



CREATIVE USE OF YOUR

**SDS 9**

SIMMONS

## CONTENTS

CONCEPT – AN INTRODUCTION TO THE SDS 9	1
BEFORE YOU START	2
SETTING UP	3
PLAYING THE “FACTORY” SOUNDS	7
BUTTON TAP	8
AUTO-TRIGGER	9
FOOTSWITCH	9
SELECTING ‘USERS’ KITS OR FACTORY KITS	10
SWITCHING BETWEEN THE SDS 9 MAIN MODES (OR – THE MODE BUTTON)	11
PROGRAMMING KITS	12
PROGRAMMING THE SOUNDS	14
PROGRAMMING THE BASS DRUM	14
SNARE DRUM CONCEPT	16
PROGRAMMING THE SNARE DRUM	16
TOM-TOM CONCEPT	21
PROGRAMMING THE TOM-TOMS	22
MORE COMPLEX AUTO-TRIGGER VARIATIONS	24
REPEAT ECHO	25
A SEQUENCE OF KITS (HOW TO PROGRAM THE FOOTSWITCH)	27
SAVING AND LOADING DATA TO/FROM CASSETTE	29
MIDI – INTERFACE TO OTHER INSTRUMENTS	31
THE SDS 9 MIDI INTERFACE – WHAT IS POSSIBLE WITH THE SDS 9 MIDI?	32
ENABLING THE SDS 9 MIDI INTERFACE	33
INITIALISING THE SDS 9 MIDI INTERFACE – HOW TO DO IT	34
MIDI NOTES	36
SIMPLE USE OF THE SDS 9 MIDI INTERFACE	37
AN INTRODUCTION TO PROGRAMMING THE SDS 9 FOR MIDI	39
PROGRAMMING THE SDS 9 MIDI MODES – DETAIL OF WHAT TO DO	42
WHAT HAPPENS WHEN YOU INITIALISE THE SDS 9 MIDI DATA – THE INITIAL STATE	46
HAVING PROBLEMS? – EXPLANATION OF OFTEN OCCURRING PROBLEMS WHEN USING MIDI	47
DUMPING/LOADING KIT DATA, THE KIT SEQUENCE AND THE MIDI DATA VIA MIDI	48
INITIALISING USER KITS	49
POWER UP ERROR CODE ‘F.’	49
AUTO DEMONSTRATE	49
SAMPLING YOUR OWN SNARE SOUNDS EPROMS AND THE SIMMONS EPB	50
FACTORY SOUNDS – AN ATTEMPT AT DESCRIPTION	57
SPECIFICATION	60

# CONCEPT- An Introduction to the SDS 9

The SDS 9 is a 5-drum kit, comprising bass, snare and 3 tom-toms, triggering up to 40 complete "drum kits" (20 factory and 20 programmable presets).

Hitting a specific pad triggers the corresponding channel on the "electronics". A microprocessor controls the dynamic (or volume) of each individual "hit" giving a sensitivity to playing previously unheard of in electronic drums: a "real" drum feel, in fact!

The SIMMONS SDS 9 gives you the sounds, feel and control of acoustic drums plus all the sounds and advantages of electronic drums.

To add to all this "reality", the small pads (snare and toms) have a floating head, the snare also has a rim shot/cross-stick facility and the bass pad is piston loaded - giving you the feel and playability of acoustic drums.

The SDS 9 electronically synthesises the sounds of each drum. The bass, snare and toms use different methods of synthesis - each the most appropriate for the sound and control you require. The bass is software generated directly by the computer. The snare/rim are digital samples of acoustic drums. The tom-toms are synthesised using analogue circuitry. The toms also have a unique 'second skin' switch to match the sound and response of a double headed acoustic tom.

The program/store memory facility allows you to build up your own drum sounds. These programmed sounds can be saved to tape, giving you almost limitless capacity to store new sounds, or recall previously stored sounds.

