NOTRON MANUAL

INTRODUCTION

Good evening, and welcome....
This is the introduction to the Notron manual; a jolly good read.

You may have already spotted that Notron is unlike other midi controllers.
Having spent years suffering from the dry-eye and R.S.I. of constant sequencer abuse we decided to find an alternate route to mouse driven music, something more naturally intuitive.
What we needed was a human-midi interface that even the musically challenged could use to create agreeable new sounds, and would still enable the professional musician to explore interesting fresh territory.
We also wanted an instrument that looked and felt good, knobs that really made a difference, and lots and lots of flashing lights.
We wanted user-friendly control of midi information with instant response; basically the ability to do immediately things that take forever with a sequencer. It would manipulate the serious user's midi data with fascist precision yet take the phrase 'happy accident' to a new plateau. It would make midi sounds behave more like analogue. This wondrous device would be backwards compatible with existing midi sequencing set-ups, able to control or be controlled by them, and inject organic life into midi composing.
So here it is. Notron . The all singing all dancing midi instrument that does all this and more.
A new and exciting accessory matching your musical career.

We also wanted to give you a manual written in easy to understand (if somewhat ungrammatical) language. You're reading it.
We will endeavour to be as patronising as possible, 'cos if you are in possession of Notron you are already on the ladder to superstardom and need bringing down to earth. Besides, we know what it can do - you don't.....yet.
But already you grow impatient, lusting to plug Notron into your sonic set-up, caress the silver bumps, tweak the luscious knobs and watch the mesmerising light show. You want to hear what this new toy will do, and YOU DON'T WANT TO READ THE MANUAL! Nobody does, they never do, we didn't even want to write one, it'll only be used as a beermat. Well GO AHEAD, it's ALRIGHT, aural exploration is the name of the game. Find the new musical frontier, push the envelope, throw caution to the wind, BE FREE.
But when you get scared, when the limitless horizons of the mighty Notron bring confusing musical agoraphobia, when the swearing starts, when all is lost and madness reigns supreme.
We will still be here, warm and safe. Full of understanding.

We love you.

What you should have got with your Notron:
A padded case.
This Manual.
A Notron Power Supply
Probably some stickers

What you can get later for your Notron:
3U rack adapter in chrome

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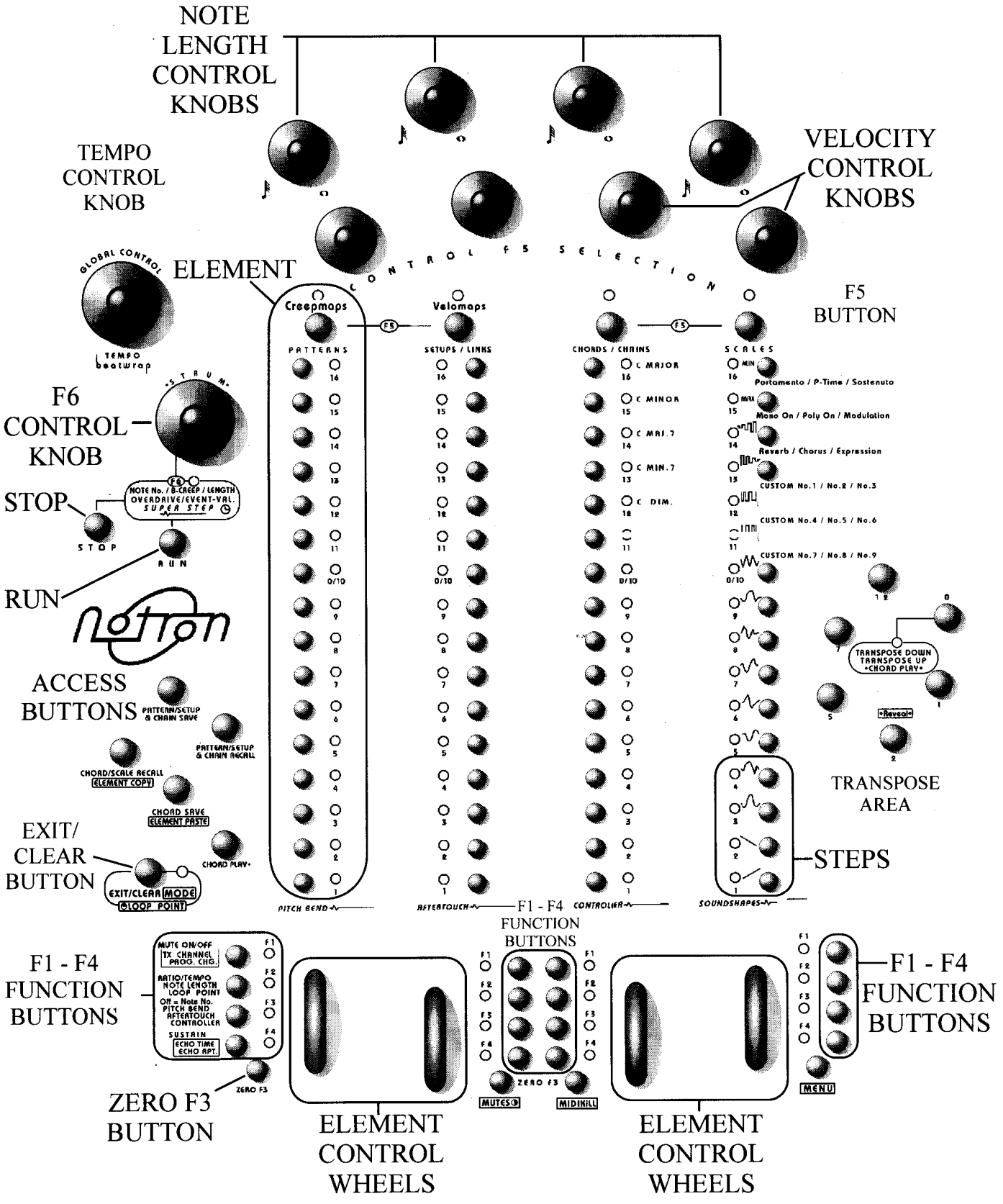
NOTRON LAYOUT.

It's probably a good idea to familiarise yourself with Notron's layout before diving straight in and getting confused. There will be pictures accompanying the instructions at first, but later on we'll assume you know your way around. Just spend a couple of minutes getting to know what the buttons and knobs are, you'll thank yourself later, honest.



It's worth remembering that most of the function LEDs change colour in the order RED, GREEN, ORANGE. This corresponds to the writing next to the buttons. Once you understand this concept everything gets easier.

THE BASICS

We know you want to experiment with Notron, and that's exactly what it's for. But you are going to have to learn at least some of the functions before you can do this. Strangely enough, this bit of the manual is designed to take you easily through the basics, it doesn't hurt and should take less than an hour. Just work through it methodically, going back to any bits that you find difficult, and you'll soon be ready to boldly go.

A.SET-UP

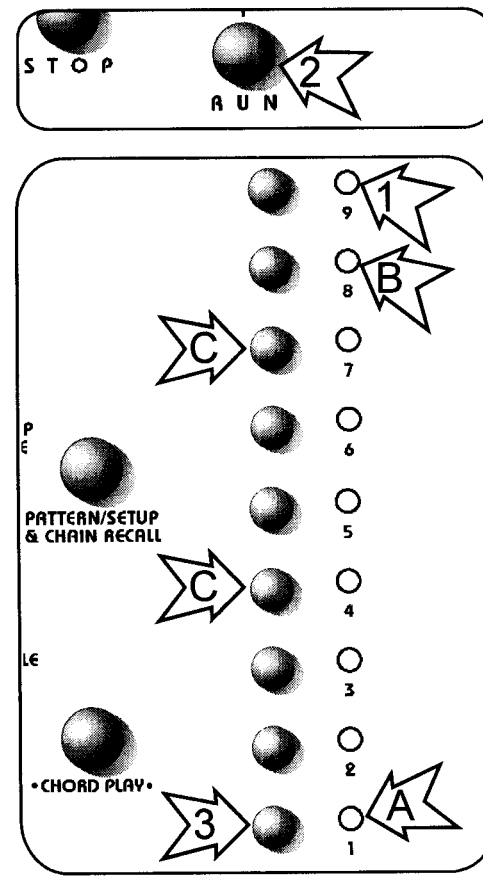
1. Plug a midi lead into the midi out socket in the base of your Notron.
2. Plug the midi lead from the midi out of Notron to the midi in of your sound source. You should use Notron where you would normally place a master keyboard in your midi set-up.
3. Connect the lead from the Notron power supply unit to the power supply jack on the back of Notron.
4. Switch on the power via the button at the back of your Notron.
5. Select a velocity sensitive and sustaining keyboard sound (piano or organ will do) on your sound source and set it to receive on channel 1.

B.GETTING STARTED

Having connected Notron to your sound source/computer and plugged in the power supply you will notice orange LEDs at step 9 〈1〉 on each of the four ELEMENTS, red LEDS at F5, and a green LED in the TRANSPOSE area.

Now press the RUN button〈2〉 .

The CHASER light display begins looping from step 1 〈A〉 to step 8 〈B〉. The static orange LEDs at step 9 on each element are not part of the loop, they mark a limit to the loop point.



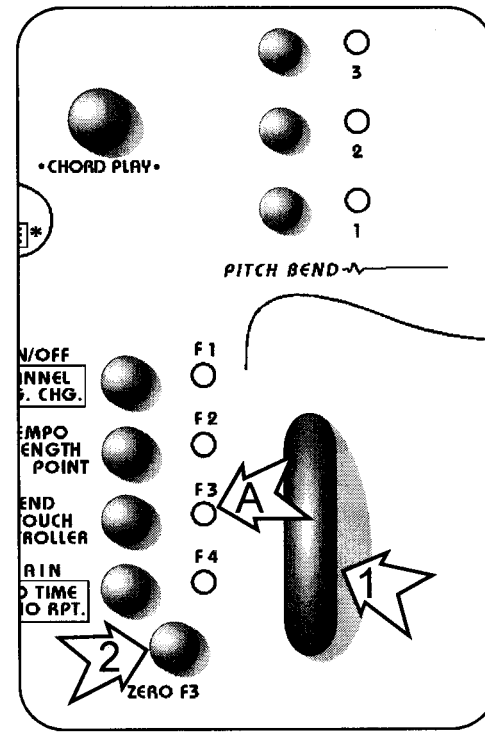
1.ELEMENT NOTE SELECTION

Now press step 1 〈3〉 on element 1. It lights red (if you accidentally press twice it will turn green, simply continue to toggle until it turns red again). You should hear a sound repeating every time the chaser light passes over the red step. This note is at the default pitch of C (actually C2, one octave below middle C).

Press a few more steps from 1 to 8 〈C〉 on element 1, they also light red. You now have a simple sequence.

2.PITCH CONTROL

Now gently roll the element 1 wheel 1 up. You will hear your sequence go up in pitch. You will also notice that the wheel clicks as you move it, each of these clicks represents one semi-tone. If you continue rolling the wheel up the pitch continues to rise, if you roll it down the pitch lowers. Now press the ZERO button 2 at the bottom of element 1. This instantly resets the sequence to its starting pitch, and the F3 LED A above the zero button lights briefly to confirm your key press.

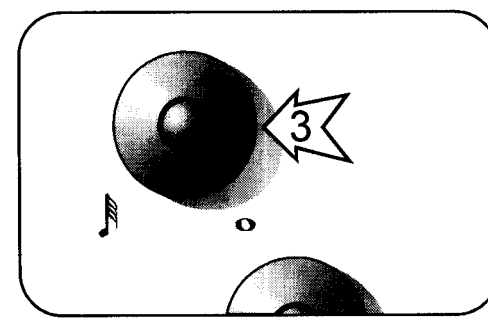


MR. GUIDELINES SAYS

Basic Midi - the default note of Middle C is number 60, each click of the wheel increases (or decreases if you roll down) the number by one. The notes are numbered 0 to 127 therefore you can increase the pitch from Middle C by another 67 semi-tones. When the wheel reaches 127 it rolls over to number 0, the lowest pitch, then continues up 60 semi-tones to Middle C. This gives Notron a range of nearly ten and a half octaves. However, not all soundsources can play all 127 notes...eg Akai samplers. Check out your gear for this possible scenario.

3.NOTE LENGTH

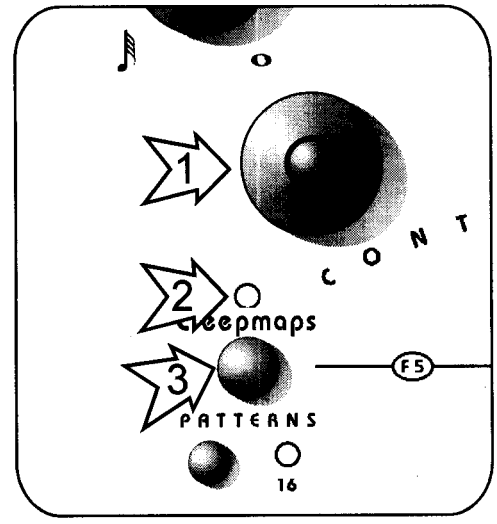
Now turn the element 1 NOTE LENGTH CONTROL KNOB 3 to the left. The length of the notes shortens. If you turn it to the right the length increases. You will also notice a single click point as you turn the knob left and right, this is the central point. Pressing zero has no effect on the note length, to return to the original note length adjust the knob to its central click point.This function is directly dependent upon how your sound source is set to respond to midi information. For instance, the majority of drum sounds are not sensitive to this command. Check your sound source manual to see if you can enable or change note length parameters.



OFFSETS.

By moving the Element 1 Wheel you have applied an OFFSET to the notes on element 1.
The concept of offsets is vital to a full understanding of Notron's use.
All midi information is sent as numbers between 0 and 127. We have already mentioned the note number of Middle C; 60. If you move the Element Control Wheel six clicks, or semitones, you have applied an offset of 6 to the note number of 60 and raised it to 66. Although you now have a new note Notron actually sees it as the Starting Note (Number 60) with an offset of 6. By pressing Zero you clear the offset.
Similarly, when you move the Note Length Control Knob, and shorten or lengthen the note, you are applying an offset to the Starting Note Length Number. The same with Velocity and it's Starting Velocity Number.
The concept of Starting Positions and offsets applies to all midi information that Notron manipulates.

4.VELOCITY

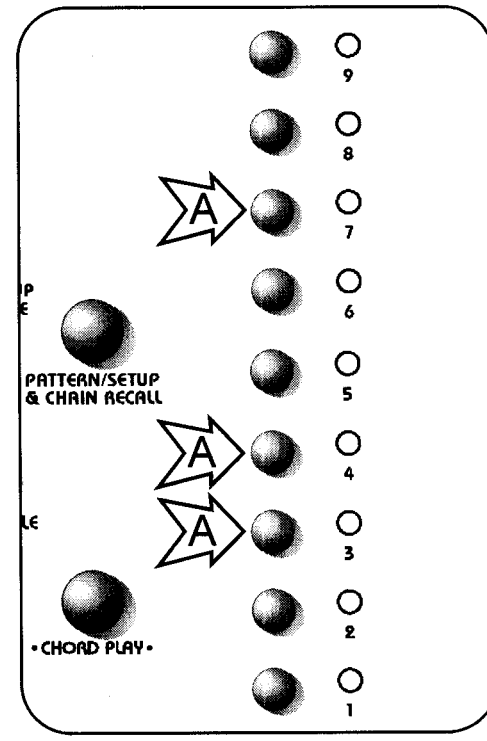


Now turn the element 1 F5 VELOCITY CONTROL KNOB 1 to the right and left. The volume of the notes increases or decreases. Each click increases or decreases the midi velocity by one step, the range again being 0 to 127. Turning the knob further when the maximum or minimum velocity setting has been reached will have no effect. Once again pressing zero has no effect.

Now it gets interesting....

Set the velocity of your sequence to a level you are happy with. Now press once on a couple of the steps that are lit red A. They will turn green. Turn the velocity down with the F5 Velocity Control knob 1. You will notice that the green step velocity is not affected, only the red. One of the features of Notron is the ability to control step note events independently. To adjust the velocity of ONLY the green notes press the F5 button 3 once; it lights green. The F5 knob now controls the velocity of all the green steps.

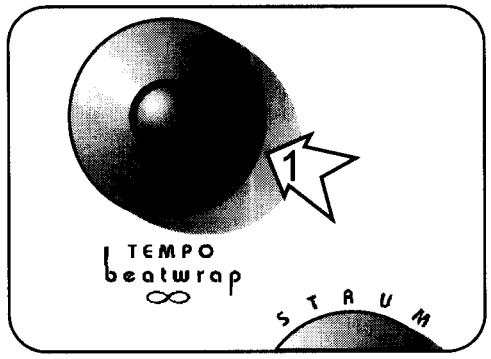
Now toggle the F5 button to orange and turn the F5 knob. The overall velocity of all the steps is affected simultaneously but the relative velocity of the red and green steps remains the same. You will notice that when the F5 LED 2 is orange the velocity control knob changes the velocity much faster than when red or green. This is just to save a bit of knob twiddling.



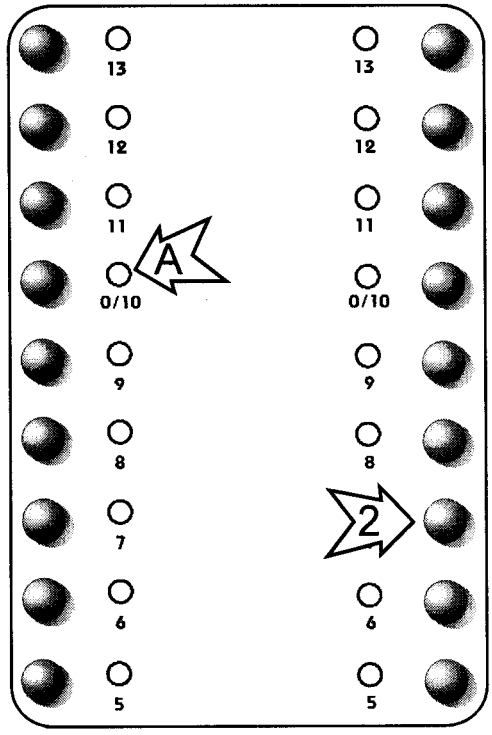
Note After you have finished adjusting the overall velocity the F5 button LED 2 automatically returns to red. This is your first encounter with Notron's TIME-OUT. The time-out is built in to various functions, it lasts around 4 seconds before cutting in. This may seem like a very short period at present but when you have become an experienced Notron user it will probably seem too long.Pressing the Exit/Clear button immediately exits the current function.

