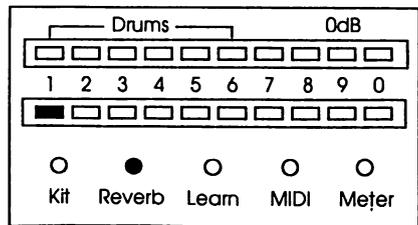
The FX Send control in the Drum Channel allows the level of each reinforced Drum to be set. A mono mix of all the Drum Channels is connected to the Reverb Input. If a jack is inserted into the FX Loop Send socket this input will be removed from the pre-fader mix and connected post-fader. This allows the Trixer's Reverb to be used as well as an external effects unit. (See the Mixer section for more details).

The Stereo output of the Reverb is connected to the final mix via the Reverb Depth control. This ganged control adjusts the amount of Reverb added to the final mix.

SELECTING THE REVERB TYPE

Trixer always powers-up with the last Reverb Type used. To view the current setting or select another Reverb Type press the Reverb button.

Reverb

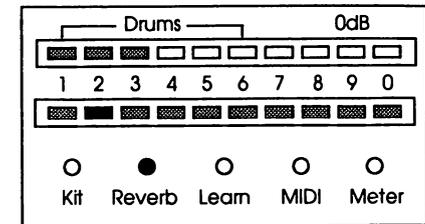


The LED lights indicating Reverb mode and the current Reverb Type is displayed, in this case 1 or Small Room.

To hear the effect of this Stereo Reverb setting adjust the FX Sends on the Drums you wish to include in the Reverb mix and increase the Reverb Depth until the desired level is created.



Any of the 30 Reverb Types can now be selected. A list of each of the 7 groups is printed next to the Control Panel. Press the Up or Down buttons to step to the required Reverb Type, from 1 to 30.



Here is a description of the 30 Types ...

Small Room	Large Hall
1 500mS Decay	16 15.0 Sec Decay
2 800mS Decay	17 20.0 Sec Decay
3 1 Sec Decay	
4 1.2 Sec Decay	Reverse
Medium Room	18 100mS Yaced
	19 150mS Yaced
5 1.6 Sec Decay	20 300mS Yaced
6 1.8 Sec Decay	21 400mS Yaced
7 2.2 Sec Decay	22 600mS Yaced
8 2.8 Sec Decay	
	Gated
Large Room	
	23 100mS Gate
9 3.0 Sec Decay	24 150mS Gate
10 4.0 Sec Decay	25 200mS Gate
11 6.0 Sec Decay	26 250mS Gate
12 10.0 Sec Decay	27 300mS Gate
	28 350mS Gate
Live Room	29 450mS Gate
	30 500mS Gate
13 4.0 Sec Decay	
14 6.0 Sec Decay	
15 10.0 Sec Decay	

Experiment with combinations of the Kits and Reverb Types with different Depth settings.





USING MIDI

Trixer's MIDI interface allows MIDI controllers to Trigger Trixer's Drum Samples or, MIDI voices to be Triggered from Acoustic Drums via the Learn processor.

MIDI INPUT

The diagram opposite shows graphically how the MIDI Input interfaces with Trixer's Drum Samples.

All MIDI Input is buffered and connected to the MIDI Thru socket. This allows Trixer to be part of a MIDI chain with several instruments receiving information from one Master unit.

MIDI data received at the MIDI Input is first routed by the Omni Mode switch. If Omni Mode is On data will be connected directly to the Note and Program Change filters. If Omni Mode is Off the data has to pass through the Channel filter. This will block all MIDI data other than that on the Trixer's current MIDI Channel.

Once the data reaches the Note and Program Change filters it will be compared against the Trixer's MIDI Notes and Kit Numbers. If an incoming MIDI Note matches one of the Trixer's Notes, the corresponding Drum Sample will be Triggered. If an incoming MIDI Program Change matches one of Trixer's Kit numbers, the corresponding Kit will be selected. All other incoming MIDI data is ignored.

