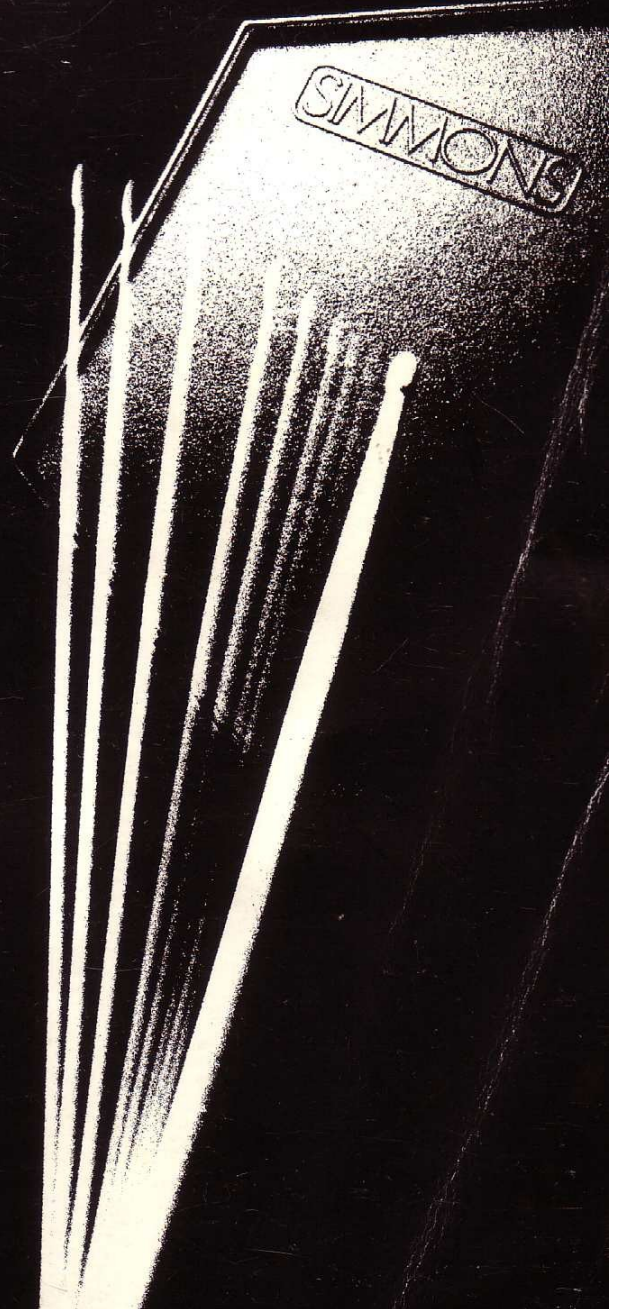
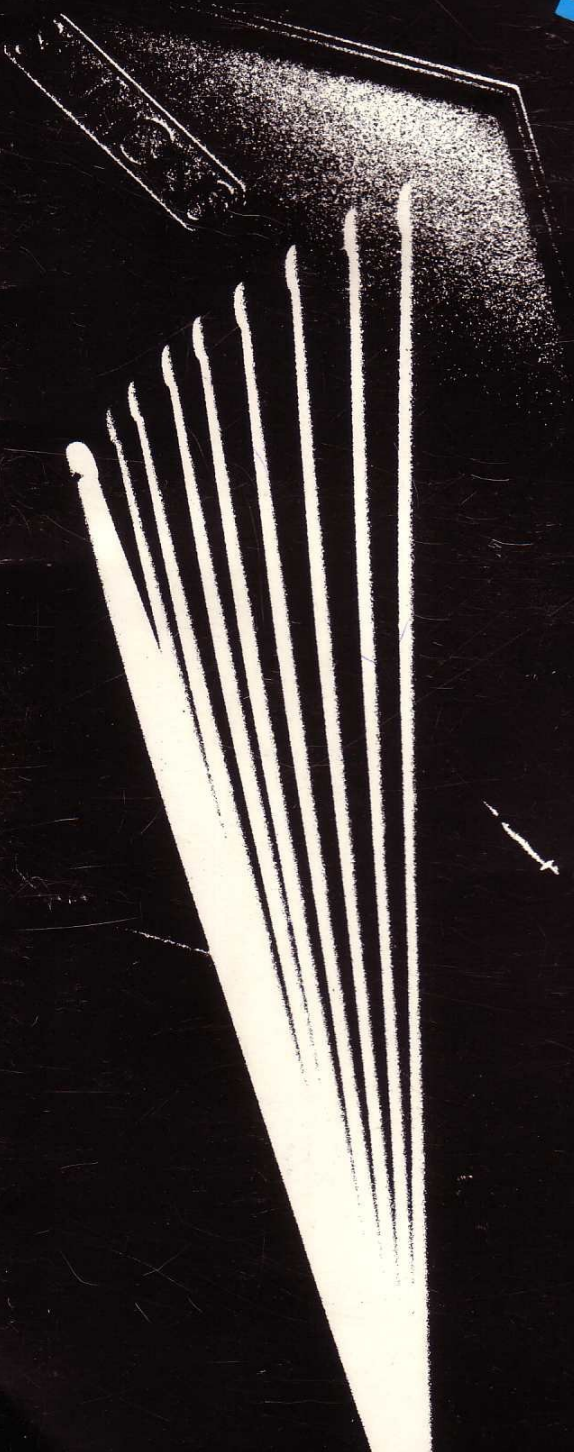


CREATIVE USE OF THE
SDS 800 SERIES

SDS 800
SDS 400
SDS 200



CONCEPT

The SDS 800 series of electronic drums has been designed to form an expandable electronic percussion system, capable of growing with the user into a full scale electronic drum kit. Alternatively, any of the SDS 800 series instruments can be used to expand an acoustic drum kit, bringing the power and flexibility of the Simmons sound to the conventional drum set player.