Note It is also worth pointing out that, when using the F5 Velocity Control on orange, BOTH green and red steps will continue to increase in velocity until they reach the maximum velocity of 127. In other words, steps with a lower original velocity will eventually catch up with those with a higher until both are at the same (maximum) velocity. Winding down the velocity again will reverse the process until the original difference in velocities is back in place.

5.TEMPO



The default tempo is 120 BPM. Turn the TEMPO CONTROL KNOB 1 clockwise, you will feel clicks. This increases the tempo and you will notice the chaser display disappears to be replaced with a three LED display on element 2 A. (If you now stop turning the tempo knob it will time-out and return to the original display. Don't worry, if you turn the tempo knob again it will show the tempo display once more.) The MARKER DISPLAY of a GREEN LED between two red LEDs shows the current tempo. As you slowly turn up the tempo each click will move the green LED up one step. Each step (and click) represents 1 BPM. Continue to slowly turn the tempo up.
When the green and red display moves past step 16 at the top of element 4 a new display appears at the bottom of element 1. The flashing LED is now ORANGE bracketed by two green LEDs. If you continue to increase the tempo the orange and green LEDs move up to the top of element 1 and then to the bottom of element 2. You can increase the tempo all the way to the top of element 4. Step 16 of element 4 is 222 BPM. Now reduce the tempo all the way back to its starting point of 120 BPM, where the green LED is on step 10 of element 2.
Continue turning the tempo down through all of the elements until the flashing green LED reaches step 1 of element 1. if you continue to reduce the tempo a new marker display appears at step 16 of element 4; a RED LED bracketed by two orange LEDs. You can reduce the tempo all the way down to 31 BPM at step 1 on element 1.



Markers.. Page A- red + 2 orange = 31 BPM to 94 BPM
Page B- green + 2 red = 95 BPM to 158 BPM
Page C- orange + 2 green = 159 BPM to 222 BPM

Notron also permits another method of changing tempo. While in the tempo display you can instantly jump to another tempo by pressing a step 2 on any of the elements. You are obviously restricted to steps within the current tempo page. A handy chart showing all the steps/tempos can be found on page 45.

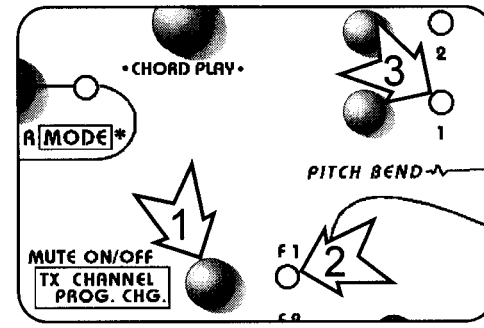
MR. GUIDELINES SAYS

If you gently turn the Tempo Control Knob for ONE CLICK only, the tempo display will appear but you will not change the tempo.
Also, Page Jumping: while in tempo mode double pressing step 1 on element 1 or step 16 on element 4 will move you directly to the next available tempo page.
If you are "driving" Notron from an external sequencer tempo can be set by the external sequencer by making it send Midi Clocks to Notron's midi in socket.

Note The Tempo Control Knob is also used as a Global Control Knob for Master Volume and Panning.

6.MUTE

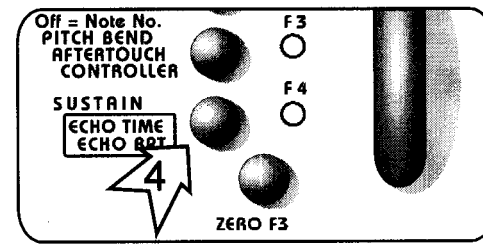
Press the MUTE button 1. You will notice that the effect is instantaneous, occuring within the sequence at the exact time the mute button is pressed. A red F1 LED 2 signals that the element is muted.The step 1 LED 3 briefly flashes orange at the beginning of the cycle so that you can tell the relative position of the muted loop. If you press the mute button again the sequence instantaneously becomes audible, and the red LED goes off. (Check out Menu Choices A44 4/9 for an alternative mute and look at Invert Mute and Midi Kill in the Advanced section for other variations).



Note While an element is muted neither the Element Control Wheel nor Transpose will affect note numbers on that element.

7.SUSTAIN

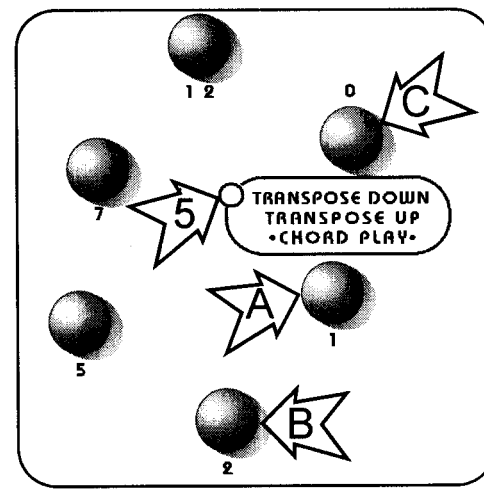
Whilst the sequence is running press the F4 SUSTAIN BUTTON 4 .The sustain LED lights Red.The effect is similar to a sustain pedal and affects all steps on the element.
Note.This effect will continue to sound (even if the element is muted) until the sustain button is toggled off. Sustain may also make the Note Length controls seem inneffective.



MR. GUIDELINES SAYS:
For "ambient" effects use Sustain on string sounds and fade in and out using the F5 Velocity controls. Once the polyphony of your sound module is exceeded notes will gradually die away. Start with low Velocities to avoid an initial overload of sound.

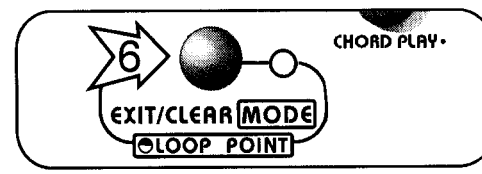
8. TRANSPOSE UP/DOWN

First make sure sustain is off.
The LED 5 in the TRANSPOSE AREA is currently green, its default state.Press the INTERVAL BUTTON A numbered 1; the sequence of notes on element 1 is transposed by a semitone. Now press transpose button 2 B ; the pitch is raised again, this time by a whole tone. You can continue to raise the pitch by pressing the interval buttons which are numbered 1, 2, 5, 7 and 12, as you have probably realised they transpose by those number of semitones. Remember that the effect is cumulative, so to raise the pitch by a major third you would press a combination of buttons that adds up to 4.
Now press the 0 button C in the transpose area. The LED turns red and now the interval buttons LOWER the pitch.



Note This function applies GLOBALLY, all steps on all elements (unless the element is muted) will be transposed.There are ways of preventing selected steps and even unmuted elements from being affected, but we will get to that later.

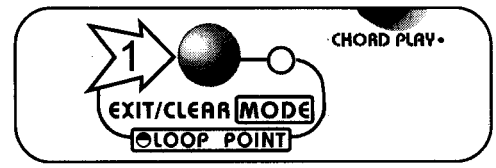
Note To remove Transpose Offsets press Exit/Clear 6 followed by the 0 interval button C .

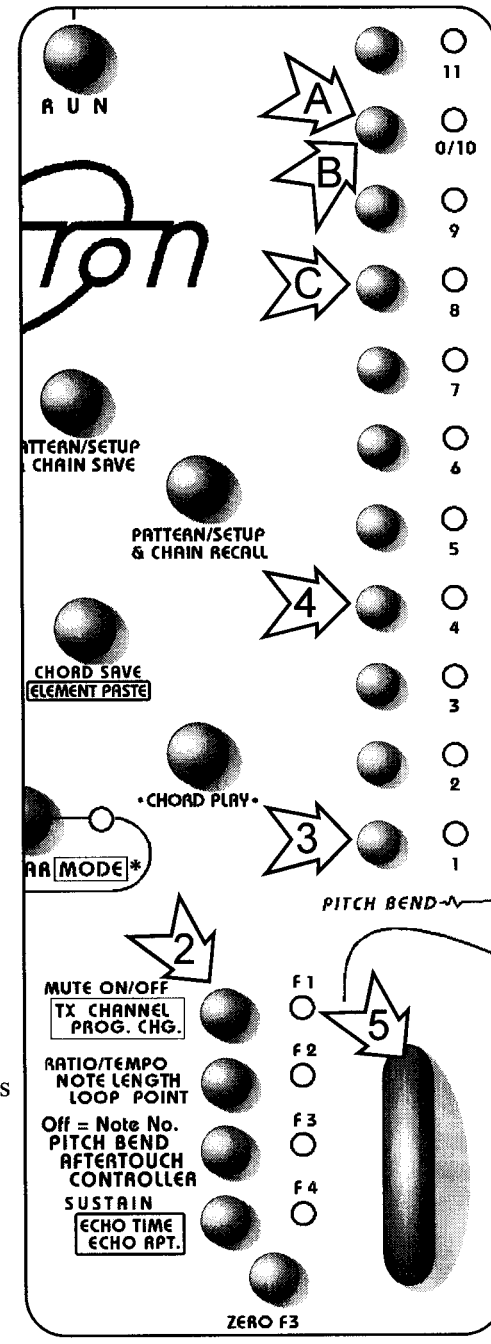


9.MIDI CHANNEL

Notron is currently sending midi information on channel 1. This is the default channel for all of the elements. The reason we asked you to assign a velocity sensitive keyboard sound to channel 1 was to allow you to learn the basics without any musical taste distraction. Each element can be set to transmit on any of 16 midi channels. To assign a midi channel to an element first press the Exit/Clear Button 1 to red, then toggle that element's F1 button 2 to green. The currently assigned midi channel is displayed by a column of green LEDs with the step of that number at the top (currently step 1 3).
To change the midi channel number press the step with the new channel's number, e.g. midi channel 4 4 .
It is also worth remembering that this function can be used to quickly check which midi channel each element is sending.

This parameter can also be changed by rotating the F6 Control.





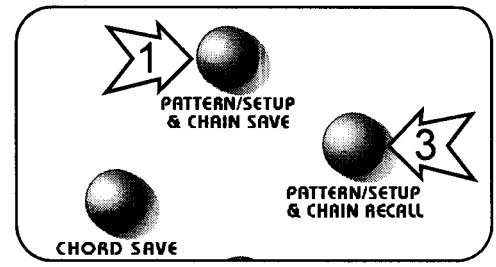
Note Sending the same midi note on the same channel always causes midi devices problems. Something's got to give, and usually one of the notes is beaten into submission by the other.
In the default state Notron is set to delete double notes .
You can change this setting in Menu Choices.

10 PROGRAMME CHANGE

It is also possible to send a programme change directly from Notron, selecting a different voice on your sound source.
First press Exit/Clear to red 1. Then toggle the F1 button 2 on the selected element to Orange.
Now enter a new 3 digit value by pressing the 1 to 0/10 steps; e.g. 0,0,8: A , B , C .
The LEDs indicate the chosen values in a coloured sequence of Red, Green, Orange.
Alternatively, you can 'search' for a sound by rotating the F6 Control; current programme or voice will be displayed by LEDs in the same order as above.

Note When you progress to using more than one element, you must remember that programme changes are channelwide. Any elements set to the same midi channel as the one to which you are applying programme change will also be affected.

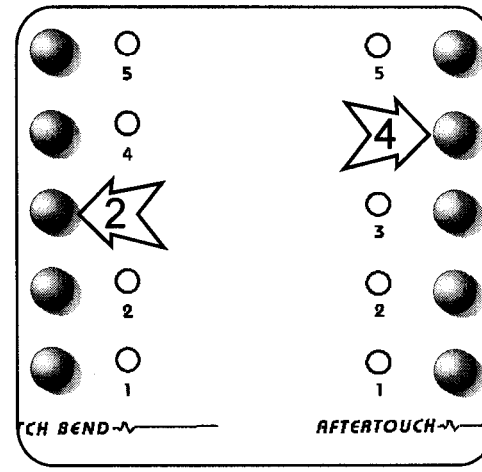
11. PATTERN/SETUP SAVE AND RECALL



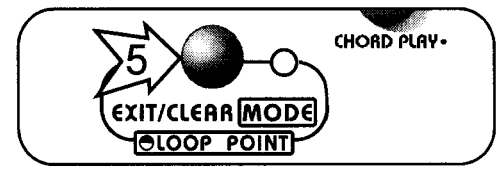
So, you've been messing about for hours and have finally come up with something you want to keep. The most obvious thing to do is to record the section onto your sequencer. But this may not be possible or desirable, Fortunately all the information you have entered is represented as either PATTERNS or SETTINGS which can be saved in Notrons memory and recalled at any time. Patterns basically save data you can see on the main display, such as the position of notes, relative pitch and velocity. Settings save more underlying features such as mute and midi channel. For a full list of which functions are saved where look at page 45.

From either Run or Stop press the PATTERN/SETUP SAVE button 1, you can now save the current PATTERN to a position on ELEMENT 1 by pressing one of the steps 1 to 16 2. The LED by the position you saved to will begin flashing, this tells you that this is the pattern currently loaded in Notron. You can save the current SETTING to a position on ELEMENT 2 4 in exactly the same way. The LEDs in Pattern/Setup Save mode are red.

To recall a saved pattern or setting, press the PATTERN/SETUP RECALL button 3 . This time the LEDs on elements 1 and 2 are green. Once again the currently loaded pattern and setting are flashing. To load a stored pattern select a step from element 1. To load a setting select a step from element 2.



12. CLEARING PATTERNS AND SETUPS



When you have used all 16 save positions for patterns or settings things can get a bit confusing. It is a good idea to clear out the ones that you don't want anymore and leave blank places. While in Pattern/Setup Save mode simply press the Exit/Clear button 5 , and then the step you want to empty.

MR. GUIDELINES SAYS

OK....By now you should have a pretty good grasp of the basic functions of your Notron.You could push straight on to the Advanced section and learn even more but we suggest that you take a bit of time to play around with the knowledge you've just absorbed.

Experiment with more than one element, note lengths and different Midi channels. Get a feel for the green and red note velocity settings, try fading green and red sequences in and out against each other.

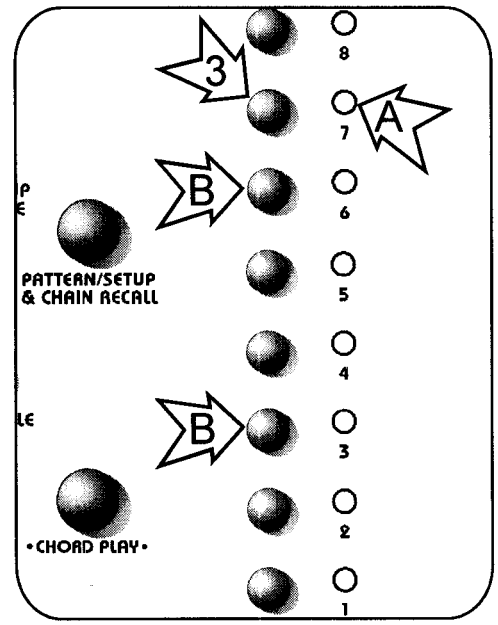
Use a combination of the mute and transpose functions to transpose elements against each other.

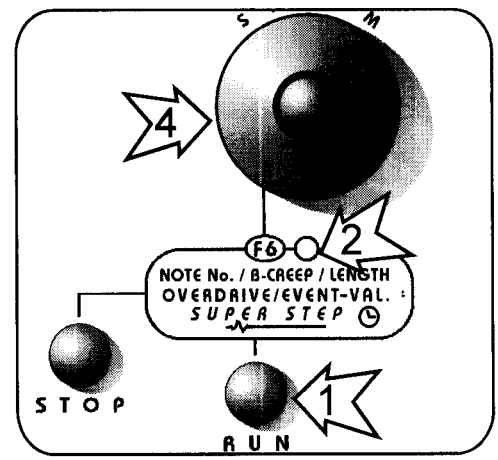
If you can learn all the basic functions you won't have to bother coming back to this part of the manual ever again, Hoorah and all that stuff.

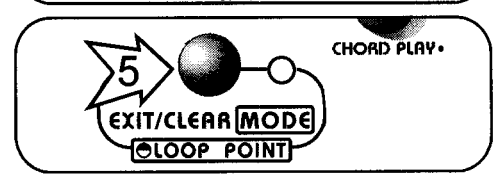
CHAPTER 2 - ADVANCED

A1. STEP NOTE NUMBER (EDIT)

In the basic section we showed you how to make a sequence of steps and then change some of the midi data. But all the notes on an element were of the same pitch: okay for some things but not very interesting.
It's time to learn how to manipulate individual steps.
To make things easier to understand we suggest you use the same midi keyboard sound as before and reset everything so that you are only using element 1.
First get a sequence of notes looping. While this is playing press Run once 1, you will notice the F6 LED 2 above the Run button lights RED to display that you can now adjust the notes on individual steps.
If you now press any one of the active steps 3 it will flash A and you can change the pitch by dialling in a new note number with the F6 knob 4 : clockwise for a higher pitch and anti-clockwise for a lower one.
Remember each click on the F6 knob is a semitone. Once you have set the new pitch of your note you can either wait for the timeout to exit this mode (or press Exit/Clear 5) or you could select another active step to adjust B .
It is also possible to select new note numbers by using Transpose Interval buttons 6 . Obviously the Transpose function must be active (Transpose Area LED is lit Red/down or Green/up 7).
Each press of an interval button will transpose the flashing selected step's note number by the selected interval.
For instance, to transpose th step up an octave press interval button 12 C while the Transpose area LED is green.
So, you now have the ability to make your loop into a tune or riff.