There is also a sophisticated automatic trigger that allows sounds to be reviewed without hifing the pads, and a mode where the drums can be triggered by buffon tapping.

The SDS 9 is the first drum kit that has a built in MIDI interface. This is completely assignable in terms of voice changes and note values. By using the MIDI interface you can directly interface with many available keyboard

synthesisers and play their voices from the pads. You can also use MIDI real time recorders/sequencers to record your playing and then playback the SDS 9 exactly as you played it.

Another interesting feature of the SDS 9 is its' built in programmable echo. This programmable effect can be used for single 'slap back' echo or for long repeating echoes to produce stunningly unique rhythmic-ic-ic patterns and eff-eff-eff-ects-ects.

We have done a lot of work using the latest high technology and computer aided design tools to develop the SDS 9 - a new instrument, using new voicing techniques and new materials to give you everything any acoustic kit has to offer and much more besides - the kit that's destined to add a whole new dimension to your art.

All of us at SIMMONS hope that you enjoy the use of your SDS 9 and that it gives you the edge.

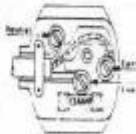
Simon Davidmann  
April 1985

# BEFORE YOU START

## CONNECTING TO A MAINS SUPPLY European mains voltage

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

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



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

240v – G.B. and Australia  
220v – Europe  
115v – U.S.A. and Canada  
100v – Japan

The SDS 9 is a computer-controlled synthesiser and should be treated with care. A few simple rules, if followed, will avoid problems in the future.

They are:

**Try and use a clean power source, away from equipment that may produce transient spikes through the mains power, i.e. electric motors, heavy switch gear etc.**

**The SDS 9 is supplied with a three core power cord – use this with a grounded AC power source.**

**Switch on the SDS 9 last, and off first.**

**Do not place the SDS 9 on top of speaker cabinets or amplifiers which might subject it to excessive heat and vibration.**

## SETTING UP

### THE PADS

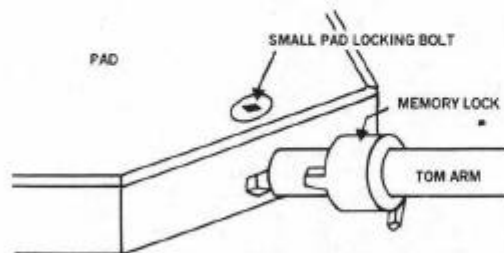
The 5 pads should be assembled on their stands to suit your own preference. Care must be taken to ensure the snare pad is not confused with the tom pads. This is because the snare is a dual pick-up pad, enabling cross-stick and rim-shots to be played. The snare pad is distinguished from the tom pads by having a GREY playing surface (as opposed to black).

You should be able to arrive at a playing position you feel happy with. You could also experiment with novel and unusual ways of setting up which would normally be impossible with acoustic drums. This is one of the many advantages you will come across when using the SDS 9.

**Mounting small drum on stand** — The small drum pads are mounted on conventional 22mm diameter tom tom stands. One side of the small pad has a hole for the tom tom arm. Carefully push the drum on to the arm, a gentle rocking action will ease the drum on to the arm. If the arm will not enter the drum, turn the locking bolt anti-clockwise 1 turn with a conventional drum key.

The tom tom arm can enter the drum to a maximum depth of 6 inches.

Loosen the 'memory lock' ring on the tom tom arm (if fitted) and locate the tongue of the ring into the drum pad. Tighten the locking bolt and memory lock with a drum key by turning the key clockwise.