The SDS 200, 400 and 800 series systems all offer flexible manipulation of sound, precise dynamic control, a superb drum pad feel and headphone outputs for private rehearsal. They are not complicated instruments, however we do request that you read this manual carefully as it has been written to ensure that you can use your SDS 800 series electronic drum system as creatively as possible.

ABOUT THE SDS 800 SERIES

The SDS 800 series consists of three, independent electronic drum systems.

THE SDS 800

- 4 voice electronic drum kit.
- bass snare, 2 tom toms.
- programmable tom tom run generator for multi tom fills.
- flexible sound manipulation.
- mono mix, stereo or individual voice audio outputs.
- headphone output for private rehearsal.

THE SDS 400

- 4 voice electronic percussion system.
- 4 tom toms.
- programmable tom tom run generator.
- flexible sound manipulation.
- mono mix, stereo or individual voice audio outputs.
- headphone output for private rehearsal.

THE SDS 200

- 2 voice electronic percussion system.
- 2 tom toms.
- flexible sound manipulation.
- individual voice audio outputs.
- headphone output for private rehearsal.

All of the drum kits within the SDS 800 series feature newly developed drum pads. The result of considerable research, these pads utilise the latest materials and injection moulding techniques to provide a realistic drum pad feel, yet they are capable of identifying and translating the most subtle sticking into an accurate trigger signal.

Circuitry in the voice console recognises these signals across a logarithmic trigger curve and instructs the drum voice to sound in accordance with the strength of the strike. The result is a vastly expanded and highly controllable dynamic range.

The voice manipulating controls affect parameters of the sound that it would be desirable to adjust on an acoustic drum and later in this manual, the explanation of the controls is made by relating their effect to the individual components of a conventional drum sound. This will give you the ability to analyse a drum sound and program it electronically.

BEFORE YOU START

UNPACKING

When you unpack your SDS 200, 400 or 800, inspect the unit carefully for damage. If there is any evidence of damage to the pads or voice console, inform your Simmons dealer immediately.

Your SDS 800 series drum system should comprise:

SDS 200

- 1 x voice console
- 2 x small drum pad
- 2 x Jack Cables
- 1 x drum stand (optional in some countries)

This manual

SDS 400

- 1 x voice console
- 4 x small drum pad
- 4 x Jack Cables
- 1 x 4 way drum stand (optional in some countries)

This manual

SDS 800

- 1 x voice console
- 1 x bass pad
- 3 x small drum pad
- 4 x Jack Cables
- 2 x bass spurs
- 1 x 3 way drum stand (optional in some countries)

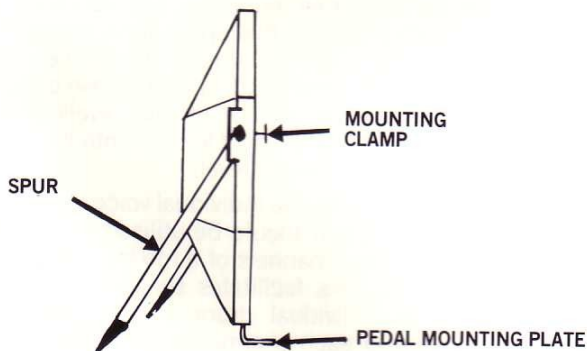
This manual

If any of these components are missing, inform your Simmons dealer immediately.

SETTING UP

SDS 800

The single, large bass drum pad is a freestanding unit and should be supported by locating and tightening the two spiked bass drum spurs into the mountings on either side of the drum. These should be angled to touch the floor allowing the bass pad to sit vertically, perpendicular to the floor, with the bass plate parallel to the floor. This plate will accept most conventional bass drum pedals which should be attached in the usual way.

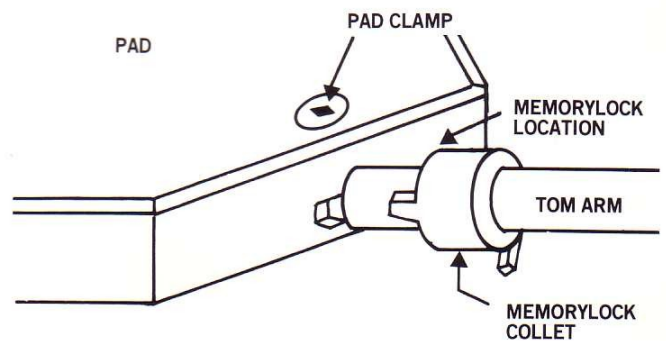


The three small drum pads, snare and 2 tom toms, can be supported by a single drum stand which should be located adjacent to the bass drum pad.