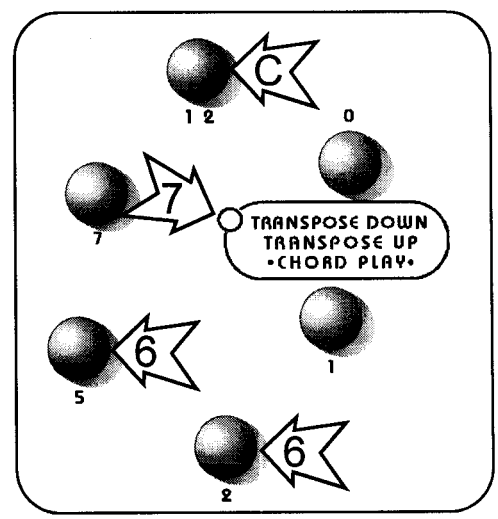






Note Important Note: while you are in this mode you can still add RED notes to your sequence. If you press an empty step it will become active.
There are two rules that apply here:
*First, your new step will have a starting note number (i.e.pitch) either of the default of that element or any offsets already applied to that step or element.
*Secondly, while in this mode steps can not be removed.

Note It is also worth noting that the time out is much longer in this mode, this is to allow you to alter several steps, and also links with the Step Note Length Edit function which you will learn about next.
To instantly get out of this mode just press Exit/Clear 5 .

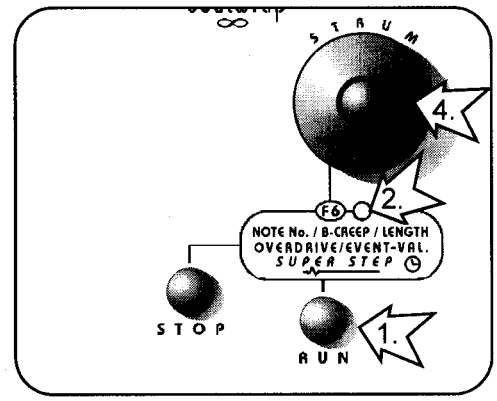


MR GUIDELINES AND HIS WONDROUS TIPS

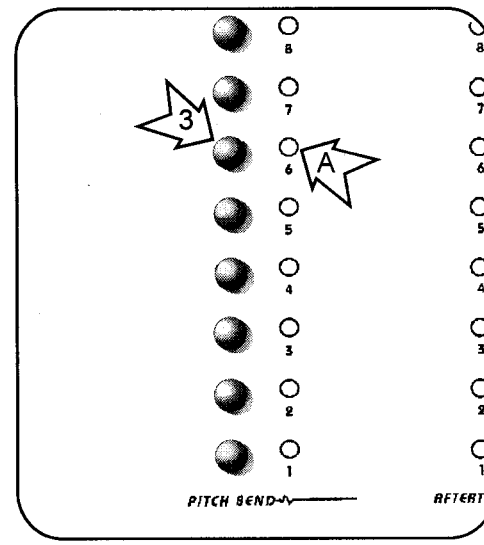
There is a rather natty way of removing all the Offsets (the change in pitch applied to all your new notes) from an element, and resetting all the active steps back to the Starting Note Number of that element. Simply set the F5 LED to Red by toggling the F5 button at the top of the chosen element. Actually it's probably already red in which case now HOLD DOWN the Exit/Clear button and twist the F5 Velocity Knob. All the active steps will now revert to their starting note and sound the same.

A2. STEP NOTE LENGTH (EDIT)

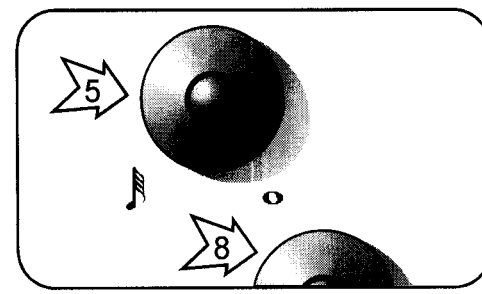
In a similar manner to Step Note Number Edit you can also adjust the length of the note on each individual step.
Toggle the F6 Run Button 1 so that the LED turns Red 2.
Now HOLD DOWN any of the active steps 3, the selected step flashes A, and you can adjust the selected step note length with the F6 knob 4.



Note It is important to understand that once a note's length has been edited it NO LONGER RESPONDS to the element's Note Length Control Knob 5. It will remain LOCKED at its new length even when all other unedited steps are changed. This becomes even more relevant later on when you begin applying events that are affected by their steps note length. However, you can adjust the note length of edited notes by adjusting the Underlying Note Length (see below).
Once again, the amount you can alter a step's note length depends upon the sensitivity of your sound source to this command.



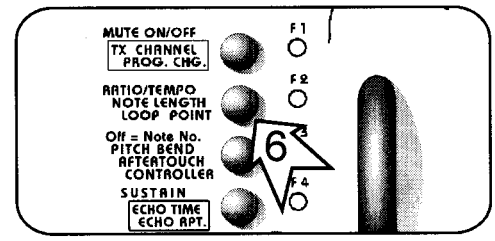
Note You can remove all the Note Length offsets on an element by setting the F5 LED to Red, and holding down the Exit/Clear button 7 while turning the F5 Velocity control Knob 8.
Remember that this will also remove any Note Number offsets (remember the previous page?).



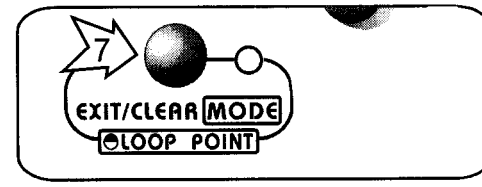
> MR. GUIDELINES SAYS
> It is worth getting used to using this function in conjunction with step note number edit (A1, the previous page). You can apply new steps, change their pitch and alter their individual note lengths. If you practice, you will find that it's a quick way to write melodies or sequences.

A3. UNDERLYING NOTE LENGTH

You can adjust the underlying note length of an element.
Toggle the F2 LED to Green using the F2 button 6.
A column of Green LEDs will appear on that element. At present they light up to step 10, the default setting. To change the underlying note length select and press a step from 1 to 16. 1 is short, 16 is long. Either press Exit/Clear to exit the function or wait for the timeout. Alternatively, rotate the F6 Control to change the value.



Note
Note This function is NOT channelwide, it only applies to the target element and will not affect other elements set to the same midi channel.



A4. STEP ACCENT
(INDIVIDUAL STEP VELOCITY)

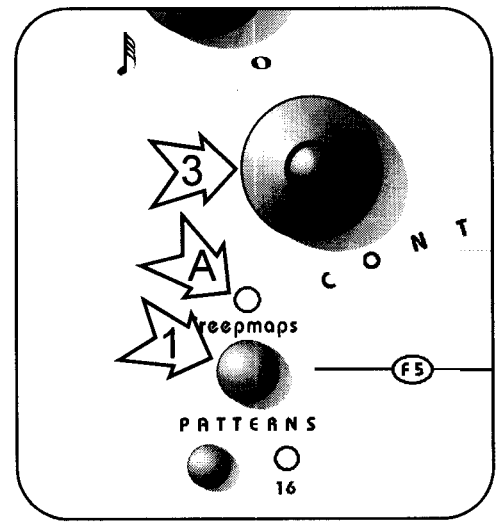
The velocity of each individual step can also be adjusted.

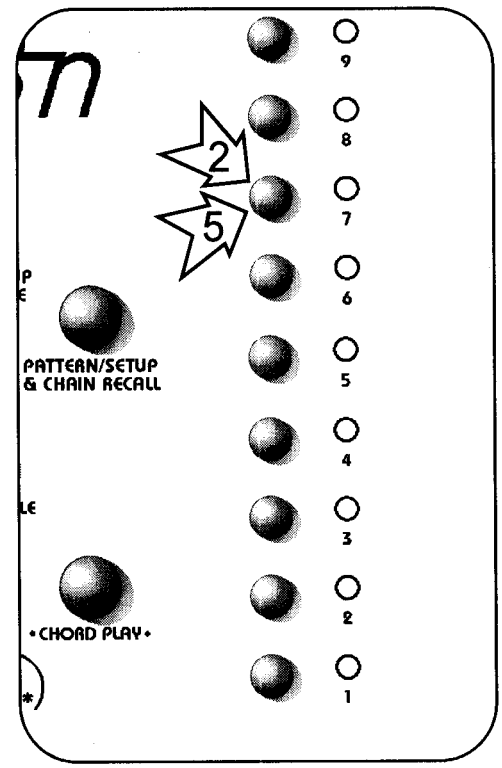
To increase the velocity you must first toggle the F5 LED A on the chosen element to Orange using the F5 button 1.
Then HOLD DOWN the selected active step 2 while using the F5 VELOCITYcontrol knob 3 directly above the element to increase the velocity of that note by turning it clockwise.
You can reduce the amount of accent you are applying by turning the F5 velocity Knob anticlockwise but the velocity WILL NOT GO BELOW THAT OF THE THE PRE-ACCENTED STEP.
The velocity of any individual step has a limit (in midi terms a velocity of 127). It's pretty obvious that if the other steps are close to maximum velocity, you will not be able to hear much difference between them and the adjusted note. In practice we suggest turning down the overall element velocity before increasing the velocity on the chosen step.
Remember, this is basically an accenting tool and by raising the overall element velocity towards maximum levels you potentially (temporarily) reduce the amount of accent.

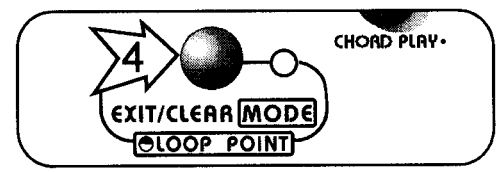
An accent can be removed by first pressing the Exit/Clear button 4 and then the accented step 5, BUT REMEMBER THAT THIS WILL ALSO REMOVE ANY OTHER OFFSETS APPLYING TO THIS STEP including Note Number.

New steps can't be written while the F5 LED is Orange.
The timeout on this function is about 5 seconds.

MR GUIDELINES SAYS
A bit of experimentation will soon give you a feel for this function. The lower the step's starting velocity, the more room for manouver.







A5. ELEMENT CLEAR, COPY & PASTE

These functions are especially useful for quickly clearing an element of all steps or creating duplicates of other elements.
First toggle the F5 button 1 until the LED A is off (blank).
Now HOLD DOWN the Exit/Clear button 4 and turn the F5 Velocity Control Knob 3 of the element you wish to clear (in either direction). All the steps on that element will miraculously disappear, leaving a fresh empty element.
Now toggle the F5 button 1 back to red (it will not timeout).

ELEMENT CLEAR, COPY & PASTE CONTINUED

When using Element Clear make sure you are holding down the Exit/Clear button as you turn the Velocity Control Knob or you may well apply a Sequence Shift (A32) by mistake.

You can copy an entire element to one or more of the other elements using a copy function followed by a paste function.

To select an elemnt to copy press Exit/Clear (led lights Red) followed by the Chord Recall button. You won't get the normal Chord Recall display, instead just the F5 leds will be shown in Orange. You can now pick any element to copy by pressing F5.

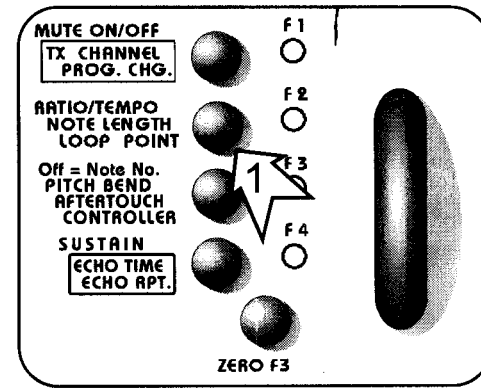
Notron stays in copy mode until you press Exit/Clear.

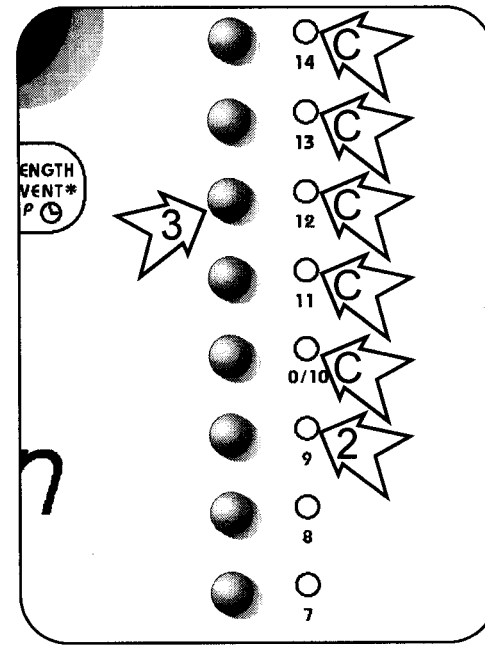
To paste a previously copied element press Exit/Clear (led lights Red) followed by the Chord Save button. As with copy you don't get the normal Chord Save display, instead just the F5 leds will be shown in Orange. You can now pick any element by pressing F5 and your previously copied data will be pasted into this element.

Notron stays in paste mode until you press Exit/Clear which enables multiple copies to be performed.

A6. LOOP POINT

You may have noticed that all the elements have loops of 8 steps. This is the default setting, but each element can actually have a loop of 1 to 16 steps. To change the loop point toggle the F2 button 1 on the selected element to Orange.
You will notice that the LED 2 ABOVE the current loop point and all those beyond it light Orange C .
Now press any other step 3 on the element to set a new loop point. Note that again all the steps above the new loop point light Orange. When the time-out occurs the new loop point will be indicated by an orange LED above it, this is to give you visual feedback of where the sequence ends without clashing with the chaser light display. If you set the loop point at step 16 there will obviously be no orange loop limit indicator as the sequence uses all the available steps. The value can also be adjusted using the F6 Control.

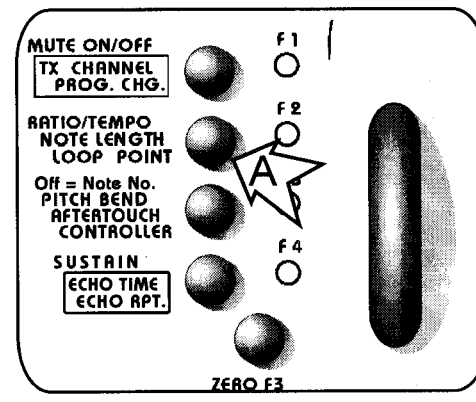


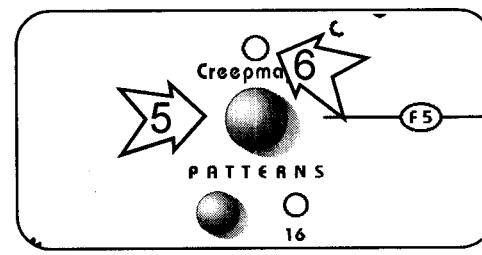


> MR. GUIDELINES SAYS
> Set a new loop point at step 16 and then write in steps over the whole length of the loop. Now set the loop point to 8. If you now reset the loop point to a higher point than 8 you will notice that all the steps you put in above step 8 are still there. You can use this to "hide" part of a sequence and bring it in as a fill or change at a chosen time.

A7. REBOUND

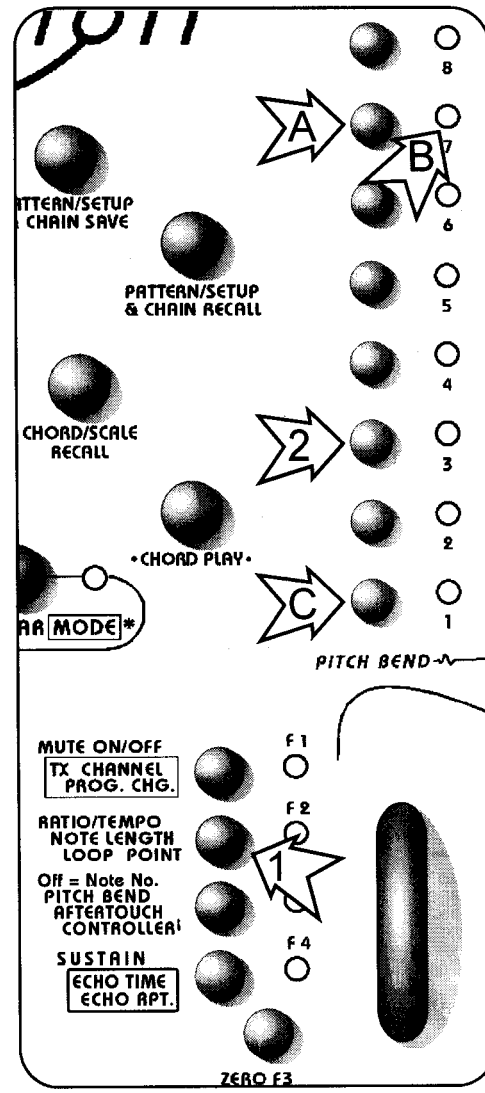
The Rebound function enables a sequence on any element to play from step one to the loop point and then back from the loop point to step one instead of simply cycling as normal.
Toggle ANY F2 LED A to ANY COLOUR ,
then press the F5 button 5 above the element you want to rebound. Wait for the timeout or press Exit/Clear.
The F5 LED 6 will flash to indicate that rebound is on.
To turn rebound off simply repeat the process.