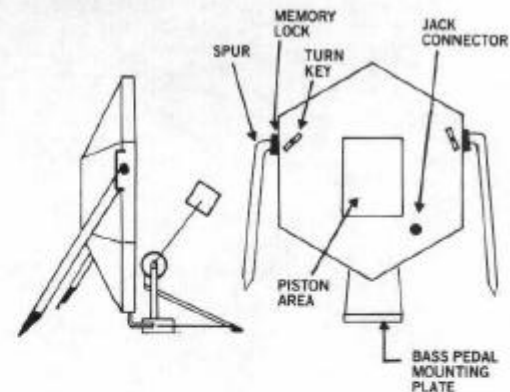


**Bass drum pad** — Insert the spurs into the side of the bass drum by loosening the turn keys (turn anti-clockwise to loosen) and push the end of the spur into the nylon clamp, so that the spurs slope forward to form a tripod with the bass drum pedal plate.

Tighten the spurs in this position by rotating the turn keys clockwise.

**Note:** Memory locks can be fitted on the spurs if required.

Fit a bass drum pedal on the plate in the conventional manner. Ensure that the pedal is adjusted so that the beater strikes the drum in the central 'piston area'.



### CONNECTING UP

All the sockets for connecting up are situated along the top edge of the electronics.

**Pad Inputs** — Each pad connects to the appropriate "Trigger Input" socket (Bass drum - ch.1, Snare - ch.2 etc.). Again, care must be taken with the snare. A special stereo jack lead is supplied for this drum, to enable the rim/cross-stick operation. Using one of the mono jack leads will result in only the snare sound being triggered.

**Footswitch** — There is a footswitch to change the kits (more of this later) which is plugged into the "Foot Select" socket. You will probably want to experiment with the most convenient positioning of the footswitch itself, but try placing it just to the left of the hi-hat pedal. A quick sideways movement of the foot will change the presets.

**Audio Outputs** — Each drum has its own individual output socket (for mixing desks etc.), but if you have a limited number of available channels (e.g. one or two channels of an amplifier etc.) you can use the "Mix Output" or the "Stereo Output" channels to the right of the individual outputs. The stereo output is a stereo jack socket.

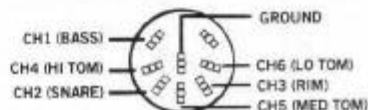
The mix output is a mono mix of all five drums, the relative levels of each drum is set on the individual output level controls, whilst the mix level control varies the overall volume. These controls do not affect the stereo or individual outputs, so that if you were using the mono mix on stage for your own monitoring you can adjust your own mix levels without affecting the main feeds to the P.A. (individual outs/stereo outs).

**Headphones** — There is also a headphone socket which will accept any standard jack headphone plug and enable you to hear the SDS 9 without any amplification equipment. The jack is standard 1/4" stereo and headphones of 600Ω impedance are recommended.

**Snare/Rim Audio Output** — Note that the snare individual output is a stereo socket. If you use a mono jack lead you get the combined snare drum sound (both snare and rim - the balance given by the current kit). If a stereo jack plug is used, the tip of the plug gives the combined sound while the edge gives the raw rim sound. The amount of rim coming out of the combined output can be programmed with the snare/rim balance control, so if you need complete

separation of snare and rim, program the kits to be full snare and use a stereo plug with a split lead to the mixing desk etc.

**Sequencer Input** — An 8 pin din to jack lead is available from SIMMONS which enables 5-15v gate signals to trigger the SDS 9 (such as the SIMMONS SDS 6).



**MIDI/TAPE. IN/OUT** — This is discussed in the section on MIDI and for tape applications in the section on tape dumping/loading.