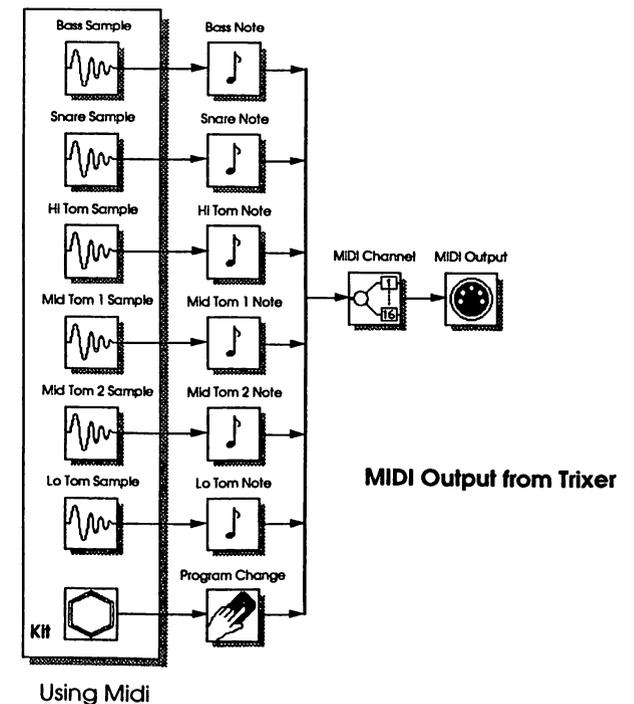
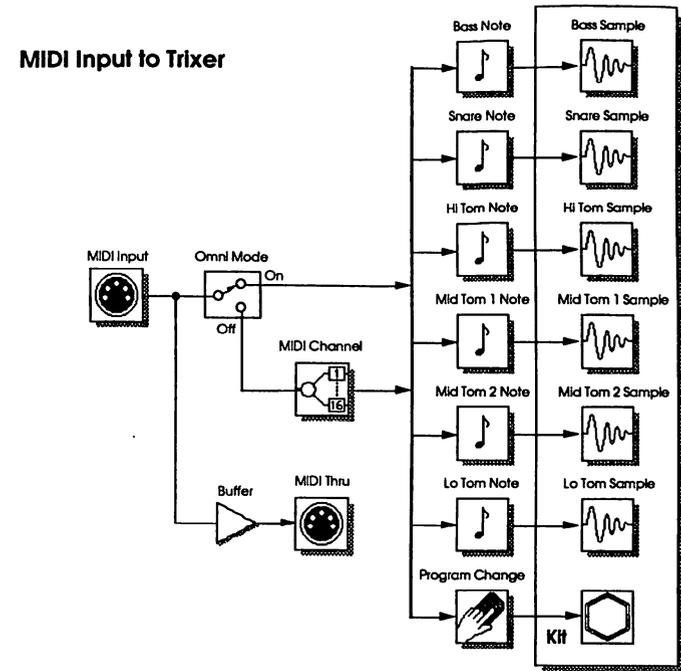
MIDI OUTPUT

The lower diagram shows graphically how Trixer's Drum Samples interface with the MIDI Output.

A MIDI Note will be transmitted when any of the Drum Samples are Triggered by the Learn Profile. Each Drum Channel has its own assignable MIDI Note.

A MIDI Program Change will also be transmitted when one of Trixer's Kits is selected.

Both MIDI Notes and Program Changes are assigned the instrument's MIDI Channel before being sent out of the MIDI socket. This is called the Transmit Channel.



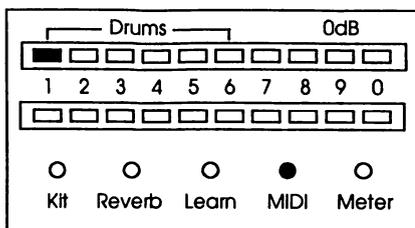


MIDI NOTE

Trixer always retains the last MIDI Notes selected on power-down. To view these Notes or to select other values, press the MIDI button.



MIDI



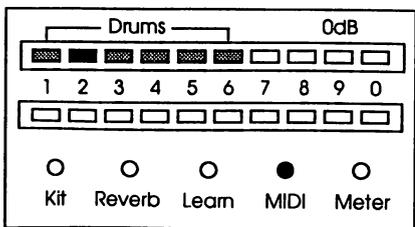
The LED lights indicating MIDI mode and the current Drum Channel is displayed.