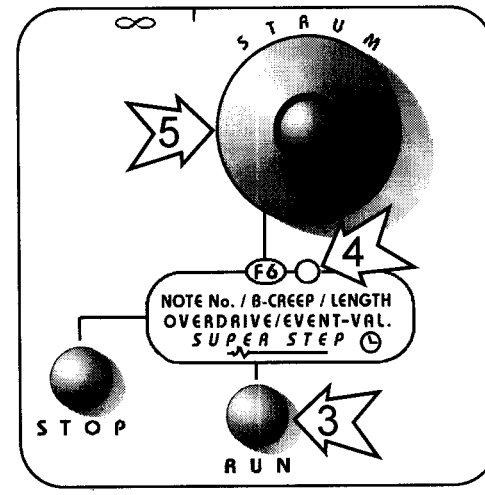
A8. RATIO

Ratio directly affects many of the other functions and can be used to radically change your sounds.
It is the number of midi clocks between each step. Therefore, the amount of time taken for a step to advance to another can be increased or decreased by changing the ratio, almost equivalent to shifting gear with a car or bike.
If you change from the default ratio 6 to a new ratio of 3 you will double the speed of events on the chosen element as you have halved the amount of time between steps.
To change ratio toggle the F2 Button 1 till the LED is Red and then apply a new value by selecting a step from 1 to 16 2 on the target element.The new ratio setting is indicated by a column of red LEDs on the chosen element.The value can also be adjusted using the F6 Control.



A9. OVERDRIVE

This function causes the selected step to be retriggered before the next step. The number of retriggers available is directly related to the ratio setting and will be at the original velocity.
Toggle the Run button 3 so that the F6 LED 4 is GREEN and select any active step A
...the target step will begin to flash B . Dial in a new setting with the F6 CONTROL KNOB 5 . You will notice that the overdrive setting on a step is shown by a column of Green LEDs on an adjacent element. The default setting is all 16 lit (zero), there is no overdrive active at the moment. Select a setting from 1 to 16 C. By selecting 1 the step will retrigger on every midi clock of the current ratio, by selecting 2 every 2nd clock will retrigger the note, by selecting 3 every third and so on.
So, by setting the ratio to 16 and the overdrive to 1 the step will be retriggered 15 times before the next step is played.
You may find with some sounds other than drums that to clearly hear the overdrive retriggers you will have to shorten the note length.



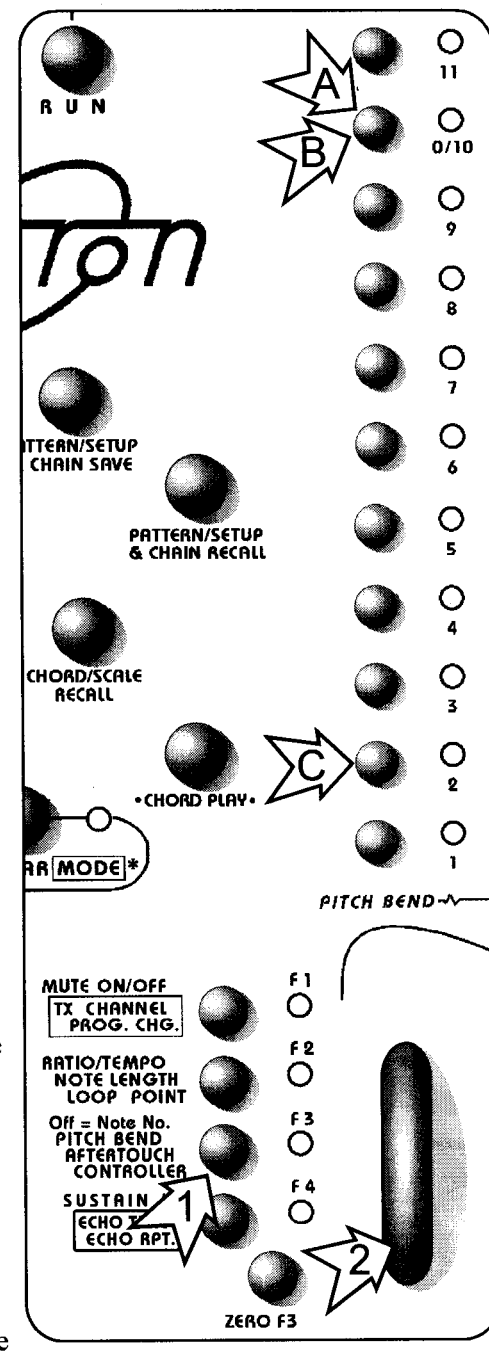
Note You can remove Overdrive from a step by pressing the Exit/Clear button and then the step. However, this will also remove any other offsets from the step.
Overdrives can also be removed as a group from an element by performing the Element Clear method (A4) with the F5 LED set to Green.

A10. AFTERTOUCH

The effects of aftertouch are dictated by the settings on your external sound source. You will probably have to manually select the parameters you wish this function to affect.
To switch aftertouch on simply toggle the F3 Button 1 so the LED is Green and then send the data using the Element control wheel 2.
The data is sent on the midi channel of the element you are using. Note that any other elements set on the same midi channel will also be affected.
We suggest that you check your sound source manual to see which parameters can be affected by aftertouch.

A11. CONTROLLER NUMBER

The effects of controller number data are dictated by the settings on your external sound source. You will have to select the parameters you wish to affect with this function.
To activate a controller number simply toggle the F3 Button 1 on the target element till the LED turns Orange then send the data using the element control wheel 2. We have set a basic midi controller number as default on each element, so when you enter this function you should find that the wheel of element 1 adjusts REVERB (#91).
element 2 =CHORUS (#93), element 3 = PANNING (#10), and element 4 = EXPRESSION (#11).
When you enter the mode you can change the controller number by punching in a new one on the selected element. Using the 1 to 0/10 buttons key in a new three digit number between 0-127.
eg. 0,0,2 equals controller number 2 A , B , C .
The first digit entered will light Red, the second Green and the third Orange, this gives a simple indication of the controller number chosen. The controller number can also be altered using the F6 Control.
The data is sent on the midi channel of the element you are using when you move the element control wheel. If you exit the function or change that elements' controller number, the last position of the previous number will remain in effect .We have found that incredible effects can be achieved by having all elements set to the same midi channel, and simultaneously manipulating 4 different controller numbers, one on each wheel. For total experimentation try adding a bit of echo and adjusting note length and velocity! (For superior control of this function the resolution of the wheel can be fine tuned. You may want to peruse Controller Number Resolution: A29 page 26). Again we suggest that you check your sound source manual to see which parameters can be affected by which controller number(s).



A12. ASSIGN AFTERTOUCH OR CONTROLLER

When the F3 led is Green or Orange (Aftertouch or Controller) you can immediately make the movement of one Element wheel apply values to another element by pressing and holding down the F5 button above the target element and rotating the Element Control wheel on the original element. It's as simple as that!
Aftertouch or Controller data from the element being moved will now be sent to the target element on the target's midi channel (if different).

A13. PRESET & CUSTOM CONTROLLERS

The graphics on the upper right of your Notron show a number of Preset and Custom controllers.

The function here provides a quick way of toggling to your most often used Controller Numbers as accessed via the F3 function under each Element.

Note Although the controllers are only listed on element 4 they are accessed from the corresponding step on the element you are using.

If you have selected a Controller on an element using F3 you can press any of steps 11 to 16 on this element to instantly select a preset controller. The first press lights the step red and selects the first preset, the second press lights the step green and selects the next preset and the third press (surprise surprise) lights the step orange and selects the next preset. The controller presets provided are

Step	Preset #1	Preset #2	Preset #3
16	Portamento (65)	Portamento Time (5)	Sostenuto (66)
15	Mono On (126)	Poly On (127)	Modulation (1)
14	Reverb (91)	Chorus (93)	Expression (11)

Here's an example. The first keypress (lights led Red) on step 14 (on the element you are using!) selects the commonly used controller number for Reverb Depth, the second press (lights led Green) will select Chorus Depth. The third press (lights led Orange) will select Expression. Another keypress ights the led Red and selects Reverb Depth again. The selection will also be shown using the standard 3 digit representation.
The other listed controllers (and the Custom Controllers on steps 11, 12 and 13) obey exactly the same selection logic.

Note When you select Mono or Poly mode you will need to send a value of 0 to get your synth to recognise the signal; pressing the Zero F3 button does this for you immediately.

Steps 11, 12 and 13 are marked as Custom #1, Custom #2" and Custom #3. These are user definable Controller Number settings which allow a further 9 controller numbers to be stored in memory.

If you enter Controller Number mode in the usual way (toggle F3 to Orange on any element) you can create a Custom Controller in the following way.

1. Press one of the buttons at step 11, 12 or 13 on the element you are using.
2. Toggle through the colours to set a place to save the Controller Number into (there are 9 possible locations 'cos there are 3 steps and 3 colours)
3. Type in the Controller Number using the usual 3 digit representation (remember - step 0/10 for zero, step 7 for seven and step 4 for four produces controller 074). The value gets stored when you press the third step.

Note Punching in the value is the ONLY way to create a Custom Controller, using the F6 rotary won't do This leads to a neat result - you can pick a custom or preset controller value then work away from it using the rotary then return to the original (or any other preset) using a single key press.

Mr. Guidelines Says:
For interesting effects during live work stay in the mode and rapidly jump between presets - super !

A14. INVERT MUTE

Invert mute lets you "flip" the mute condition on each element instantly! That is, turn mute OFF on any elements that are currently muted and turn mute ON on any elements that are not currently muted.

> Mr. Guidelines Again:
> It is potentially very musical and is this easy to implement

1. Press the Exit/Clear button (led lights red).
2. Now, with the Exit/Clear led lit, press the Zero F3 button under the second element. This will invert the current mute states on all elements.

> Guidelines Speaks:
> If the Exit/Clear led is still lit (you are still within the time-out...its a good idea to set Timeout to Off in menu page anyway...choice 4/1=Red) you can toggle the mutes back and forth on all elements simultaneously. Watch all the mute leds flick on and off! Great ! !

A15. MIDI KILL

This dumb-sounding-but-super feature lets you simulate a broken midi lead, no less! As you can imagine this feature was stumbled across when testing Notron - a broken midi lead was causing some interesting effects so we turned it into code. It leaves notes hanging (so obviously you should be using a long sound of some kind to hear this) and Notron stops sending out any new notes but continues to play everything else (controllers, pitch bends, events, supersteps and anything else it finds).

1. With a sequence running press Exit/Clear (led =Red) followed by the Zero F3 button under element 3 to turn midi kill on (notice that the F4 leds on all elements switch to orange to show that midi-kill is on).

note that the main display continues to show any unmuted chaser lights playing and take care that you don't leave midi kill turned on. Pressing the Stop button will cancel this feature.

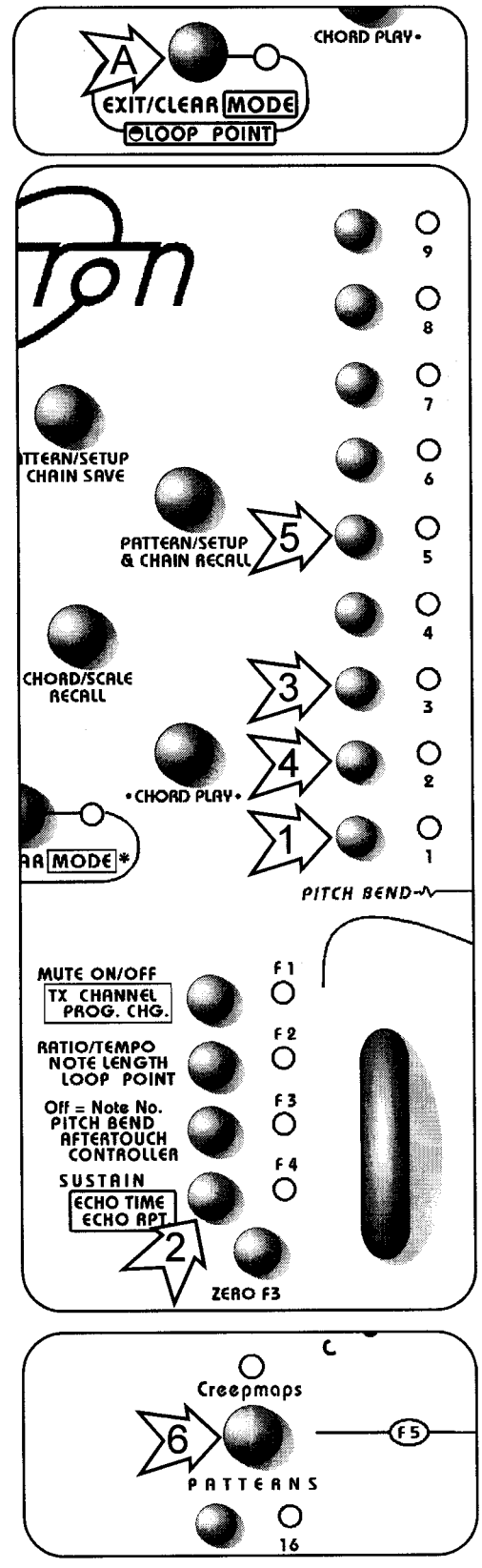
2. Within the time-out press the Zero F3 button on element 3 to toggle this feature on and off or jump straight to the mute invert feature by pressing the Zero F3 button on element 2. This also has the effect of cancelling the midi kill feature (the F4 leds will turn off and return to their normal states (red, green or off) when midi-kill is off).

> Guidelines Urges:
> Go mad with these features...get great broken up sequences...the midi clock is still sent so everything can be captured in an external package.

A16. ECHO CONTROL

This function initially applies echo to ALL notes on an element. Each element can be set individually and the F4 LED 2 will continuously flash green when the echo function is on.
The type of echo is dictated by two parameter settings: Spacing and Delay....
To enter the function first press the Exit/Clear button A, the LED lights red. Now press the F4 button 2 under the selected element, it lights green and the LED display on the element changes to green. This indicates the spacing or timing of the echo in steps. The default setting of 16 is echo OFF. Pressing the F4 button again (while the Exit/Clear LED is still red) takes you to the delay or repeats function. The F4 LED lights orange and the main LED display also changes to orange. Each step now represents the number of repeats.

To see the relationship between timing and repeat settings try this Example;
First set an element to a loop of 8 steps and put a single note on step 1 1. Press Exit/Clear A to red and F4 2 to green. Set the timing to 3 by pressing step 3 3. Now toggle F4 to orange and set the number of repeats at 1 1. You will hear an echo of the original note 3 spaces away at step 4. Now change the repeat setting (orange) to 2 4. A second echo will occur 3 more spaces from the first at step 7. If you now set the timing (green) to 5 5 the distance in steps between the echoes will change so that the first repeat will happen on step 6 and the second repeat will be 5 steps further on at step 3 in the NEXT loopcycle. You can toggle quickly between these options with the F4 button and experiment with different parameter settings. You can also change these values using the F6 Control.
Another important feature of the echo function is the direction of decay. With repeat settings of 8 or below the echoes diminish in intensity as they progress. Settings of 9 or over cause the repeats to gradually get louder until they reach maximum velocity. To make the most of this last effect the starting velocity of the element should be set at a low level.



If the Delete Doubles function (Menu Choice - 3/2) is switched on, (default is ON) the loudest of any simultaneous matching Note Numbers will dominate. If the Kill Consecutives function is switched on (Menu Choices 1/11 to 4/11) any notes of the same pitch produced one after another will be removed (with suitably bizarre results).

Finally, the best bit: for each element you can choose whether you want to leave the echo applying to all notes or only to Red notes or Green notes. (Menu Choices 1/14 to 4/14)

A17. END HANGING NOTES

Sometimes the settings on an element cause notes to continue playing after stop has been pressed. To send an ALL NOTES OFF message which immediately ends hanging notes, first press the Exit/Clear button A (the LED lights red as usual) and then press the F5 button 6 on the offending element. The F5 led above the target element must be off.

A18. ELEMENT VOLUME & PANNING

Many times during performance and composition imbalances between the loudness of instruments and sounds being made mean you may need to quickly turn up or down the Volume of a channel of midi data

Notice we are speaking of Channel Volume here, not Velocity. Velocity can often alter timbre or, particularly in samplers, other parameter (filters, velocity zones / sample triggers etc.) whereas the overall Channel Volume, as controlled almost universally by midi controller 7, usually only performs this one task.

This can be done via the F5 control to change the Volume of the midi channel of the corresponding element and any other elements set to the same midi channel.

We have also provided the "inverse" of this function. This means you can, by turning up or down the F5 control above an element, alter all the other elements set to different midi channels. They will have their volume settings changed in the usual way but the element over which you are moving the F5control will remain as it is!

Panning of a sound on a midi channel can also often need tweaking. The same logic as for the midi channel Volume already described also applies to Panning including the "inverse" feature.

 Make sure F5 led on target element(s) is NOT OFF.

1. Toggle F6 led to Red for Volume or Green for Panning.
2. Rotate F5 Control above target element (the leds light below in the main area giving a rough idea of the Volume or Pan setting which will be between 0 and 127).
3. For the inverse function...On toggling F6 to Red or Green HOLD DOWN the F6 button whilst...
4. Rotating F5 Control above the element you wish to remain unchanged.

A19. GLOBAL VOLUME & PANNING

The Tempo Control (which is also called the Global Control) can be used for Pan or Volume across all 4 elements simultaneously with accompanying led display.

Controller resolution (set on each element when F3 is Orange) determines how quickly or slowly each element responds to movement of the Global Control.

From within this 4 element view of the respective midi Pan or Volume outputs you can use the F5 controls to adjust individual element Pan or Volume setting.

 Make sure that the F5 led above any element you wish to change in this way is NOT set to Off, otherwise you will be accessing Element Beatcreep.

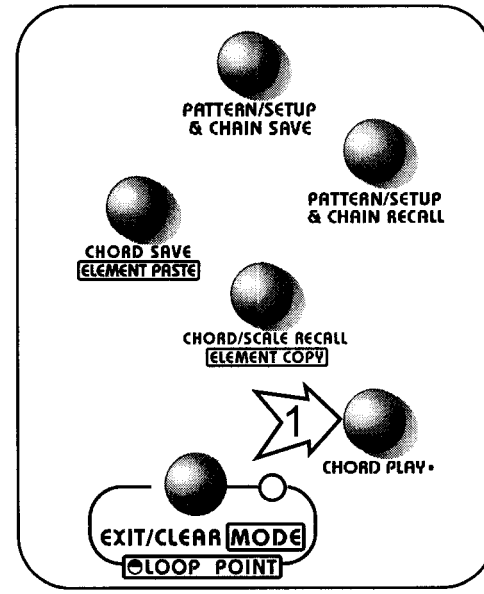
1. Toggle F6 led to Red for Volume or Green for Panning.
2. Rotate the Global Control (the leds light below in the main area giving a rough idea of the Volume or Pan setting which will be between 0 and127).
3. For further individual "tweaks" rotate the F5 Control above the element you wish to alter.