It may be necessary to invert in its' mounting, the arm supporting the snare drum in order to achieve a comfortable playing position.



The drum pads are secured to the stand by first locating the protrusion in the adjustable memorylock collet into the recess in the drum pad, and then finger tightening the clamp with a drum key.



SDS 400

The 4 small pads of the SDS 400 can be supported by a single stand and should be attached to the stand by the method described above.



SDS 200

The 2 small pads of the SDS 200 are supported by a single stand and should be attached to the stand by the method described above.



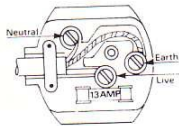
CONNECTING UP

CONNECTING TO A MAINS SUPPLY

Europe mains voltage.

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

Brown – Live
Blue – Neutral
Green/Yellow – Earth



Check that the voltage label on the panel matches your domestic mains supply.

240v – GB and Australia
220v – Europe
115v – USA and Canada
100v – Japan

CONNECTING THE DRUM PADS TO THE VOICE CONSOLE

Each of the 800 series kits include the necessary quantity of jack cables to connect the drum pads to the voice console. The drum pads should be connected to the relevant channels using the "pad trig inputs" on the left of the voice consoles, viewing from the top. The jack connector on the drum pads is located to the right of the stand mounting in the case of the small drum pads and on the bottom, right hand side of the playing surface in the case of the bass drum pad.

CONNECTING THE VOICE CONSOLE TO AN AMPLIFIER

Drum sounds are necessarily, percussive, dynamic and cover a broad range of frequencies. Therefore, your choice of

suitable amplification should take this into consideration along with other considerations such as the type of band and size of venue you play in. The SDS 400 and 800 drums can be amplified in mono, by connecting the "mix" output to a suitable amplifier with a standard jack cable. Relative volume levels of the individual drums are set with the level controls at the base of each channel, and the overall level with the mix level control. Alternatively the SDS 400 and 800 systems can be amplified in stereo by connecting the "stereo" output to 2 channels of a mixing board, using a special Y cable connecting a stereo jack plug to two standard jack plugs. In this application, the stereo panning of the drums is pre-determined inside the voice console. Once again the level controls at the base of each channel should be used to set the relative levels of the drums and the "left level" and "right level" controls should be used to set the overall volume level.

In professional applications, the individual voice outputs in the "Audio outputs" group should be utilised to connect the voice console to four channels of a mixing board with standard jack cables. This facilitates separate level and equalisation of the individual drum voices. The level controls at the base of each channel do not affect these outputs.

The SDS 200 system features two individual audio outputs, one for each of its' two channels. These should be used to connect the unit to two channels of an amplifier or mixing desk with standard jack cables. If you do not use channel 2 output then the signal from channel 2 is switched into channel 1, so that a single jack-jack lead from channel 1 will carry a 'mix' of channel 1 and channel 2. In both cases, the level controls at the base of each channel set the levels of these outputs.

For private rehearsal, the SDS 200, 400 and 800 all feature a stereo headphone output on the front panel. The volume can be adjusted with the relevant channel and mix volume controls.

PROGRAMMING SOUNDS

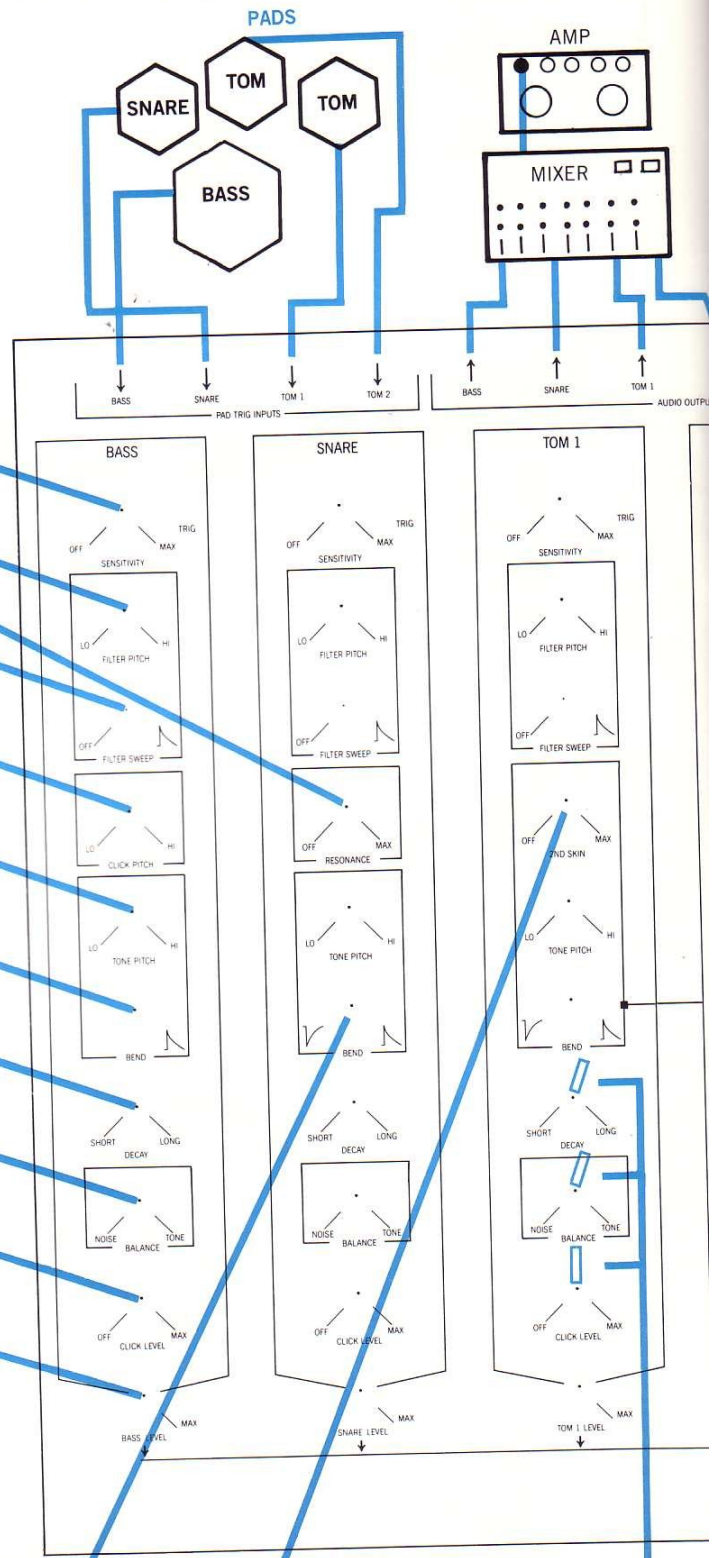
In this section of the manual, the function of each of the 8 controls per channel, provided for the purpose of sound manipulation, is explained by relating their effect to the individual components of a conventional drum sound.