SELECTING THE DRUM CHANNEL

When the MIDI button is first pressed you can select the Drum Channel you wish to view, or assign, its MIDI Note.



Press the Up or Down buttons to step to the required Drum Channel, from 1 to 6.



The Drum Channel you choose will be retained as the current Drum throughout all of the Trixer's modes.

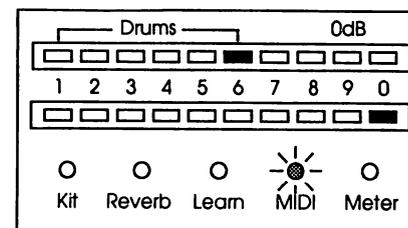
SELECTING A DRUMS MIDI NOTE

Once you have selected the Drum Channel you can view and adjust it's MIDI Note.



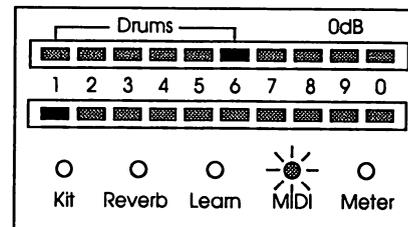
MIDI

When the MIDI button is pressed a second time the MIDI Note is accessed.



The MIDI LED flashes indicating that you are at the next level of the MIDI mode. The MIDI Note for the current Drum is displayed, in this case 60 or C3.

Press the Up or Down buttons to adjust the value of the MIDI Note, from 1 to 99.



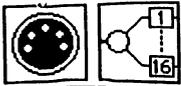
EASY NOTE ASSIGN

If a MIDI Note is received while Trixer is in this mode, the display will be updated with the value of the incoming Note. This allows you to 'Learn' the values of any MIDI Instrument connected, and assign MIDI Notes to each Drum Channel quickly and easily. The Trixer's MIDI Channel will also be set to the Channel on which the Note was received.



MIDI

Pressing MIDI again returns you to the Drum Channel level, allowing another Drum to be selected or the MIDI Channel to be accessed.

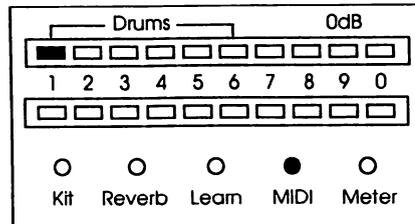


MIDI CHANNEL

Trixxer always retains the last MIDI Channel selected on power-down. To view that Channel or to select another, press the MIDI button, if you are not already in MIDI mode.



MIDI

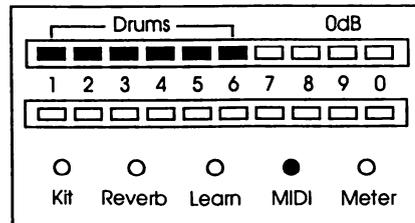


The LED lights indicating MIDI mode and the current Drum Channel is displayed.

ACCESSING THE MIDI CHANNEL



Pressing the Up button will step through each of the Drum Channels as before. This time, however, press the Up button once beyond the 6th Drum Channel.



All 6 Trigger Channel LED's will light. This indicates that you can now access the MIDI Channel for the instrument.

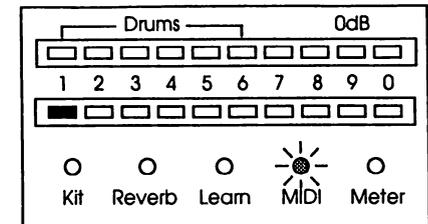
SELECTING THE MIDI CHANNEL

When all 6 Drum LED's are lit you can view and adjust the MIDI Channel.



MIDI

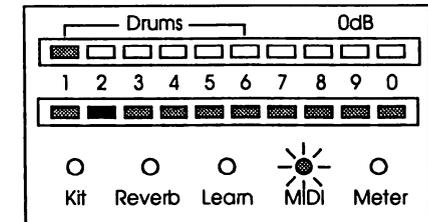
When the MIDI button is pressed a second time the current MIDI Channel is displayed.