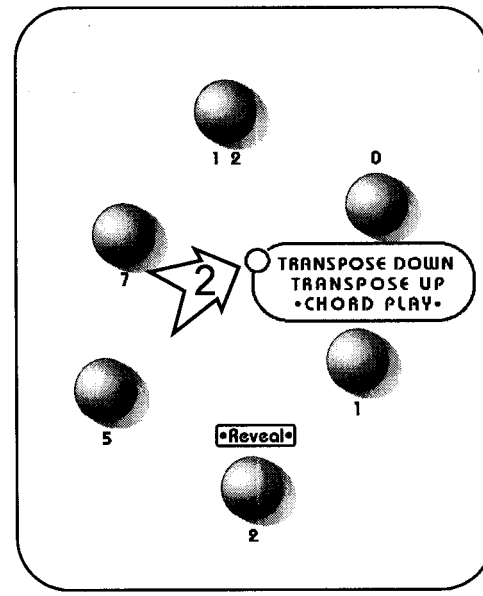
A20. SOLO STEP

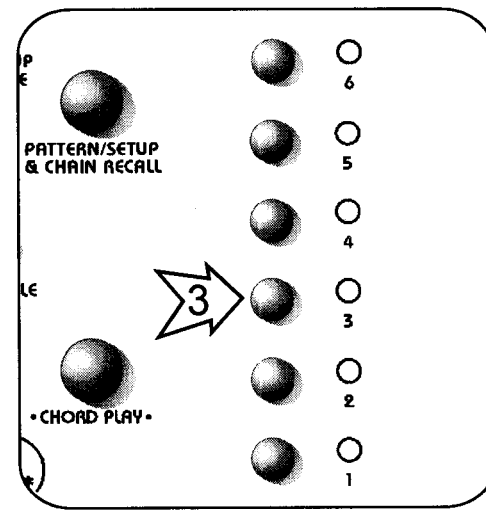
This feature is very useful for checking the dynamics of each individual step without the distraction of others.
First put Notron into Stop mode by pressing the Stop button. Now press the Chord Play Mode button 1 .To indicate that Notron is now in this mode the LED in the Transpose Area turns Orange 2 . If you select and press an active step 3 it will play. By holding down the step you cause it to play solo as if you were in Run Mode; all the offsets applied to the step occur, including any interaction with steps and events on other elements set to the same midi channel. The solo step will continue to play at it's position within the loop at the currently selected tempo as long as you hold down the button.
Certain parameters of solo steps can be adjusted while you are playing them, basically all the knobs and wheels except F6: Note Length, Note Velocity, Tempo and Transpose with the Element Wheel. Again, changing settings on other elements set to the same midi channel may affect the solo step.

Note Remember that all these alterable parameters are GLOBAL and will change sounds on the whole element, not just the solo step.

Note You should also note that any steps or events on muted elements can not affect solo steps, though of course they may when unmuted.

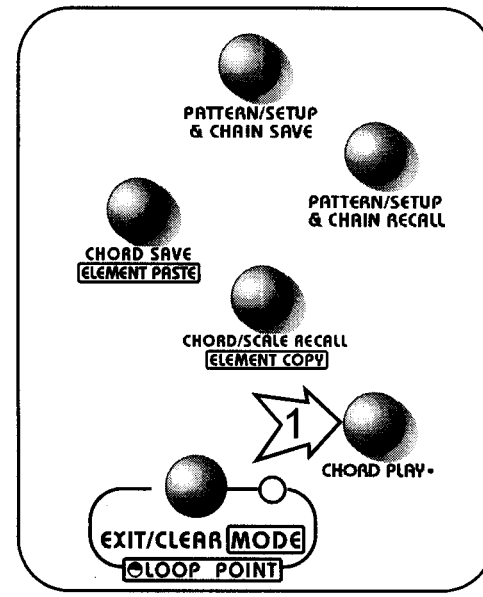




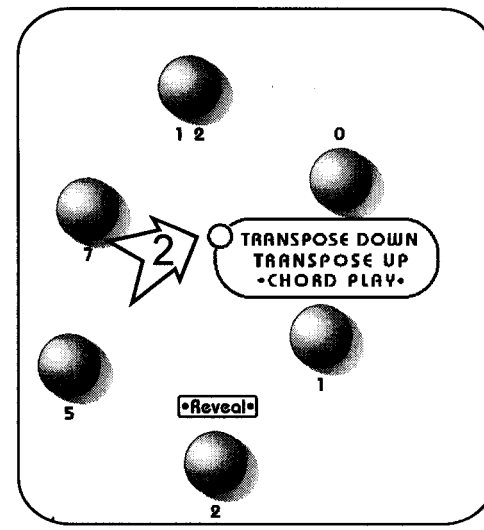


A21. CHORD PLAY MODE.

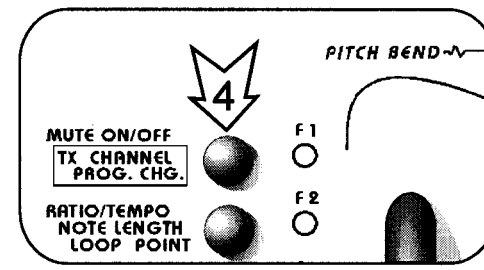
One of Notron's most interesting features is the ability to manipulate chords.
First save any work in progress that you might want to keep.
Now reset Notron to the default state either by recalling an empty pattern and setup, or by simply unplugginng the power-supply then plugging it in again. This will give you a clean canvas to work with and make it easier for us to explain.
Set all elements to a sound that will be good for playing chords. (we recommend our old favourite piano or organ), with either the midi channel controls or programme change or by assigning that voice on your sound source to midi channel 1.)
Unmute 4 all elements.
Now press the Chord Play Mode button 1. The LED in the transpose area 2 will light Orange to confirm that you are in Chord Play Mode.



Note You can not Exit/Clear from this mode, nor does it time out. To get out of this mode you must press the Chord Play Mode button again.
While in Stop mode press the 0 Interval button A in the transpose area.
A chord will play. The default chord you are hearing is C major.



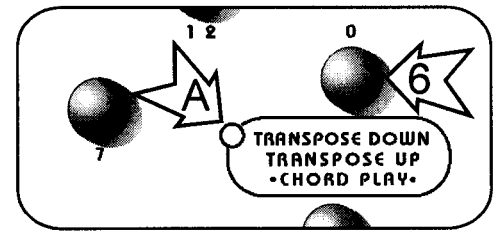
Some explanation.....
The concept behind Chord Play Mode is relatively simple:
Each element has a Starting Note Number.
When you power up Notron and programme steps onto element 1 they will all be at the same pitch; C2, with a default starting note number of 48.
The default starting note number for element 2 will be 52 (four semitones up, to the pitch of E2, a major third interval).
Element 3 will be at note number 55 (three semitones further up to G2, a fifth above C2), and element 4's starting note number will be 60 (C3; middle C which is an octave of C2).
Basically; 1 = C, 2 = E, 3 = G, 4 = C. Together = C major chord
So, if from startup you activated step 1 on each element and pressed Run you would hear a 4 note chord of C major at the beginning of each loop.
In Chord Play Mode, pressing the 1 interval button B in the transpose area effectively plays the same chord but with each of the notes one semitone higher than the starting notes.
Interval button 2 C plays two semitones higher, and so on up to Interval button 12 D which is up an octave.

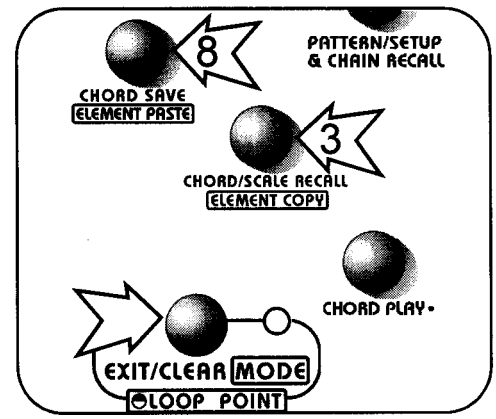


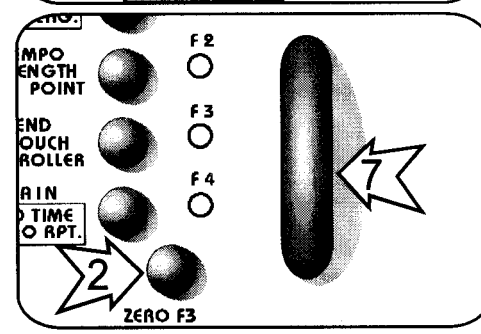
Note It is important to remember that certain changes/offsets applied to an element will affect the relevant starting note in the chord:
*Whatever voice is assigned to an element will play as that note in the chord, even drum sounds.
*An element's velocity settings will apply to it's note within the chord.
*If an element is muted that note in the chord will not play.
*Moving an element control wheel will alter the pitch of that element's chord. (To return to the starting note press Zero.To zero all elements at once press Exit/Clear then element 1's Zero.)

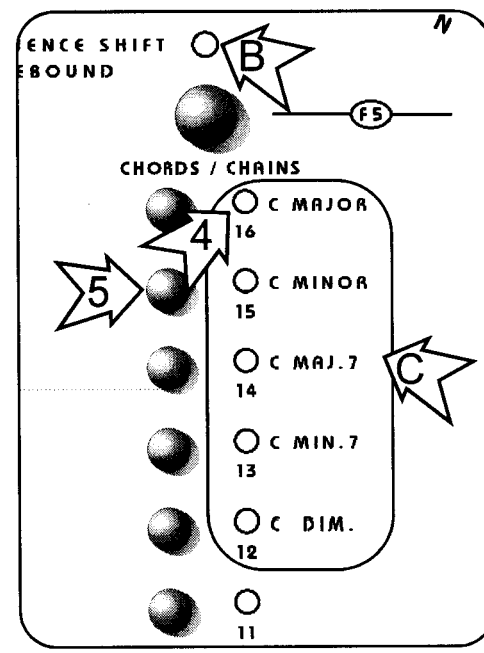
MR. GUIDELINES SAYS
When in Chord Play Mode it is not possible to adjust any individual steps already programmed. You will have to press the Chord Play Mode button and get back to the normal play mode.

A22. CHORD RECALL.









Now that you understand the Starting Note Number concept it's time to look at the ways of changing them.
You should currently be in Chord Play Mode, with the Transpose Area LED (A) Orange, and in Stop Mode. First zero all elements by pressing Exit/Clear (1) then the element 1 F3 Zero button (2). Make sure none of the elements are muted.
Now press the Chord/Scale Recall button (3). The F5 LEDs (B) above the elements light Orange and five Green LEDs appear at the top of element 3 (C).
These Green LEDs represent preset chords that you can recall. Notice that Chords are printed next to the top five steps and that the C major step LED (4) is flashing. This indicates the Current Chord, at present C major.
If you now activate step 15 (5) and then press the 0 Interval button (6) in the Transpose Area, you will hear a C minor chord. The chord on step 15 is now the Current Chord and it's LED flashes.
You have just altered all the Starting Note Numbers on each element to those that form a C minor chord. The interval buttons will now play minor chords.
Check out all the preset chord settings and notice that recalling any empty chord location sets all element Starting Note Numbers to 48 (C).

Note If you now apply offsets to the elements by moving the Element Control wheels (7) you will change the notes and in effect create new chords. NOTRON REMEMBERS THESE OFFSETS and if you now recall another chord IT WILL APPLY THEM TO THAT CHORD.
To remove all offsets press Exit/Clear (1) and then the F3 Zero button (2) below element 1, and the Starting Note Numbers of the Current Chord will be re-applied.

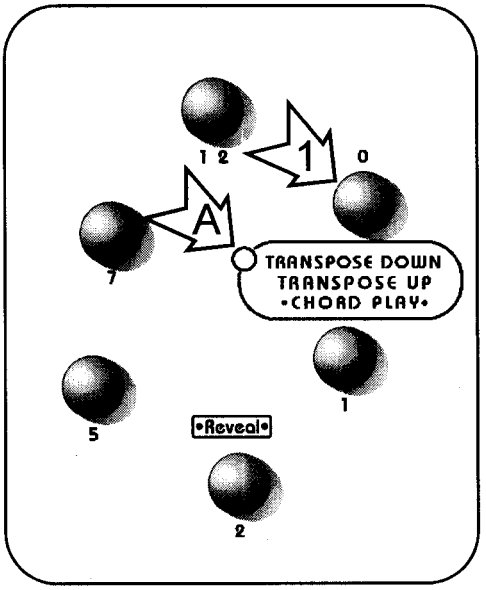
Note Because recalling a chord changes the Starting Note Numbers of elements, any INDIVIDUAL steps already programmed will change. Their offsets will now apply to the new Starting Note numbers of the Current Chord.
This leads us nicely on to Chord Save...

A23. CHORD SAVE.

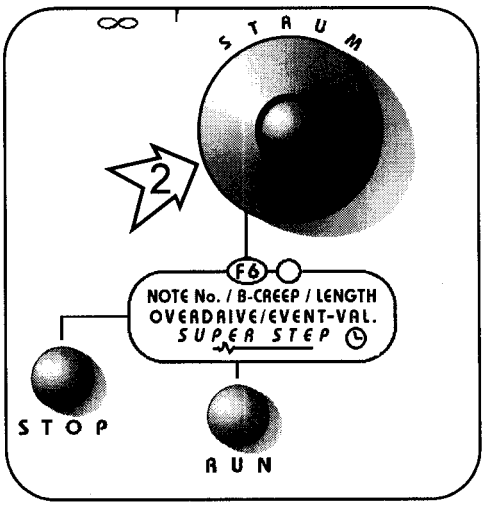
The blank steps below the preset chords in Chord Recall Mode represent empty slots where you can save your own customised chords.
While still in Stop and Chord Play Mode create a new chord by adjusting the Element Control Wheels (7). Press the 0 interval button (6) to hear the new chord.
When you have built a chord you like, Press the Chord/Scale Save button (8). The preset chords on element 3 reappear, with the Current Chord flashing, only this time the LEDs are Red.
You can now save your new chord to a blank step to be recalled at will. You can save chords to any of the non preset positions overwriting ones already saved.To clear a saved chord while in Chord Save Mode simply press the Exit/Clear button (it does not light Red), and then press the Red location to be cleared.

A24. STRUM UP/DOWN.

OK, you now know how to write, save and recall chords.
To go a step further try this;
Make sure that you are still in Chord Play Mode, all elements are unmuted and set to the same midi channel, and that Notron is in Stop Mode.
Press the 0 interval button 1 in the transpose area to hear whatever chord you have programmed.
Now turn the F6 Control Knob 2 three or four clicks to the right. Press the 0 interval button again. You will now hear your chord played as if it was being strummed. Rotating the F6 knob more will increase the spread of the strum. If you turn the F6 knob back to the left the spacing between notes will decrease back to it's original setting and then reverse the direction of strum. The LED A in the transpose area will flash Orange to indicate that the chord has a strum in effect. You can use this indicator to find the original simultaneous chord; wind the F6 knob until the LED stops flashing.

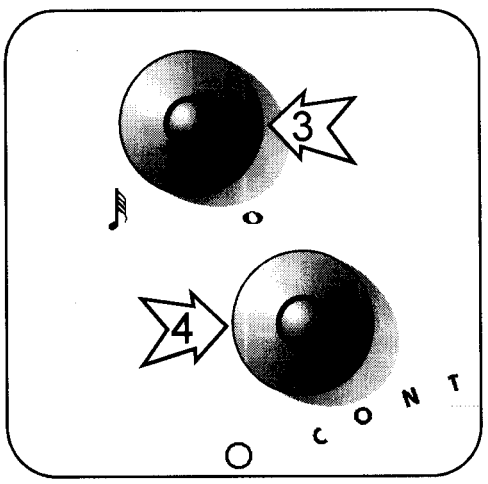


Note You may find that some of the separate notes of the strummed chord sound louder or longer than others.This is because in Strum Mode both Velocity and Note Length apply. You can easily set each element/note to the same Note length with the Note Length Control Knobs 3.
The element/note velocity must be adjusted by ear with the Velocity Control Knobs 4.



Note A particular strummed chord can not be individually saved, you will have to save the chord it is based on and re-apply the strum when you recall it.
However strums, like chords, CAN be recorded as you will see in the next chapter.

Note To quickly remove the strum from a chord press Exit/Clear and then the 0 interval button.



A25. CHORD AND STRUM EVENT WRITE

Events are automations of keypresses or wheel movements. They can be written onto steps and are triggered every time the chaser light reaches that step. They can be applied to a step that already has a note on it, or written on to blank steps. Normal steps can also be programmed on to steps already containing an event, and all normal steps under events can be manipulated as usual.
There are several types of events available to the Notron user. These are: Note Number, Pitch Bend, Aftertouch, Controller, Chord, Strum, Transpose, Sequence Skip and Pause Sequence.

In this chapter we will only deal with chord and strum events.

Again we recommend that you learn to use this function with Notron in a clear state with all elements unmuted.
Make sure that you are in Chord Play Mode by toggling the Chord Play Mode button 1 till the LED A in the transpose area is Orange.
Both chord and strum events can be applied to steps from Stop or Run Mode. Stay in Stop Mode for the moment. Select or create a chord or strum using the methods described in the previous chapters. Now toggle the F6 LED B to green using the Stop button 2. Choose a step to programme your event onto and press it. The step will flash orange to indicate that it is ready to receive an event. Now press any of the interval buttons in the transpose area. You have just programmed in your first event.
To hear the event as it would play in the sequence, either exit from Event Write Mode using the Exit/Clear button 3 and use the Solo Step function to check your event, or press the Run button 4. Return to Event Write Mode (F6 LED is Green) in Stop Mode and compose and programme in more chord or strum events on empty steps, or overwrite existing events. Press Run to hear your new events all together. You will notice that event steps cause the chaser light to turn Green as it passes them.