The program controls are as follows:

Bass	Snare	Tom
Filter Pitch	Filter Pitch	Filter Pitch
Filter Sweep	Filter Sweep	Filter Sweep
Click Pitch	Resonance	Second Skin
Tone Pitch	Tone Pitch	Tone Pitch
Bend	Bend	Bend
Decay	Decay	Decay
Noise-Tone	Noise-Tone	Noise-Tone
Balance	Balance	Balance
Click Level	Click Level	Click Level

As you can see, the program controls for all three drum types are the same with the exception of the third control, which is specific to bass snare and tom, these controls will be covered last.

SDS 800 SERIES FRONT PANEL



SENSITIVITY
ADJUST TO YOUR PLAYING STYLE.

FILTER PITCH
BRIGHTNESS OF THE SOUND.

RESONANCE (SNARE ONLY)
EMPHASISES THE FILTER SWEEP + PITCH,
ADDS A PITCHED 'WHISTLE' TO THE SOUND.

FILTER SWEEP
SOUND GETS BRIGHTER ACCORDING TO
HOW HARD THE DRUM IS STRUCK.

CLICK PITCH (BASS DRUM ONLY)
PITCH OR 'QUALITY' OF THE BASS
DRUM BEATER CLICK.

TONE PITCH
BASIC PITCH OF THE DRUM.

BEND (BASS DRUM)
BENDS THE PITCH OF THE DRUM DOWN
AS THE SOUND DIES AWAY.

DECAY
CONTROLS THE LENGTH OF THE SOUND.

BALANCE
CONTROLS THE AMOUNT OF NOISE
IN THE SOUND.