The MIDI LED flashes indicating that you are at the next level of the MIDI mode. The MIDI Channel is displayed, in this case the instrument is on Channel 1.



Press the Up or Down buttons to adjust the value of the MIDI Channel from 1 to 16.



MIDI

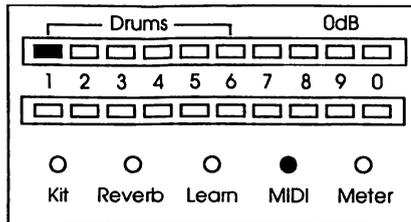
Pressing MIDI again returns you to the Drum channel level, allowing a Drum to be selected or the MIDI Omni mode to be accessed.

OMNI MODE

Trixer always powers-up with Omni Mode On, that is, MIDI will be recognised on any MIDI Channel. To turn Omni Mode Off, press the MIDI button, unless you are already in MIDI Mode.



MIDI

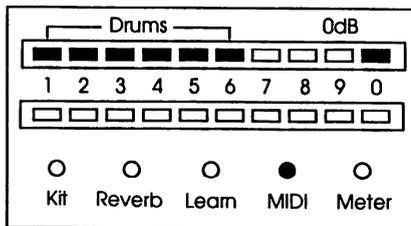


The LED lights indicating MIDI mode and the current Drum Channel is displayed.

ACCESSING OMNI MODE



Pressing the Up button will step through each of the Drum Channels as before. This time, press the Up button twice beyond the 6th Drum Channel.



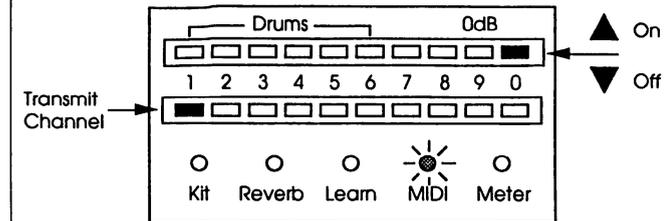
Drum Channel LED's 1 to 6 and the red 0 LED will light. This indicates that you can now access the MIDI Omni Mode.

TURNING OMNI ON OR OFF



MIDI

When the MIDI button is pressed a second time, the current status of the Omni Mode is displayed.



The MIDI LED flashes indicating that you are at the second level of the MIDI mode. The 0 LED indicates the status of Omni mode and the MIDI Channel is displayed, in this case Channel 1.

If Omni is Off this is the Transmit and Receive Channel. If it is On this will be the Transmit Channel only, since MIDI will be received on any Channel.

Press the Up or Down buttons to turn Omni On or Off.



MIDI



Pressing MIDI again returns you to the Drum Channel level, allowing a Drum to be selected or the MIDI Channel to be accessed.



APPENDIX

MIDI Implementation Chart

Date : Sept 1988
Version : 1.0

MODEL : Simmons Trixer

Function...	Transmitted	Recognized	Remarks
Basic Channel Default Channel	1 to 16.	Omni 1 to 16.	
Mode Default Messages Altered	No No No	Omni No Poly	Receve Channel can be Omni or 1 to 16.
Note Number True Voice	1 to 99 per Drum. N/A.	1 to 99. N/A.	Notes received are also used for easy MIDI Assignment.
Velocity Note ON Note OFF	Yes Yes, Note ON velocity 0.	Yes No	Note OFF sent after preset Duration of 100mS.
After Touch Key's Ch's	No No	No No	
Pitch Bender	No	No	
Control Change	No	No	
Prog Change True #	Yes, 0 to 5 Kits 1 to 6.	Yes, 0 to 5 Kits 1 to 6.	
System Exclusive	No	No	
System Common : Song Pos : Song Sel : Tune	No No No	No No No	
System Real Time : Clock : Commands	No No	No No	
Aux Messages : Local ON/OFF : All Notes Off : Active Sense : Reset	No No No No	No No No No	
Notes	Trixer's Drum Samples are triggered by MIDI Notes on the selected MIDI Channel, they cannot be pitched from MIDI.		