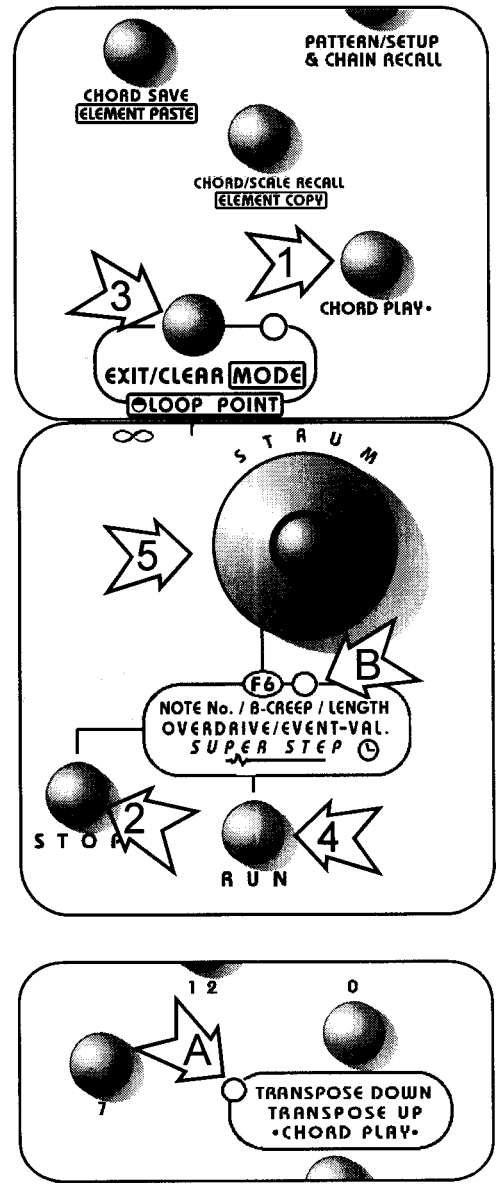
A26. CHORD AND STRUM EVENT EDIT MODE

While the sequence is running, and Event Write Mode is active (F6 LED is Green), HOLD DOWN a step with an event on it and rotate the F6 Control Knob 5. You can now edit the strum action of the event on the fly, making chords into strums in either direction.
(Remember that the transpose area LED A will flash when a strum is active and stop flashing when you return to the original chord.)

Note When in Event Edit Mode the last movement of any control that can cause an event will overwrite the selected (flashing) step with its event type, so take care to exit Event Write/Edit as soon as you've set the step how you want it.

Note Each step can only ever contain ONE event, e.g. one chord OR a strum OR one of the other types of events.

Note Events written to steps are saved as part of a pattern.



MR. GUIDELINES SAYS

Events are channelwide; if you have lots of overlapping chord or strum events written to elements on the same midi channel, the Delete Doubles function (if applied - see Menu Option - 3/2) may well affect notes of the same Note Number on the same step.
Also, the polyphony of your sound source will dictate how many different notes can be played on the same step.

MR. GUIDELINES

Three things to remember with chords and strums:
1. If a channel is muted while WRITING the event you will not hear the corresponding note, though it will occur in the event.
2. Echo does not affect chords and strums.
3. Overdrive does affect chords and strums.

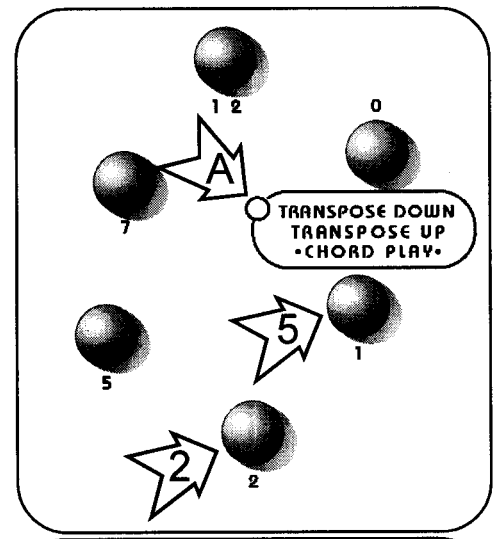
A27. FINE TRANSPOSE.

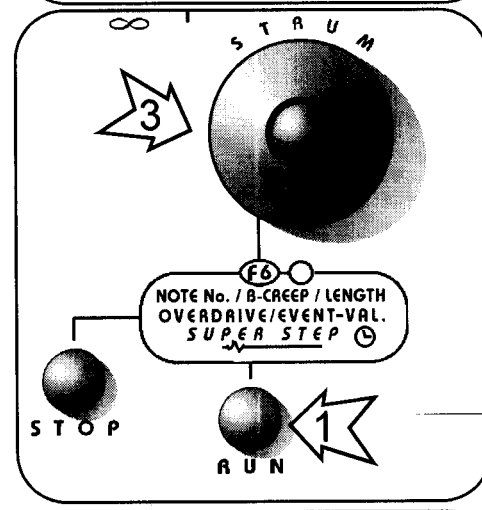
This function allows you to quickly and radically transpose chords during their composition.
Notron must be in Chord Play Mode (the LED in the transpose area Orange).
Toggle the F6 LED 〉A〈 to Red with either the Run 〉1〈 or Stop button.
Press one of the Interval buttons 〉2〈 in the transpose area to hear the current chord.
Now rotate the F6 Control Knob 〉3〈 to apply a Fine Transpose to the chord, the F6 LED 〉A〈 starts to flash indicating that the F6 Control Knob has been moved from it's zero position. The LED will continue to flash (in any of it's colour settings) when a Fine Transpose offset is present.

note The Fine Transpose function is independent of single notes/steps on the sequencer elements, it only affects the group of note numbers triggered by chords and strums.

note Fine Transpose offsets can be removed by pressing the Exit/Clear button 〉4〈 followed by Interval button 1 〉5〈 (while still in Chord Play Mode).

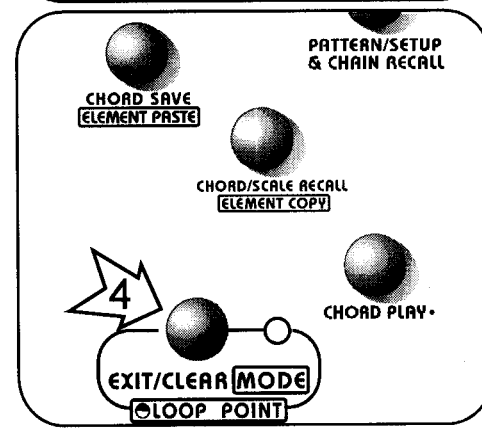
note Fine Transpose can NOT be saved in any way (though you can obviously save chords you have affected with this function). It will remain active until cleared.

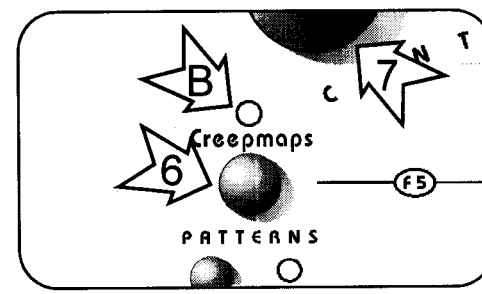




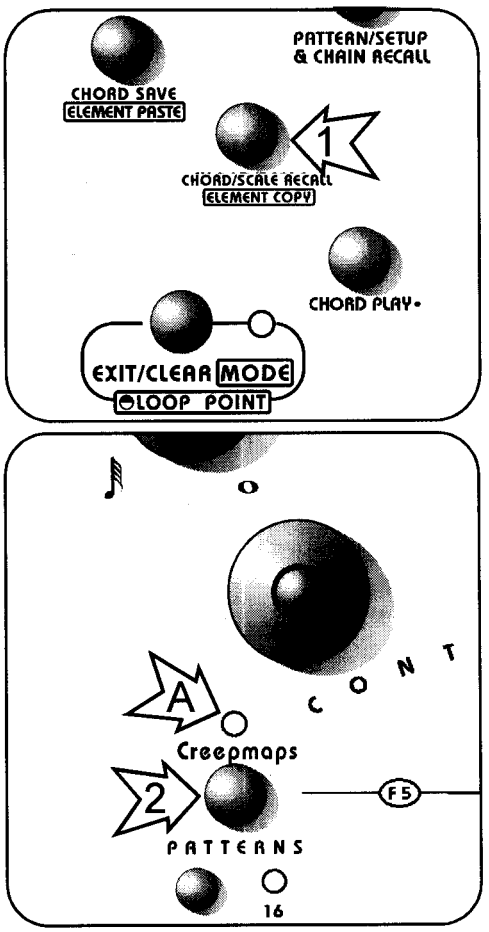
A28. ELEMENT CLEAR (GREEN EVENTS)

This function is especially useful for quickly clearing an element of all events written with a Green F6 LED (Chords for example).
First toggle the F5 button 〉6〈 until the LED 〉B〈 is Green.
Now HOLD DOWN the Exit/Clear button 〉4〈 and turn the F5 Velocity Control Knob 〉7〈 of the element you wish to clear (in either direction). All the Green events on steps on that element will be removed, no other notes or events will be affected.





A29. SCALE ASSIGN



This function gives you incredible control over the feel of the music you are creating. When a scale is assigned to an element ALL notes, (including chords and strums if the Menu Choice 2/9 is enabled) are moved in pitch to fit within that scale.

First programme a few steps with different note numbers into an element, or recall one of your saved patterns. Set it running.
Now press the Chord/Scale Recall button 1 , all of the F5 LEDs A light Orange and the main area display changes to show preset and saved chords on element 3.
Press the F5 button 2 on the target element, the F5 LED A flashes, and the currently selected scale is indicated by a red flashing LED on element 4. At present the default state of NO scale (step 1) should be lit and flashing red. This is scale 1 of Set A of the three banks of scales available. To select scale 1 of Set B simply toggle the flashing step 1 element 4 to Green. Toggle once more and you will enter Set C, indicated by an Orange LED. If you toggle step 1 again you will return to Set A (Red).
You can now choose a new scale to apply to the element by selecting a step on element 4 and toggling it to one of the three sets. Have a look at the range of
available scales on page 22 or pick one at random.

Note Timeout DOES apply to this function.
Pick a scale and apply it by pressing it's step, you will hear the notes in the sequence change to fit within the scale.
The target element's loop point will begin flashing to indicate that a scale (other than "no scale" on step 1) is in effect.
All notes already present, or programmed in from now, will be moved to the nearest note within the scale. If you now transpose the element using the Element Control Wheel you will hear them switching to fit. All events that alter note numbers will also be constrained by an assigned scale.

Note Scales can be assigned in both normal and Chord Play mode.

Note Different scales can be applied to seperate elements for really unusual effects.

Note Scales are saved as part of a pattern.

Note The KEY of all scales is derived from the Starting Note Number of element 1 PLUS whatever offsets are currently applied to it. This means that any transposing of element 1, with the transpose intervals or a transpose event, will also affect other elements that have a scale applied to them. You should bear this in mind in particular when elements are muted, and not responding to transposes: Their key may still be changed.

Note If you want to apply a scale to all elements simoultaneously then don't bother to pick one - when the F5 leds light the skip straight to selecting a scale.

A30. SCALES

Notron has fortyfive pre-set scales that can be assigned to elements. They are arranged in three Sets which can be selected whilst in Scale Assign mode as described in the previous page. The default set is A, the alternate sets are B and C. They are listed below.

SCALE A (RED)

STEP	
16	Hungarian 2
15	Balinese
14	Aeolian (Natural Minor)
13	Mixolydian
12	Lydian
11	Phrygian (Flamenco)
10	Blues 2
9	Blues 1
8	Major Augmented
7	Lydian Diminished
6	Diminished
5	Pentatonic
4	Harmonic Minor
3	Melodic Minor
2	Ionian (Major)
1	No scale (Default)

SCALE B (GREEN)

STEP	
16	Raga-Todi
15	Hungarian 1
14	Arabian
13	Mixolydian + 11-9
12	Persian
11	Japanese 2
10	Japanese 1
9	Chinese
8	Oriental
7	Dorian (Jazz/Blues/Rock)
6	Locrion (Japanese)
5	Major Pentatonic (Country)
4	Latronic 1
3	Minor Pentatonic (Blues)
2	Minor Pentatonic
1	No Scale (Default)

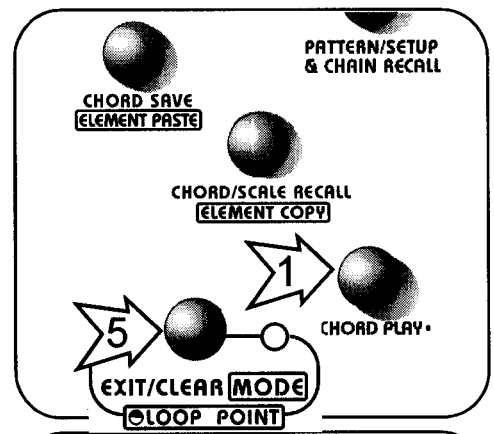
Mr. Guidelines Says:
Check out the scales in Set C. They are unique to Notron (as far as we know).

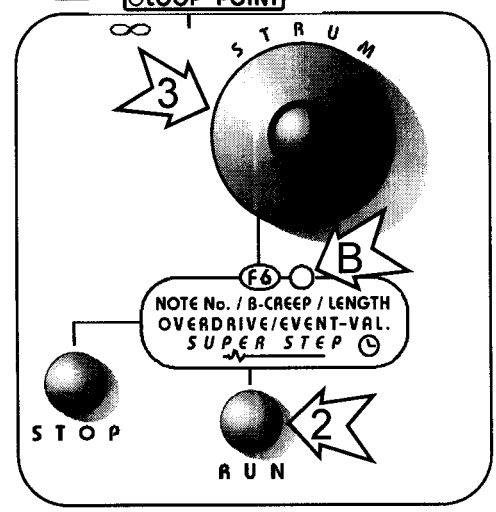
SCALE C (ORANGE)

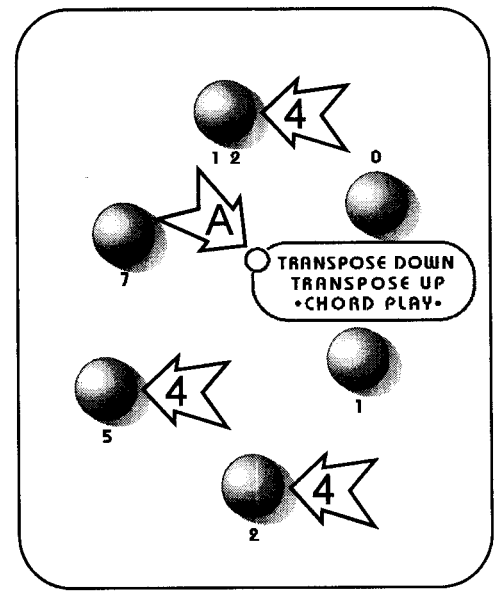
STEP	
16	Whole Tone
15	Dave's Thing
14	Minor Pentatonic (truncated).
13	Natural Minor (truncated)
12	Myxolydian (truncated)
11	Lydian (truncated)
10	Phrygian (truncated)
9	Blues 2 (truncated)
8	Blues 1 (truncated)
7	Major Augmented (truncated).
6	Lydian Diminished (truncated)
5	Diminished (truncated)
4	Pentatonic (truncated)
3	Harmonic Minor (truncated)
2	Major (truncated)
1	No Scale (Default)

A31. STEP FILL MODE

Step Fill Mode allows you to automatically write a chord ACROSS the four elements, with each note on an individual step.
Unmute all the elements and set their loop points to the same position.
This function is accessed from Chord Play Mode, so first press the Chord Play button 1 until the transpose area LED A is Orange. Second, Toggle the F6 LED B to orange with either the Run 2 or Stop button.
You will notice that a line of Orange LEDs appears, running across the four elements.
Now turn the F6 Control Wheel 3, the line of LEDs responds by moving within the loop.
Each position is a WRITE POINT for a Step Fill action.
Now press an interval button 4 to write that chord across the elements. If you run the sequence all the seperate steps will combine to sound the chord.
The chord is not an event, it is a collection of separate steps which can be manipulated as normal (though you will have to exit Chord Play Mode to do this).
You can quickly fill elements with steps from different chords by winding the F6 Control Wheel to a new write point, recalling or creating a chord, and applying it with an interval button.
Write points can be overwritten with new chords.
To remove the filled steps Press Exit/Clear 5 while at the write point you wish to clear.





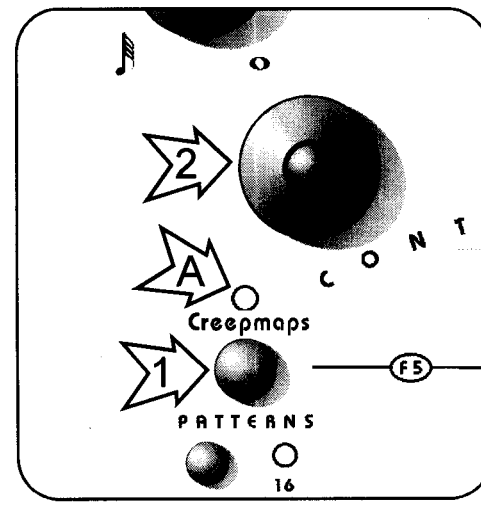


Note You will find that the SHORTEST loop sets the limit of movement. This also means that when running, filled steps on elements that have different loop points will play at different times as the sequence runs. This can produce some interesting effects.

Note If you have used Sequence Shift on any elements, the erase function of Step Fill will still work, but you may be clearing steps that were not originally written in Step Fill Mode.

Note Step fill Mode will write single notes to steps that already contain events (chords, strums etc...). These events will not be cleared by the erase function.