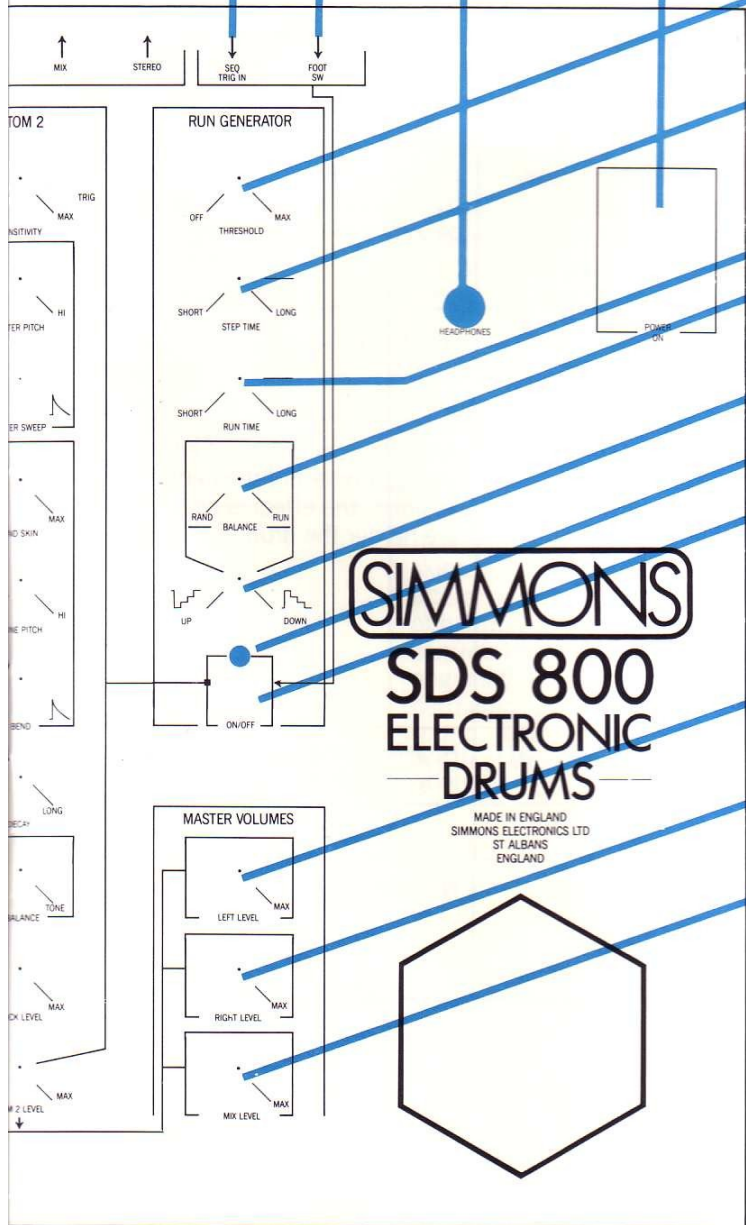
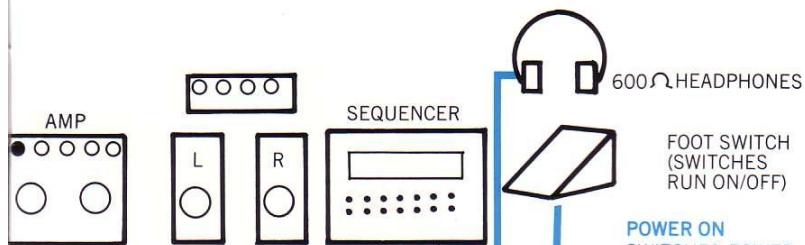
CLICK LEVEL
THE AMOUNT OF CLICK OR 'ATTACK'
AT THE BEGINNING OF THE SOUND.

CHANNEL LEVEL
CONTROLS THE VOLUME OF THAT PARTICULAR
CHANNEL OR DRUM.

BEND (SNARE + TOMS)
BENDS THE PITCH OF THE DRUM UP
OR DOWN AS THE SOUND DIES AWAY.

2ND SKIN (TOMS ONLY)
ADDS ODD HARMONICS TO THE SOUND
MAKES IT MORE 'BELL LIKE'.

**'BLUE 1
INITIAL**



RUN THRESHOLD
LEVEL AT WHICH YOU HAVE TO STRIKE TOM 1 TO START THE RUN.

STEP TIME
TIME TAKEN TO STAY ON ONE PITCH OF THE RUN, BEFORE CHANGING TO THE NEXT PITCH.

RUN TIME
THE TIME TAKEN TO STEP FROM THE START, TO THE END OF THE RUN.

BALANCE
CHOICE OF RANDOM OR MUSICAL TONES.

UP DOWN
CHOICE OF THE SCALE ASCENDING OR DESCENDING.

RUN L.E.D.
LIGHTS UP WHEN RUN IS SWITCHED ON.

ON/OFF
SWITCHES RUN ON OR OFF.

LEFT LEVEL
OUTPUT VOLUME OF LEFT CHANNEL (BASS SNARE TOM 1).

RIGHT LEVEL
OUTPUT VOLUME OF RIGHT CHANNEL (BASS SNARE TOM 2).

MIX LEVEL
MASTER MONO MIX VOLUME CONTROL.

SIMMONS
SDS 800
ELECTRONIC
DRUMS

MADE IN ENGLAND
SIMMONS ELECTRONICS LTD
ST ALBANS
ENGLAND

CONTROL INFORMATION

PROGRAM CONTROL	EFFECT ON DRUM SOUND	EFFECT OF DYNAMICS
Filter Pitch	Controls the overall brightness of the drum.	
Filter Sweep	As an acoustic drum is struck the sound begins very brightly and becomes more dull during its decay. As this control is increasingly introduced, it exaggerates this effect.	As the drum is struck harder, the initial bright part of the sound becomes even brighter.
Tone Pitch	The actual note or body of the drum sound. This control effects the pitch of this component.	No effect.
Bend	As a conventional drum is struck, the skin stretches, thus the pitch starts somewhat higher than the actual tuned note of the drum. As the sound decays, the head relaxes, thus the pitch drops. This control effects the intensity of this phenomenon, when used in the "down" range of its function (from a 12 o'clock position to the extreme right). When used to bend the tone up (from 12 o'clock to the extreme left) tabla type sounds can be constructed.	When the control is set either to the right or left of the central position, the effect is accentuated, the harder the drum is struck.
Decay	The length of an acoustic drum sound is determined by head size, tension and damping etc. The decay control is used to set this parameter.	Heavier strikes will produce slightly longer drum sounds.
Noise-Tone Balance	A conventional drum sound contains a lot of noise, a mixture of sounds at many random frequencies. This control sets the level of this noise content, relative to the tone (note or body) of the drum sound.	No effect.