DEFAULT SETTINGS

When Trixer is supplied from the Simmons factory it should have the following default settings ...

Kit	1	Rock 1
Reverb	1	Small Room 500mS Decay
MIDI Notes	Bass	36 (C1)
	Snare	38 (D1)
	Hi Tom	48 (C2)
	Mid Tom 1	47 (B1)
	Mid Tom 2	45 (A1)
	Lo Tom	43 (G1)
MIDI Channel	1	
Omni Mode	On	
Drum Channel	Bass	
Learn Parameters	Simmons Piezo Pad	

INITIALISING TRIXER

You can reset Trixer to its default values if you wish as follows ...

- Power down the unit.
- Press and hold the Learn button.
- Power up with the Learn button still down.
- Wait until all LEDs light.
- Release the Learn button to start in Meter mode.

Note that this will lose all of your stored MIDI and Learn parameters.



SPECIFICATION

EXTERNAL INPUTS	<p>Six Inputs for acoustic drum mic's with Learn™ facility for envelope profile sampling and automatic trigger processing. Input gain variable to accommodate signals from mic to line level.</p> <p>Six Inputs for Simmons Piezo Pads or Bugs.</p> <p>MIDI In.</p> <p>Effects Return Left and Right.</p>										
SOUNDS	<p>On-board Sounds - Four Digitally Sampled Drum Kits derived from the SDX sound library, each comprising Bass, Snare and 4 Toms.</p> <p>Sound Library - Available on convenient Memory Cards.</p> <p>Each Drum Independently tunable plus or minus a fifth.</p>										
MIXER	<p>6 Input Channels, each with independent control over : Input gain with clip warning LED. Balance of Acoustic and Digital sounds. Send to Internal Reverb / External Effects. Channel Level slider.</p> <p>Master Controls : Left / Right Effects Return Level. Internal Reverb Depth. Stereo Headphone level. Left / Right Output level sliders.</p>										
REVERB	<p>Integral 16 bit Stereo Reverb with 30 Reverb types.</p>										
CONTROL PANEL	<table><tr><td>Kit</td><td>Select Kit 1 to 4, Memory Card Kits</td></tr><tr><td>Reverb</td><td>Select Reverb Type 1 to 30.</td></tr><tr><td>Learn</td><td>Learn Acoustic Drum profiles.</td></tr><tr><td>MIDI</td><td>Assign MIDI Note and Channel.</td></tr><tr><td>Meter</td><td>Enable the Stereo Bar-graph meter.</td></tr></table>	Kit	Select Kit 1 to 4, Memory Card Kits	Reverb	Select Reverb Type 1 to 30.	Learn	Learn Acoustic Drum profiles.	MIDI	Assign MIDI Note and Channel.	Meter	Enable the Stereo Bar-graph meter.
Kit	Select Kit 1 to 4, Memory Card Kits										
Reverb	Select Reverb Type 1 to 30.										
Learn	Learn Acoustic Drum profiles.										
MIDI	Assign MIDI Note and Channel.										
Meter	Enable the Stereo Bar-graph meter.										
OUTPUTS	<p>Master Left/Mono and Right Outputs. Effects Send. Monitor Headphones. MIDI Out. MIDI Thru.</p>										
DIMENSIONS	<p>Trixer can be rack-mounted or free standing. 430 (W) * 308 (H) * 80 (D) millimeters (Excluding rack mounts).</p>										
POWER	<p>Switchable 115V/230V AC 50-60Hz 20W</p>										
OPTIONAL ACCESSORIES	<table><tr><td>6 Acoustic Trigger Bugs</td><td>STB6</td></tr><tr><td>Simmons Piezo Drum Pads</td><td>SPM1</td></tr><tr><td>Trixer Memory Cards</td><td>TMC</td></tr></table>	6 Acoustic Trigger Bugs	STB6	Simmons Piezo Drum Pads	SPM1	Trixer Memory Cards	TMC				
6 Acoustic Trigger Bugs	STB6										
Simmons Piezo Drum Pads	SPM1										
Trixer Memory Cards	TMC										

Specification subject to change without notice.