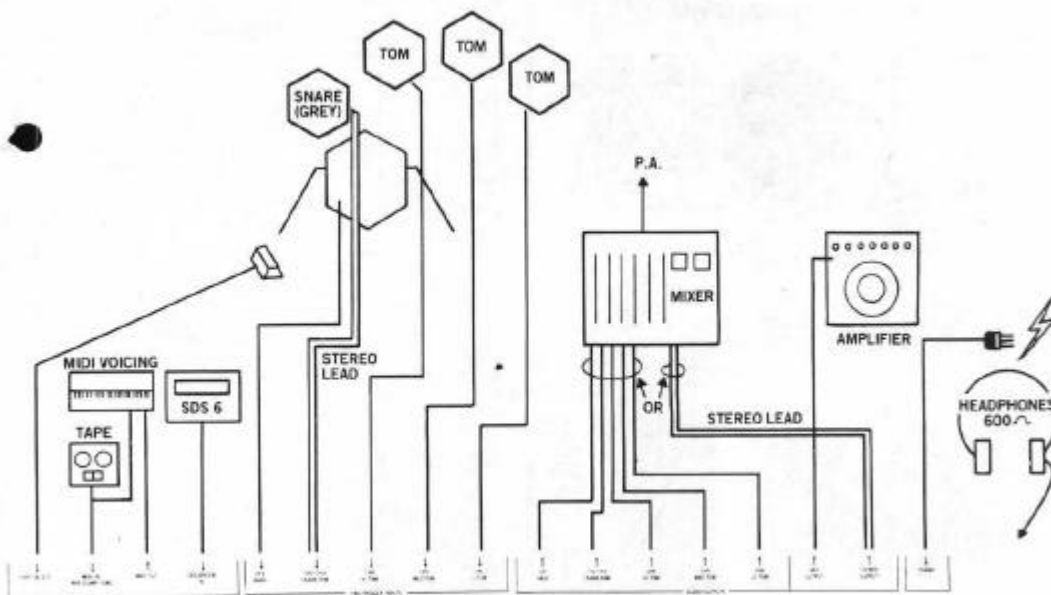
**Amplification** — The SDS 9 sounds have been chosen to sound good through small combos as well as larger P.A. systems but the question of a recommended system has no easy answer. Obviously such variables as the size of the venue and the type of music being played should affect your choice. By their definition, drum sounds are highly percussive and it is certainly desirable to amplify the SDS 9 at a level at least comparable to a conventional drum. Therefore, your chosen system should be capable of reproducing very dynamic sounds, spanning a broad frequency range.

If you have previously been playing an amplified acoustic kit, the outputs from the SDS 9 can simply replace the drum mics.

If the SDS 9 is being played live and you wish to utilise the facilities of an external mixing desk, the sockets marked "Audio Outputs", 1-6 should be utilised to connect each channel with a separate channel of the desk. The output of each of these connections contains only the sound from the relevant channel. This allows each drum sound to be equalised independently and is certainly the most desirable method of amplifying or recording the drums. If you have only a small stereo mixing desk and vacant channels are in short supply, the output marked stereo should be utilised to connect the SDS 9 to two channels of the desk. The drum sounds are panned automatically in these outputs and hence the pan controls on the mixing desk should be turned to left in the channel receiving the left output and right in the channel receiving the right.

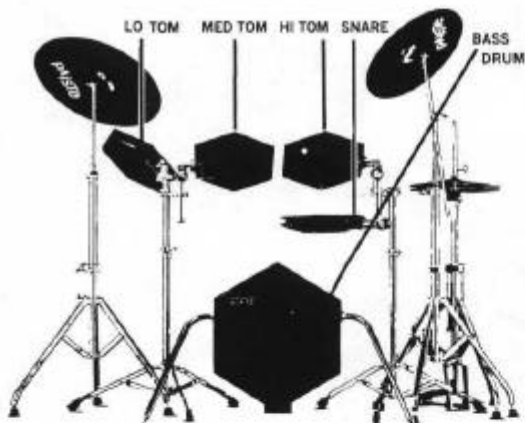
Whether using individual audio outputs or the stereo outputs for recording or playing live, the output marked "Mix" can be used to simultaneously connect the SDS 9 to a separate amplifier for the purpose of monitoring. This is essential when playing on stage as the drum pads themselves produce no sound. The monitor system should be placed near the drummer and used at a suitable volume to allow all the musicians on the stage to hear the drums clearly. The relative level of each drum in the monitor mix will be set on the individual channel level controls.