PROGRAM CONTROL	EFFECT ON DRUM SOUND	EFFECT OF DYNAMICS
Click Level	Striking the plastic head of a conventional drum generates a very loud but short burst of noise. This can be adjusted in level with the "click level" control.	Striking the drum harder means the click gets louder.
Click Pitch specific to the SDS 800 bass drum	Allows extra control of the beater slap component of the sound, vital to the successful synthesis of bass drum sounds.	No effect.
Resonance Specific to the SDS 800 snare	Adds crispness to the snare 'rattle' – i.e. the noise content by accentuating the cut-off frequency of the filter. The filter pitch and sweep controls affect the pitch of the resonance.	No effect.
2nd Skin	In a double headed tom tom, both top and bottom skins are set vibrating when the drum is struck. The interaction of the two vibrating heads creates a series of harmonics which are emulated by the second skin control. Introduction of this control modulates the original tone at a fixed frequency, creating the harmonics associated with a double headed tom tom sound. Rotating the control clockwise increases the depth of this modulation.	No effect.

RUN GENERATOR

The run generator is a feature provided on the SDS 800 and 400. It facilitates the playing of multiple tom tom fills from a single tom tom pad and can be pre-programmed to effect the first tom of the SDS 800 and 400. The run generator can be switched in with the front panel switch or remotely, with a footswitch, during playing.

PROGRAMMING THE RUN GENERATOR

Threshold

This control sets the strength at which the relative drum pad must be struck before the run generator becomes active. (The run generator must first be switched on). This facilitates conventional playing before introducing a run with an extra hard strike on the pad.

Step time

This control affects the period of time that the tom voice will continue to output the sound at a fixed pitch when struck, before going on to the next.

Run Time

This control affects the period of time over which a single run remains active. The pad may be struck any number of times during this period and the pitch of the tom sounds triggered will be dependent on the setting of the "step time", "balance", and "up-down" controls.

Balance

When rotated fully clockwise, the tom voice will sound at pitches dependent upon the setting of the run generator. As the control is rotated anti-clockwise toward "random", the run generator will begin to introduce random pitches for random strikes of the drum pad. When rotated fully anti-clockwise, when the drum pad is struck during a run, the tom voice will output the tom sound at various pitches.

Up-Down

With this control, the range of pitches covered by the run can be selected, along with setting the pitches to begin high and end low, as in a conventional tom tom fill, or begin low and end high. Turning the control to its' extreme either way will result in the broadest range of pitches during a fill. More central use of the control will provide subtle pitch changes during the fill.

Remember, the drum will not trigger automatically. You are in complete control and must play each stroke within the fill, as you would with a multi-tom set-up. The difference is, with the SDS 400 and 800, it can be done on a single pad, facilitating incredible speed and precision in your fills.

PLAYING THE DRUMS

The choice of bass drum pedals and sticks is yours. The playing surfaces of the pads in the SDS 800 series consist of a rubber covered moulded plate which floats within a durable injection moulded rim. Hence, the drum pads emulate the response of a conventional drum, allowing you to play with little necessary adaption of technique and also to incorporate your electronic percussion system into a conventional drum kit with uniformity of response around the hybrid kit.

Remember the drum pads are totally dynamic and will instruct the voice console to respond to the precise subtlety of your sticking.

The sensitivity controls at the top of each channel should be adjusted to suit your playing technique. When set low, it will be necessary to strike the pads hard to achieve high dynamic triggers. At this setting, a broad dynamic range exists. When set high, the voices are easily triggered with the highest dynamic, even with a light stroke, and the range of dynamics is therefore narrow.

You now have an exciting range of sound possibilities at your finger tips. These can be further enhanced by signal processing such as echo, flanging, chorus and reverbs – experiment – have fun!

PROGRAMMING SOUNDS

The SDS 800 series are capable of producing many varied and useful sounds, some of which are described in the following paragraphs. The descriptions are for an SDS 800 but as the 400 and 200 tom toms are the same as the 800 tom toms, you can use the descriptions for the entire series.

The front panel has a series of 'blue lines' which, if the controls are rotated so that they line up with these marks, will give you a starting point for obtaining your own individual sounds.

BONGO/CONGA

Experiment with this sound on a tom tom. Start with the controls set at 'blue line', turn the bend control half way. Hit the drum repeatedly and adjust the bend control so that there is no change in pitch (no bend up or bend down).

Turn the noise tone balance fully clockwise (to tone). Adjust the tone pitch control to about 2 o'clock. Adjust the second skin, tone pitch and decay controls for an open 'bell like' conga sound.

Copy this sound to another tom channel for two pitched bongo or conga sounds.

If your unit is an 800 or 400, switch on the run generator, turn the balance to random, up/down to 2 o'clock, step time fully anti clockwise and threshold halfway. Rapid strikes of the drum will produce random conga tones.