A32. SEQUENCE SHIFT



This is a pretty cool feature, it allows you to move the starting Play Point of the loop of an element to any step within the loop. This function can only be accessed from Run Mode. To easily see the effect clear all the elements of active steps and set them to matching loop points. If you want to also hear the shift, programme a few steps onto each element.
Select an element you want to shift and toggle the F5 LED ⟩A⟩ to Off using the F5 button ⟩1⟩ . Now rotate the target element's F5 Control Knob ⟩2⟩ . The chaser light on the element will jump forwards or backwards depending on the direction you turn the knob.

Note The new play point will immediately come into effect. This could result in the repeat of previously played notes, depending upon the position of the new play point.

Note Sequence Shift only applies during play and is not saved in any way.

Note Sequence Shift can be applied to an element while it is muted.

> MR. GUIDELINES SAYS
> This function can be used to drastically alter tracks involving more than one element. By sequence shifting one element against another tracks can be easily made to sound completely different, yet still related, in real time.

A33. REAL SEQUENCE SHIFT

Whereas sequence shift, described above, moves the Play Point of a loop, Real Sequence Shift actually moves the programmed steps and events within a loop.
First programme a few steps on to each element.
This function can only be accessed from Stop Mode.
Toggle the F5 LED ⟩A⟩ of the target element to Off using the F5 button ⟩1⟩ . Now rotate the F5 Control Knob ⟩2⟩ . You will notice that the whole sequence of active (lit) steps is shuttled backwards or forwards within the loop. It wraps round, so that steps moved past the loop point reappear at step 1 and then move on up, or the reverse if the knob is turned anticlockwise.

Note The new positions of steps can be saved as part of a pattern.

> MR GUIDELINES SAYS
> Remember that if you programme steps on an element and then reduce the size of the loop, the steps above the new loop point remain, although they are hidden. By doing this, then using real sequence shift on the visible steps, and then increasing the size of the loop again, you can cut up sequences into new structures.

A34. LOOP SWAP

Here's another function that lets you change the current sequence using a single key press. Usually you'll have steps lit and triggering up to the loop point but that will generally leave a number of steps BEYOND that point which are unused. We couldn't leave them alone and you'll already know ('cos you've read the manual) that you can create steps anywhere and then "cover" them by moving the loop point to a lower step. To swap these steps into the loop press the loop point step (the one thats lit Orange) - the covered steps get moved to the lower loop and the lower loop gets moved out of the way. Press the loop point again and the original comes back so you can use this in run mode to drop variations in and then return to the main theme. If the loop point is at step 9 (default at power on) then the effect is a toggle - if the loop point produces uneven halves then groups of steps get slid in, eventually returning back to the starting condition. But select menu option 3/10 and you'll get a toggle effect on short and long loops.

You can get the "inverse" of this effect by pressing Exit/Clear (led lights Red) and while the led is lit pressing a loop point step on any element. The result is that all the elements apart from the one that has been pressed are swapped using the same rules as with the single element swap.

A35. CREEPMAPS

You can select individual or all elements simultaneously to have this effect.

Creepmaps are convenient preset groups of spacings (Beatcreeps) placed at key steps within the steps on the element. In other equipment this feature is sometimes called "swing" or "human feel". The Notron implementation is very flexible and near infinite!

There are 15 available Creepmaps selectable from steps 2 to 16 on element 1.
If you select the setting at step 1 on element 1 you will be selecting OFF (but see the note).
Depending on whether you have specified all elements or just one for the Creepmap effect when you press your selection the map will be in place immediately and you should be able to hear subtle or dramatic variation in the timing of steps straight away.

Creepmaps, are preset values which can also be overridden using the Beatcreep function if desired.
Some preset Creepmap settings are good at some BPM's but not others. These maps in their plain state are optimised for the 133-145 BPM range. But this isn't the law!!

1. Press Chord/Scale Recall
2. If just one Element needs the effect select it by pressing an appropriate F5 button above that element. (F5 led flashes Orange-any previously selected Creepmap will light in element 1 as a red led.) If all elements are to be affected then don't select an element (obvious really).
3. Enter a value between 1 and 16 by pressing a Step button on Element 1.
4. Stay in this mode and keep picking maps or press Exit/Clear to get out.

If menu choice 1/9 is off then step 1 selects an empty map - the effect is to clear all creeps on any selected elements. If menu choice 1/9 is Red, Green or Orange then you get an add, subtract or multiply effect between the map and ANY crept steps - forget the sums, just use the variations that this produces, it allows an almost infinite variety of swings to be explored.

Selecting 14-16 places a random value (the same value) of Creep on certain steps. Each time you press 14,15 or 16 a new random value will be given.
Map 14 places these values on every second step starting with steps 1,3,5 etc.
Map 15 places these values on every second step starting with steps 2,4,6, etc.
Map 16 places these values on every fourth step to give steps 3,7,11,15 with creeps on.

A36. CREEPMUTE

This function allows you to drop in or drop out any step Beatcreep values on an element. Creepmute is accessible from within the Crepmap/Velomap function.

Creepmute does not affect Element Beatcreep, only Creeps on individual steps within the element.

1. Press Chord/Scale Recall
2. Press the F5 button above element 1 to access Creepmute
3. Press the F2 button under any element(s) to mute or unmute crept steps within the target element(s).
4. The F2 led will light Red to show that Creepmute is ON.
5. Stay in this mode and keep muting and unmuting or press Exit/Clear to get out.

A37. VELOMAPS

You can select individual or all elements simultaneously to have this effect.

Velomaps are convenient preset groups of velocities placed at key steps on an element. Menu choice 2/10 allows near infinite manipulation of values and the effect works by inserting preset velocity offsets in patterns that correspond to those used for Creepmaps.

A Velomuting function can be applied globally or to individual elements by pressing step 1 on element 2 to remove the velocity offset on steps.

As Velomaps share the maths of the Creepmaps and, as some have values of 0, some steps may apparently be muted. This can be very effective...but be aware of why steps may not be sounding!
The menu choice at 2/10 may cure this if it needs curing.

There are 15 available Velomaps selectable from steps 2 to 16 on element 2. If you select the setting at step 1 on element 2 you will be selecting OFF.

Depending on whether you have specified all elements or just one for the Velomap effect when you press your selection the map will be in place immediately.
You should be able to hear subtle or dramatic variation in the velocity of certain steps straight away.

Be aware also that, particularly in the Normal mode (menu 2/10=Off) state, Velomaps take their starting values as the current settings for velocity as set by the Red or Green Element Velocity controls. The Velomap values are then added to these.
In short, keep the overall Velocity settings quite low before applying this feature to hear the difference it makes, especially in Normal mode. The other menu choice modes allow wild and more dramatic variants with strange "step muting" apparently occurring.

1. Press Chord/Scale Recall
2. If just one Element needs the effect select it by pressing an appropriate F5 button above that element. (F5 led flashes Orange-any previously selected Creepmap will light in element 1 as a red led.) If all elements are to be affected then don't select an element (obvious really).
3. Enter a value between 1 and 16 by pressing a Step button on Element 1.
4. Stay in this mode and keep picking maps or press Exit/Clear to get out.

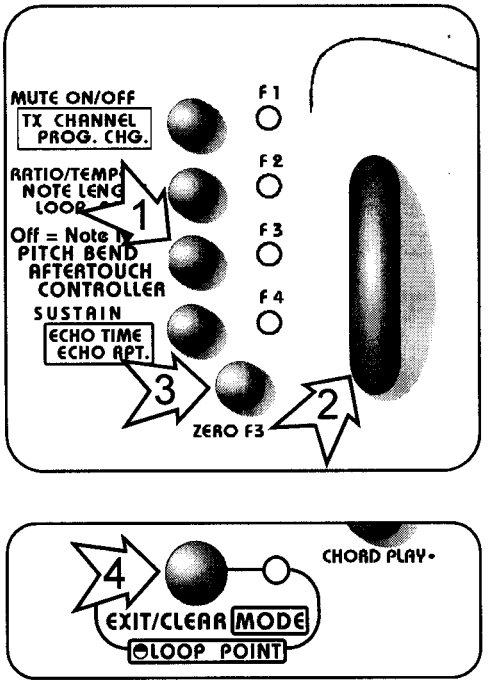
If you switch in the menu choice 2/10 to any of its Red, Green or Orange settings each keypress of the Velomap is added, subracted or multiplied by any previous value on the steps. This allows an almost infinite variety of velocities.

Make sure your synth/sampler etc reponds as fully to Velocity as possible to get the most from this beautiful featur

A38. PITCH BEND

Your external equipment may need adjusting to 'see' Pitch Bend messages. The default settings on the majority of sound sources are usually +/- 2 semitones. The higher the range setting, the more pronounced the effect.

To apply pitch bend first Toggle the target element's F3 LED to Red using the F3 button 1. Now move the Element Control Wheel 2 to send pitch bend data on the currently selected element's midi channel. You will hear the pitch bend affect any active notes and the F3 LED begins flashing to show that a non zero position is set.



Note The pitch bend function doesn't time out; toggle out of it. Any pitch bend you have applied will remain in effect.
To zero this function and remove any pitch bend, simply press the Zero F3 button 3 while still in the mode.

Note Other elements set to the same midi cannel will have their midi data effected

Note Pitch bend settings at the moment of saving are stored as part of a setup.

Note When pitch bend reaches a maximum value it does not 'roll-over', postive wheel movement has no further effect.

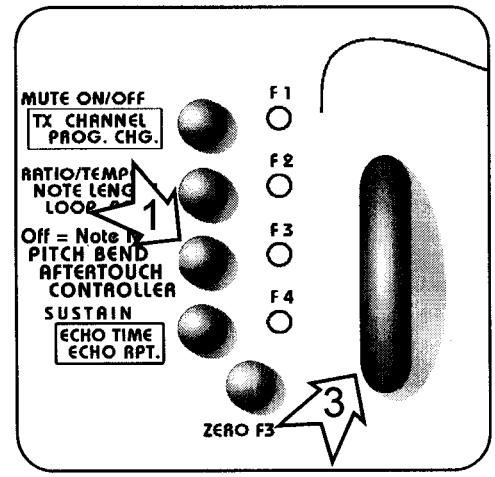
A39. PITCH BEND CONTROL RESOLUTION

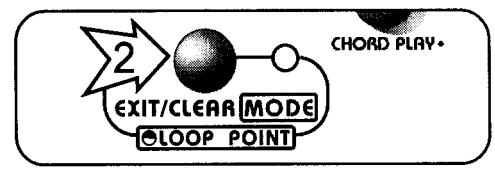
The resolution of pitch bend alters how much pitch bend is sent by each click of the Element Control Wheel (when in pitch bend mode).
On the target element toggle the F3 LED to Red with the F3 button 1. Press the Exit/Clear button 4 . Press F3 button again and the display on the target element changes to a column of Red lights.
At present the column extends to step 16, the default resolution.
Select a new resolution from the steps on the target element or, rotate the F6 Control:
Step 1 = 1/127th per click of the wheel = very fine control.
Step 16 = 16/127ths per click of the wheel = coarse control.
The column will light up to that step..

Note Pitch bend resolution is saved as part of a setup.

A40. AFTERTOUCH CONTROL RESOLUTION

Like Pitch Bend, the range of Aftertouch applied with the Element Control Wheel can also be fine tuned.
Set the chosen element to Aftertouch Mode by toggling the F3 LED to Green using the F3 button 1, Now press the Exit/Clear button 2; the Exit/Clear LED lights Red.
Press the F3 button on the target element again, and a column of Green LEDs appears on that element. At present the column goes up to step 10, the default resolution. At this setting, each click of the Element Control Wheel 3 sends a change of 10/127ths of aftertouch. To select a different resolution simply press the step with the value you require or, rotate the F6 Control:
Step 1 = 1/127th per click of the wheel = very fine control.
Step 16 = 16/127ths per click of the wheel = coarse control.
The column will light up to that step.





Note Aftertouch Control Resolutions are saved in setups.

Note Channels sharing the same midi channel may be affected.

Note This function doesn't time out, you have to toggle out of it.

A41. CONTROLLER NUMBER RESOLUTION

In the same way as with Pitch Bend and Aftertouch, the control resolution for Controller Number functions can be adjusted.
First go to Controller Number Mode by toggling the F3 LED on the target element to Orange using the F3 button 1.
Now press the Exit/Clear button 2 so that the Exit/Clear LED lights Red.
Press the F3 button on the target element again, and a column of Orange LEDs appears on that element. They currently reach up to step 10, the default setting of 10/127ths of controller number sent per click of the Element Control Wheel 3.
For finer resolution and control, press a step with a lower value, for coarser resolution a higher one or, rotate the F6 Control:

.

Step 1 = 1/127th per click of the wheel = very fine control.
Step 16 = 16/127ths per click of the wheel = coarse control.
The column will light up to that step.

Note Controller Number Resolutions are saved in setups.

Note Channels sharing the same midi channel may be affected.

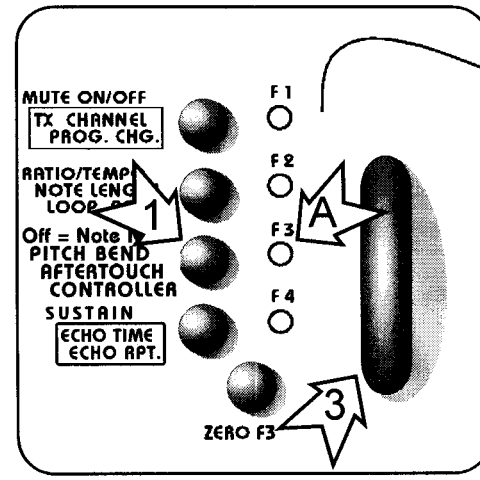
Note This function doesn't time out, you have to toggle out of it.

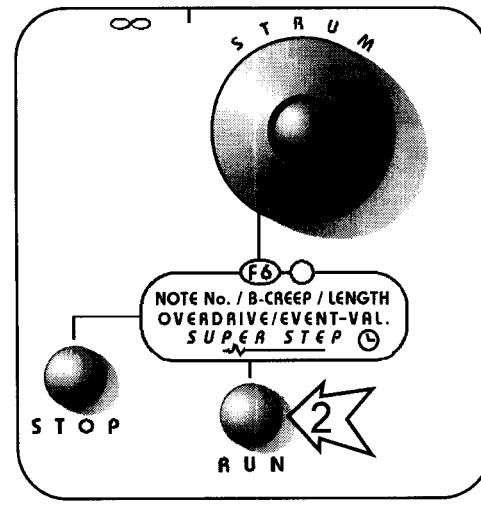
CHAPTER 5 - EVENTS

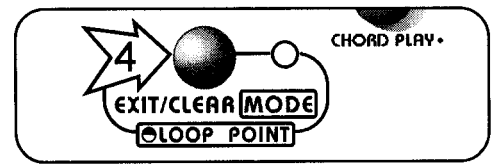
As with Chord and Strum Events, Notron also allows you to automate any wheel movements of F3 functions, and programme them onto steps as events.
The type of event applied depends upon the F3 function that is currently active and is displayed by the colour of the F3 LED <A>.
There are four states:
F3 LED OFF = Note Number event.
F3 LED RED = Pitch Bend event.
F3 LED GREEN = Aftertouch event.
F3 LED ORANGE = Controller Number event.

Note For all these events the Control Wheel resolution set for that particular function will have a direct bearing on how extreme the event is.

Note Basic midi; all events are channelwide, and will apply to all elements set to the same midi channel.







A42. NOTE NUMBER EVENTS

First programme a few steps onto an element.
As previously mentioned the F3 LED must be Off to apply this function, so toggle the F3 LED to a blank state with the F3 Function button <1> on the target element.
Next toggle the F6 LED to Green with the Run button <2>.
Now press any step within the loop of the chosen element, you may even pick an inactive (blank) step.
The selected step begins flashing.
Rotate the target element's Element Control Wheel <3> up or down a few clicks. Return to the normal display by either pressing Exit/Clear <4> or waiting for the timeout.
The step with the event you just programmed will now show Orange (for event) unless there was a normal step there already, in which case the event will be hidden by the red or green step.
You will notice that two things happen every time the chaser light passes the step with the Note Number event on it:
*First; the step briefly flashes Green to indicate there is an event present (if there is already a green step there, this could be hard to spot).
*Second; the pitch of the sequence changes as though you were rotating the Element Control Wheel at that point. The Note Number event alters the pitch in the same direction and by the number of clicks that you moved the wheel. It will continue to do this, and the pitch will 'roll over' when it reaches the limit of note numbers at 0 or 127 or within any Range Limits...more later.

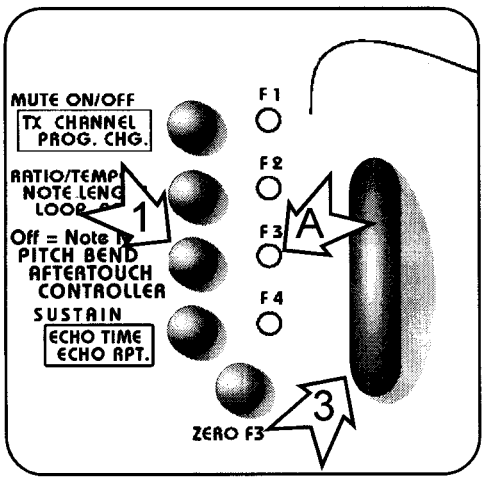
Note To remove a Note Number event (or any other event for that matter) press Exit/Clear <4> to Red and then press the step.
Warning.... when you remove an event in this way any other red or green note present will also have it's offset removed.
Alternatively remove only the Event using Exit/Clear / F5 led= Green combination see Clearing Specific Offsets.