### CONNECTIONS TO SDS 9





Conventional 5 drum set-up



It is advisable to place the electronics within easy reach of the pads, once you have found a set up that is comfortable. (You should be able to sit at the kit and operate the unit at the same time).

A stand is not supplied for the electronics, they will fit on a standard snare stand, music stand, or in a standard 19" rack when fitted with optional rack mounting ears.

## **PLAYING THE "FACTORY" SOUNDS**

### **POWER ON!**

Once you have connected up all the leads the next thing to do is switch on! The power switch is on the top right of the electronics.

### **SELECTING A KIT**

When the power is turned on the "Bank" light will show above "A" and the "Kit Display" will show "1". This means you are on "Factory Kit" A1 (or Bank A, kit 1). There are 4 banks, each containing 5 kits giving you a total of 20 "Factory" kits. These kits can be "accessed" by pushing the "Bank Select" or "Kit Select" buttons (situated below the displays). You can also change the kits in any one bank using the footswitch. Each tap on the switch advances the number by 1 through to 5 and then cycles back to 1, and so on. With a bit of practise you should be able to change the kits whilst playing, by using the footswitch.

### **PAD SENSITIVITY**

The sensitivity of the drum pads is controllable, using the sensitivity pots at the top of each individual channel. This allows you to alter the sensitivity of each drum according to our own taste and preference. (Note that the snare has two sensitivity pots - one for the drum middle and one for the rim).

When set low (anti-clockwise) the drums must be struck very hard to produce a "hard" sound and when set high (clockwise), the drums will produce a "hard" sound with a very light tap of the stick. These controls should be set to facilitate your technique. Of course the perceived sensitivity of the pad will also be affected by the weight and type of stick, and in the case of the bass drum, the type and throw of the beater.

The playing surfaces of the SDS 9 have been designed to emulate the response of a conventional drum head, but we do recommend that you experiment with various weights of stick and select the type that suits you best. Similarly with bass drum beaters the choice is yours, however we do suggest that you avoid the use of wooden beaters. The playing surfaces will not wear out but will mark at the point of impact. These marks can be removed with a damp cloth.