COW BELL

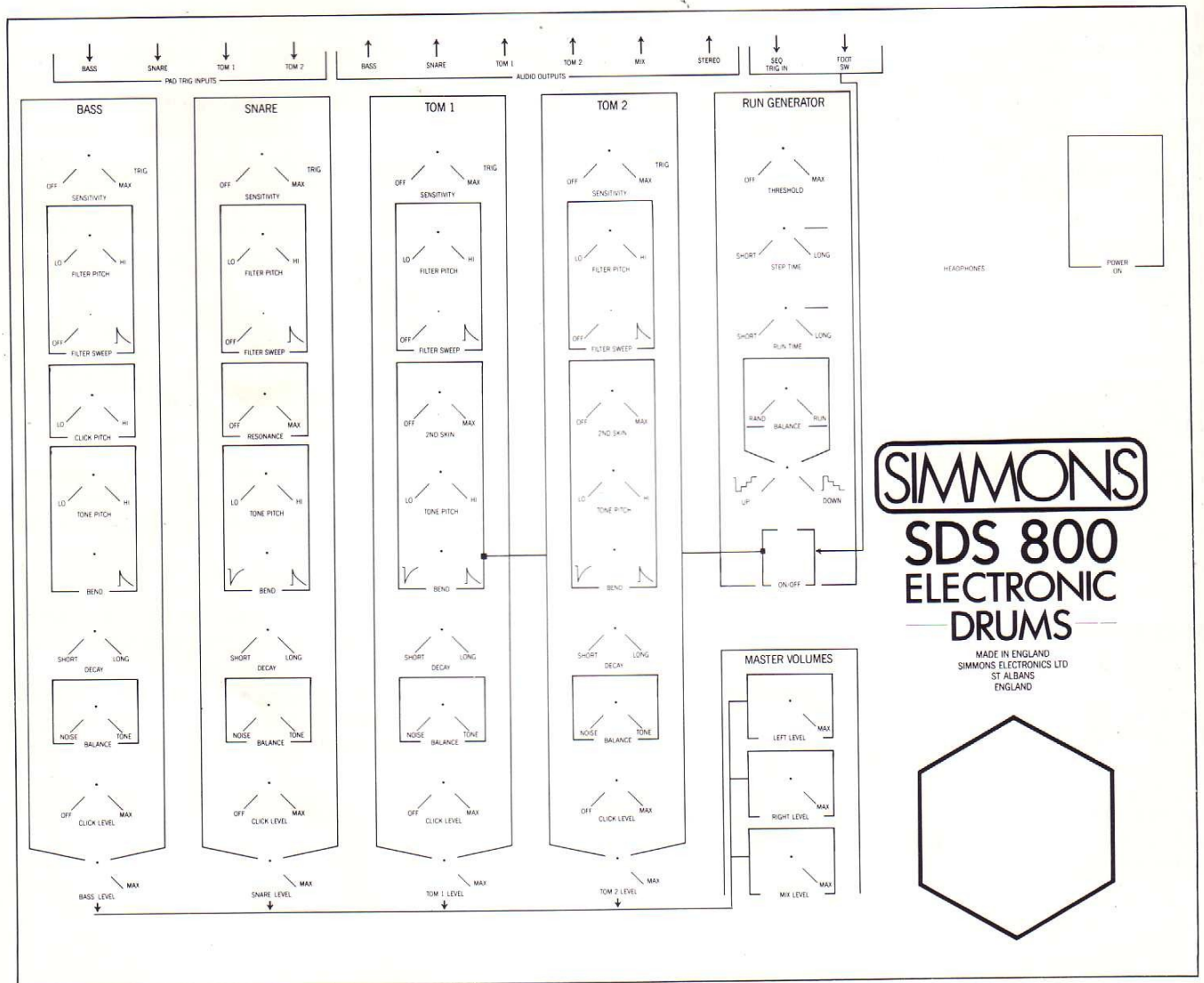
Set the controls as for the conga above. Add more second skin, shorten the decay and turn the tone pitch control clockwise to make the pitch higher. Adjust filter pitch for the 'brightness' of the cow bell.