### **PLAY AWAY**

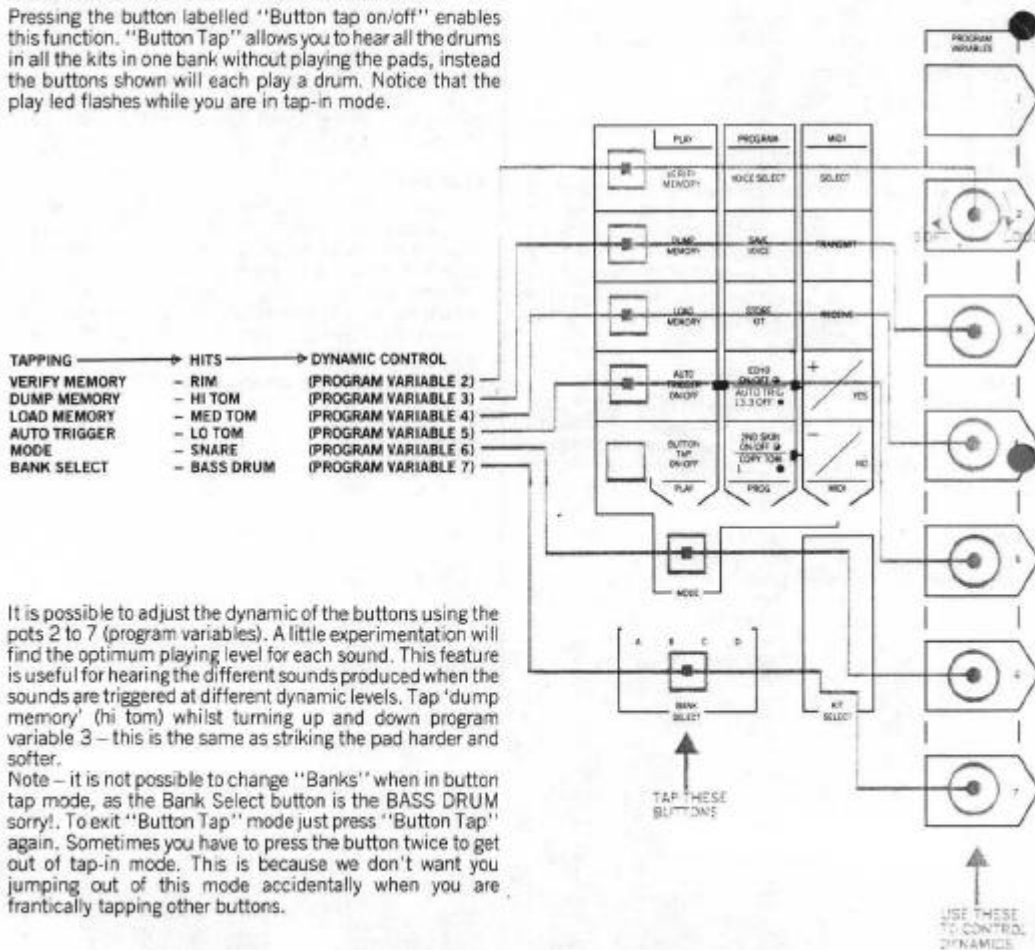
At this point we recommend that you experiment with the 20 'Factory pre-set kits'. Explore the feel of the pads and interaction of the sounds programmed for the rim and snare. As well as amplification, reverb etc. Note that whilst playing the snare, the rim can be struck anywhere and will produce the rim sound at a volume dependent upon how hard it has been struck. If the rim and snare are struck simultaneously, both sounds are accented.

A list of factory sounds are listed at the back of the manual.

# BUTTON TAP

## TRIGGERING THE DRUMS FROM THE BUTTONS

Pressing the button labelled "Button tap on/off" enables this function. "Button Tap" allows you to hear all the drums in all the kits in one bank without playing the pads, instead the buttons shown will each play a drum. Notice that the play led flashes while you are in tap-in mode.



## **AUTO-TRIGGER**

Another useful function. There are several different types of Auto-Trigger, but for the time being we'll cover only one. Pressing the Auto-trigger button will start a cycle triggering each drum "voice" in sequence, (bass drum, snare, rim, hi tom, med tom, lo tom).

The speed of the trigger cycle can be adjusted whilst in this mode using "Program Variable" pot 6 (Auto Speed). The "dynamic" or volume at which the voices are triggered is controlled by pot 5 (Auto Trig Dynam). This changes the "hardness of hit" (in drummer jargon!). You'll find that with some of the presets, changing the trigger dynamic can have a dramatic effect!

Whilst in Auto-Trigger mode it is possible to run through all 20 Factory kits (and User kits - keep reading to find out about them!).

## **FOOTSWITCH**

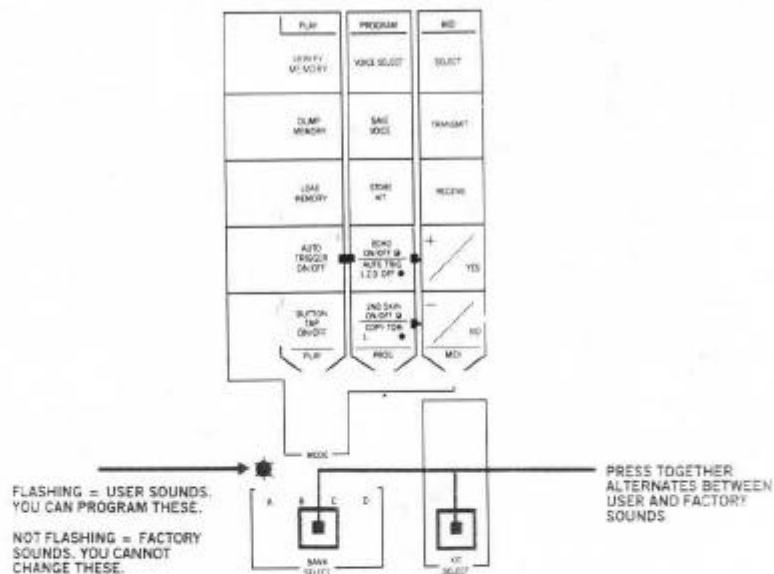
The footswitch allows you to change "kits" in any one bank whilst playing. The kits will advance by 1 through to 5 and back to 1 etc. It is still only possible to change banks using the bank select button.