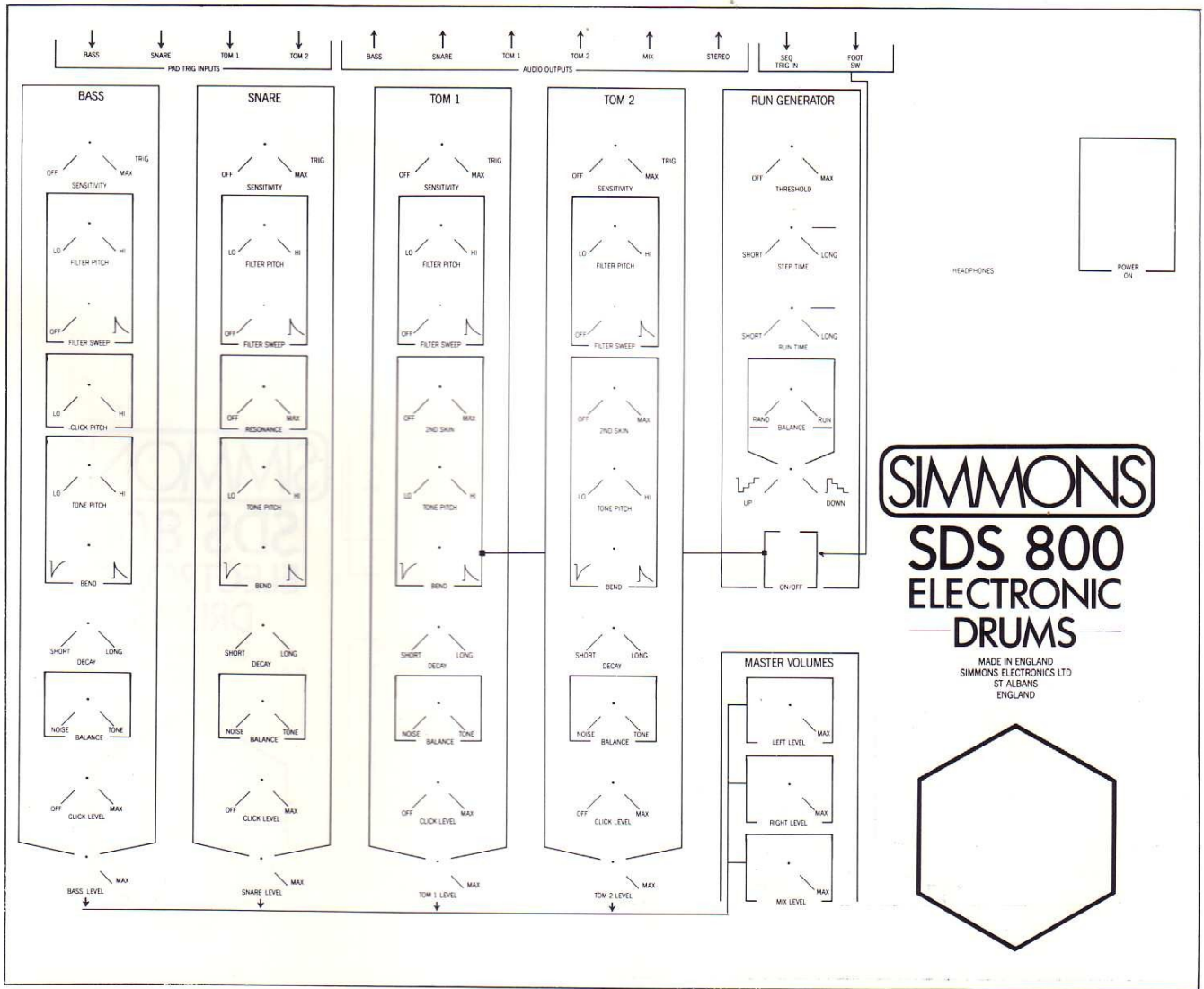
TABLA

The characteristic 'bend up' sound can be produced by adding a slight amount of bend up to the conga sound set up earlier.

The following 'blank' front panels are so that you can mark down your favourite sound for future use. Use the tom 1, tom 2 channels if you have an SDS 200.

PATCH CHARTS





SEQUENCER TRIGGERING

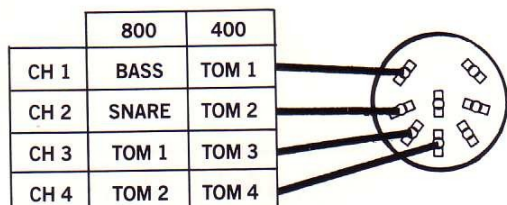
The SDS 400 and 800 voice consoles feature a din socket for interfacing with sequencers such as the Simmons SDS 6. Simmons have also produced sophisticated yet reasonably priced drum sequencer software for use with Commodore 64 microcomputers. This is complete with an interface cable and can open up an even greater range of creative possibilities for your new, electronic, percussion system.

CONCLUSION

You are now part of a growing family of drummers who are changing the face of modern percussion. At Simmons, we started it all and we would welcome your comments and experiences regarding this or any of our products. We are firmly committed to the development of more exciting, performance based musical instruments and look forward to serving you again in the future.

BACK VIEW

SEQUENCER DIN
WIRING DIAGRAM



A SIGNAL OF +5V WITH A PULSE WIDTH OF 30-100ms WILL TRIGGER THE DRUMS.

TECHNICAL SPECIFICATION

SDS 800 / 400 / 200 SPECIFICATION

SDS 800

4 channel synthesizer – bass, snare, hi tom, lo tom.

Run generator – for hi tom, run/up down, random.

Mix output – controlled by individual level controls and master level.

Stereo outputs – fixed image tom 1 panned left, tom 2 right.

Individual outputs

All outputs – line level.

Power requirements – internally selectable 115v/230v 10vA.

Electronics dimensions – 290 x 350 x 73mm (including knobs).

Pad input level – 0-5v.

Seq. input level – 0-15v.

Headphone output – 600 Ω .

SDS 400 – As for 800 except –

4 channel synthesizer – tom 1, tom 2, tom 3, tom 4.

Stereo output – fixed image, tom 1 left, tom 4 right.

SDS 200

2 channel synthesizer – tom 1, tom 2.

Mix output – from tom 1 output.

Individual outputs – from tom 1 and tom 2.

Power requirements – internally selectable 115v/230v 6vA.

Pad input level – 0-5v.

Headphone output – 600 Ω .

USER NOTES



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<http://www.simmonsmuseum.com>