The footswitch is actually connected to the kit select button, so that any time you want to press the kit select button you can use the footswitch.

# SELECTING 'USERS' KITS OR FACTORY KITS

As well as the 20 Factory kits, whose sound cannot be altered, the SDS 9 has an additional 20 kits of 'User' sounds which you can alter and re-program, stored as before in 4 banks of 5 kits each. These kits can be 'accessed' by pressing 'kit' and 'bank' SIMULTANEOUSLY (a sharp jab at both works well).

'User' kits are shown on the bank panel by the bank light flashing. To get back to the factory kits, push kit and bank simultaneously – and note that the bank light no longer flashes thus indicating the factory kits.



### Examples

Bank led B on – ● | Bank led B flashing ●  
means Factory Bank B | means User Bank B

Note that you can swap between user and factory kits whenever the bank select button is active (i.e. any time apart from when you are in button tap-in mode).

# **SWITCHING BETWEEN THE SDS 9 MAIN MODES (OR-THE MODE BUTTON)**

You will by now have noticed that there is a led above the mode button that has been lit the play led - indicating you are in play mode! In play mode the five buttons take the meaning described in the column above the play led (e.g. button tap, auto trig etc.).

When you switch on the SDS 9 it will always power-up in play mode, with factory kit A1 selected. This is the normal 'playing' mode where all the sounds are available to you for performance. The other two modes are used to program the various functions of the SDS 9, i.e. the sounds and midi.

If you press the "Mode" button you will see the play led go off and the 'prog' led come on. This indicates that you are now in programming mode. The five buttons now take on the meaning described in the column above the prog led (e.g. voice select, save voice etc.). If you keep pressing the mode button you will move to the midi mode, and again moves you back to the play mode.

Thus you can tell what mode you are in and very easily what function each button currently is used for.

# PROGRAMMING KITS

Programming a particular drum kit is achieved by following a logical series of actions as follows:-

- 1) **Enter prog mode** by pressing mode – the led under prog will be lit.
- 2) **Select a kit to program** by pressing bank select and kit select. You can use any of the 20 Factory or 20 User kits as a starting point – but remember you can only STORE kits in the User area.
- 3) **Select a voice to program** by pressing 'voice select' each press moves on to the next voice to program i.e. bass – snare – rim – hi tom – med tom – lo tom. The 'Prog' led on the appropriate channel will flash.
- 4) **Program a voice** by turning the program variable controls, these have different effects on different channels. The effects are printed on the front panel.
- 5) **Save a voice** by pressing the 'Save voice' button – the prog led for the selected voice will stop flashing and stay on permanently. Note – the voices are only temporarily stored at this stage.
- 6) **Store a kit** by selecting a kit with bank and kit select (you can of course store your new kit back where you originally had it in 2 above) and press 'store kit'. The display will flash s.t.o.r.i.n.g. and will store those channels that have the 'prog' led lit, i.e. those that were saved in 5 above. Note – you cannot store kits in the factory area, the display will blink n.o. if you attempt to, so make sure the bank led is flashing (i.e. user) before storing.