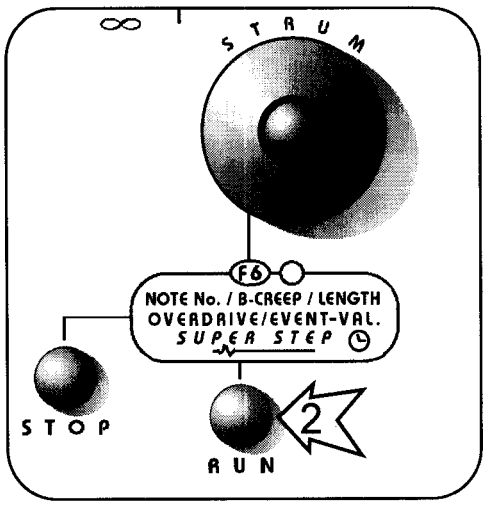
MR. GUIDELINES TIMELY REMINDER

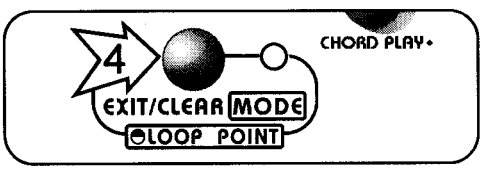
Don't forget the quick Element Clear (Green Events) if you want to remove all those greenies from an element. See A28 for a memory jog.

A43. PITCH BEND EVENTS

First programme a few steps onto an element.
Toggle the target element's F3 LED <A> to Red with the F3 Function button <1> .
Next toggle the F6 LED to Green with the Run button <2>.
Now press any step within the loop of the chosen element, you may even pick an inactive (blank) step.
The selected step begins flashing (it will flash orange if it was previously inactive).
Rotate the target element's Element Control Wheel <3> up or down a few clicks. Return to the normal display by either pressing Exit/Clear <4> or waiting for the timeout.
The step with the event you just programmed will now show Orange (for event) unless there was a normal step there already, in which case the event will be hidden by the red or green step.
Every time the chaser light passes the step with the Pitch Bend event on it the pitch of the sequence bends as though you were rotating the Element Control Wheel at that point. The Pitch Bend event bends the pitch in the same direction and by the number of clicks that you moved the wheel.
With Menu Choice 1/10 you can apply an optional 'accumulation' mode. When this is switched ON the events will be applied cumulatively, and the Pitch Bend will 'roll over' when it reaches the Pitch Bend limit at -64 or +64.







Try programming several Pitch Bend events in different directions within a sequence, or onto another element set to the same midi channel.

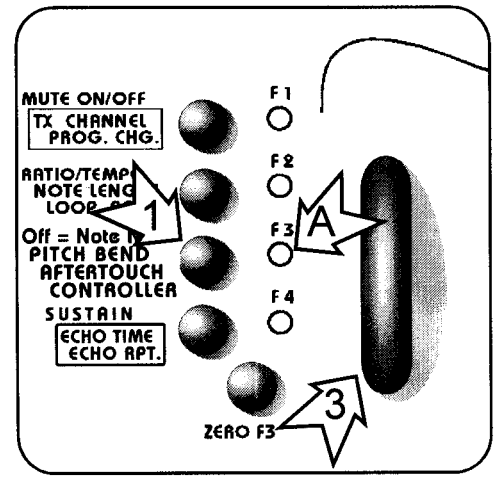
The step briefly flashes Green to indicate there is an event present (if there is already a green step there, this could be hard to spot).

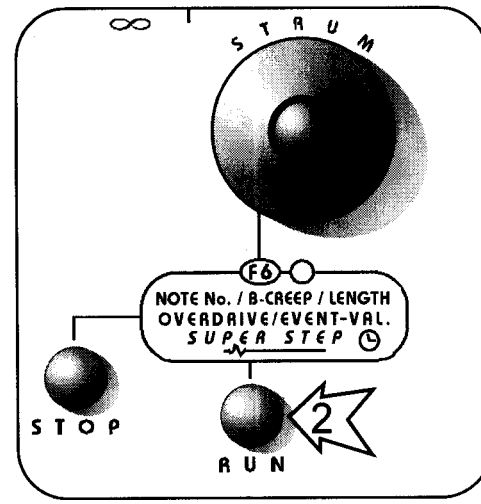
Note To remove a Pitch Bend event (or any other event for that matter) press Exit/Clear <4> to Red and then press the step. Warning.... when you remove an event in this way any other red or green note present will also have it's offset removed. Alternatively remove only the Event using Exit/Clear / F5 led= Green combination see Clearing Specific Offsets.

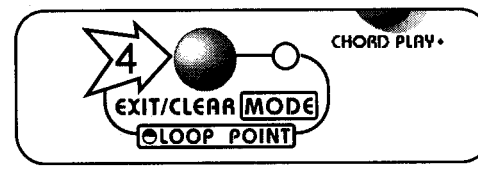
Note As usual with channelwide messages, Pitch Bend events will affect any other elements set to the same midi channel.

A44. AFTERTOUCH EVENTS

The procedure for applying an Aftertouch event is virtually the same as with Note Number and Pitch Bend events.
First programme a few steps onto an element.
Toggle the target element's F3 LED A to Green with the F3 Function button 1.
Next toggle the F6 LED to Green with the Run button 2.
Now press any step within the loop of the chosen element, you may even pick an inactive (blank) step.
The selected step begins flashing (it will flash orange if it was previously inactive).
Rotate the target element's Element Control Wheel 3 up or down a few clicks. Return to the normal display by either pressing Exit/Clear 4 or waiting for the timeout.
The step with the event you just programmed will now show Orange (for event) unless there was a normal step there already, in which case the event will be hidden by the red or green step.
Every time the chaser light passes the step with the Aftertouch event on it Aftertouch is applied to the sequence as though you were rotating the Element Control Wheel at that point. The Aftertouch event occurs in the same direction and by the number of clicks that you moved the wheel.
Using Menu Choice 1/10 you can apply an optional 'accumulation' mode. When this is switched ON the events will be applied cumulatively. When the amount of aftertouch reaches maximum, it rolls over and begins again. How quickly this happens is dictated by the amount of aftertouch in the event.







To remove an Aftertouch event press Exit/Clear to Red and then press the step with the event on it.
Warning.... when you remove an event in this way any other red or green note present will also have it's offset removed. Alternatively remove only the Event using Exit/Clear / F5 led= Green combination see Clearing Specific Offsets.

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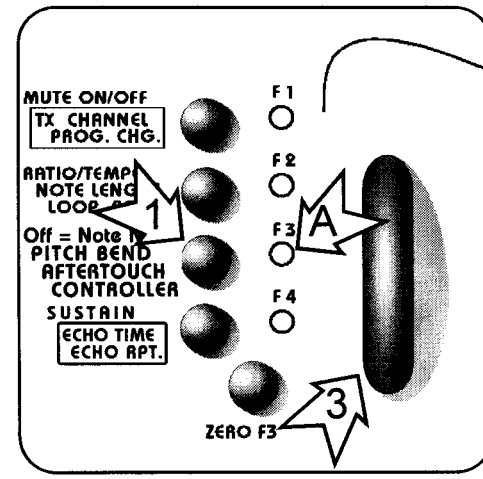
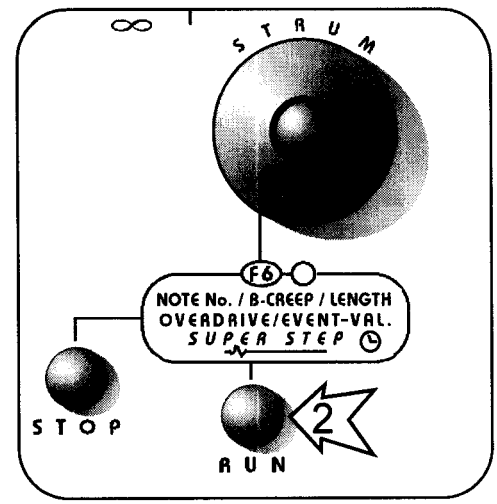
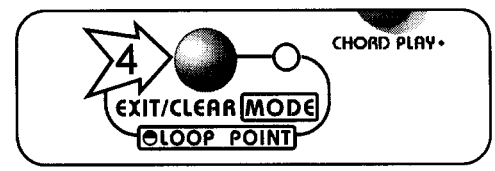
As usual with channelwide messages, Aftertouch events will affect any other elements set to the same midi channel.

A45. CONTROLLER NUMBER EVENTS

First programme a few steps onto an element.
Toggle the target element's F3 LED (A) to Orange with the F3 Function button (1) . Now is the time to select which controller number you want the event to apply. You should already know how from having read A10 (page 13), but just in case;
When you go into Controller Number mode (F3 LED is Orange) the target element will go blank. Key in the chosen Controller Number by pressing three steps, ie; for number 17 press steps 0, 1 and 7. They will light as you press them in a sequence of Red, Green, Orange. Your external soundsource will dictate which Controller Numbers are available, so check it's manual.
Next toggle the F6 LED to Green with the Run button (2).
Now press any step within the loop of the chosen element, you may even pick an inactive (blank) step.
The selected step begins flashing (it will flash orange if it was previously inactive).
Rotate the target element's Element Control Wheel (3) up or down a few clicks. Return to the normal display by either pressing Exit/Clear or waiting for the timeout.
The step with the event you just programmed will now show Orange (for event) unless there was a normal step there already, in which case the event will be hidden by the red or green step. Every time the chaser light passes the step with the Controller Number event on it the chosen effect is applied to the sequence as though you were rotating the Element Control Wheel at that point. The Controller Number event occurs in the same direction and by the number of clicks that you moved the wheel.
Using Menu Choice 1/10 you can apply an optional 'accumulation' mode. When this is switched ON the events will be applied cumulatively, and the Controller's value will 'roll over' when it reaches a limit of 0 or 127.







The step briefly flashes Green to indicate there is an event present (if there is already a green step there, this could be hard to spot).

Note To remove a Controller Number event press Exit/Clear (4) to Red and then press the step with the event on it.
Warning.... when you remove an event in this way any other red or green note present will also have it's offset removed.
Alternatively you can remove the Event only using Clear Specific Offsets...look up in index.

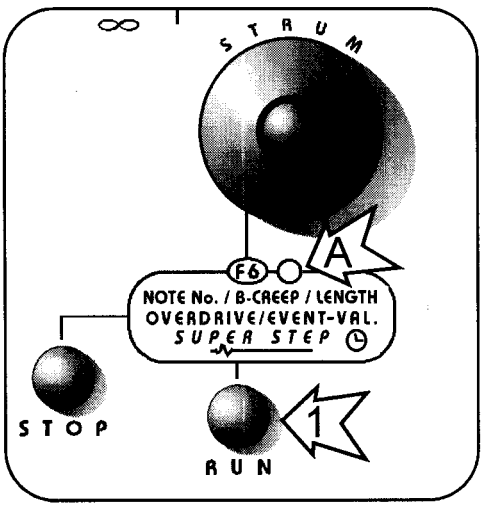
Note As usual with channelwide messages, Controller Number events will affect any other elements set to the same midi channel.

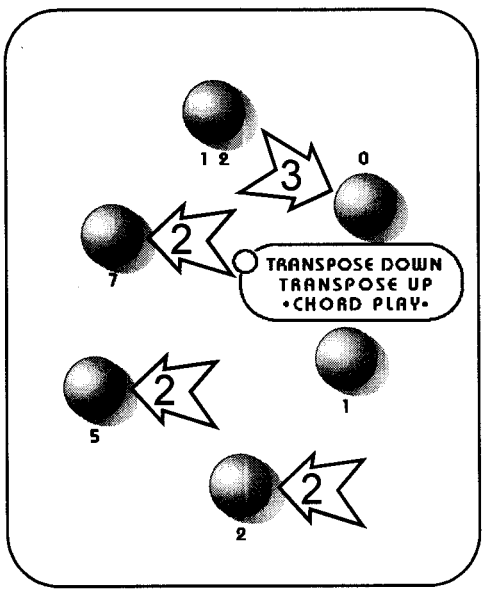
A46. TRANSPOSE EVENTS

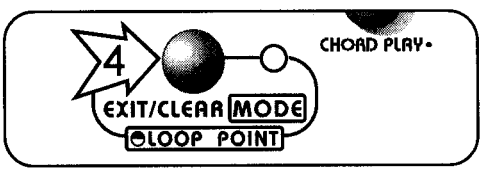
A Transpose event is similar to a Note Number event except ALL elements are transposed (unless Menu Choice is ON see section.)

This function is accessed while in normal play mode, so first check that you are not in Chord Play mode.

First programme a few steps onto each element.
Toggle the F6 LED (A) to Green with the Run button (1) .
Now press any step within the loop of any element, you may even pick an inactive (blank) step. The selected step begins flashing (it will flash orange if it was previously inactive).
Press one of the positive interval buttons (2) in the transpose area, the 0 interval button (3) toggles direction between up (green) and down (red) as usual.
Return to the normal display by either pressing Exit/Clear (4) or waiting for the timeout (though the timeout on this function is extremely long).
The step with the event you just programmed will now show Orange (for event) unless there was a normal step there already, in which case the event will be hidden by the red or green step.
Every time the chaser light passes the step with the Transpose event on it the sequence will transpose in direction and by the number of semitones as if you pressed the interval button at that point. The step briefly flashes Green to indicate there is an event present (if there is already a green step there, this could be hard to spot).







Muting an element with a Transpose event on it will prevent that event from affecting any other elements.

If you mute an element it ceases being affected by transpose events, and when unmuted it will play from the state when it was muted.
This also occurs if an element is set to Stop Transposing via Menu Choices...see relavent section on Menu Choices.

To remove a single Transpose event press Exit/Clear to Red and then press the step with the event on it.
Warning.... when you remove an event in this way any other red or green note present will also have it's offset removed. Try using Clear Specific Offsets to avoid this.

MR. GUIDELINES SEZ:

It is possible to place Transpose events on multiple steps and elements. But remember that they are CUMULATIVE. For example; if you programme a 5 semitone positive (green) Transpose event on step 1 of element 1, the sequence will go up 5 semitones every time the chaser light passes step 1. If you now add a 5 semitone negative (red) Transpose event onto step 1 of element 2, they will cancel each other out and the sequence will not transpose at all.
If you change the Transpose event on element 2 to a 7 semitone negative value the sequence will transpose down by 2 semitones (+5 -7 = -2).
By placing equal positive and negative Transpose events on the same element you can transpose the area in-between. Long notes and slow tempos with unequal negative and positive Transpose events can be pretty warped, especially if complimented with Supersteps.
And don't forget to try various combinations of Transpose events on all elements then mute and unmute at will, the maths is mindboggling but so are the effects.
Don't forget the fast Element Clear (Green Events) function if you have gone too far.

A47. SEQUENCE SHIFT EVENTS

This function allows you to programme an automated sequence shift onto an element. Every time the chaser light reaches the step with the Sequence Shift event it will jump forwards a 'dialled- in' number of steps.

Programme a few steps onto each of the elements.

Toggle the target element's F5 LED A to OFF with the F5 Function button 1 .

Next toggle the F6 LED B to Green with the Run button 2 .

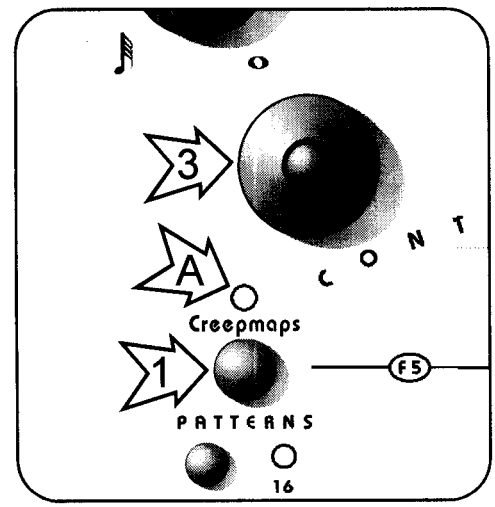
Now press any step within the loop of the chosen element, you may even pick an inactive (blank) step.

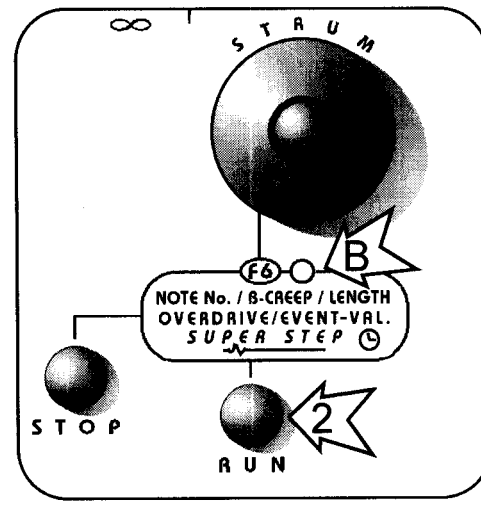
The selected step begins flashing (it will flash orange if it was previously inactive).

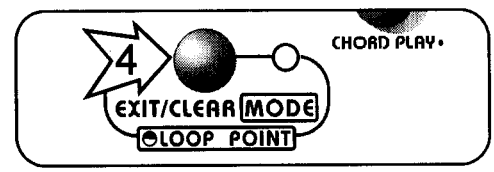
Now rotate the target element's F5 Velocity Control Knob 3 to the RIGHT. You will notice that the display on an adjacent element changes to a column of green LEDs that increases or decreases in height as you turn the knob. You can dial in a value for the Sequence Shift event to be placed on the selected step. (If you turn the knob anti-clockwise and the green display disappears below step 1 to be replaced with a rising red display, don't worry. You have strayed into Sequence Pause events which is covered next, simply turn the F5 knob clockwise until the green display returns.)

Return to the normal display by pressing Exit/Clear 4 or waiting for the extremely long timeout.

The step with the event you just programmed will now show Orange (for event) unless there was a normal step there already, in which case the event will be hidden by the red or green step. Every time the chaser light passes the step with the Sequence Shift event on it the sequence skips forward the number of steps you dialled in. The step briefly flashes Green to indicate there is an event present (if there is already a green step there, this could be hard to spot).







Note Sequence Shift events only affect the element they are on.

Note Sequence Shift events are saved as part of a pattern.

Note To remove a Sequence Shift event (or any other event for that matter) press Exit/Clear to Red and then press the step. Warning.... when you remove an event in this way any other red or green note present will also have it's offset removed. It's better to use Clear Specific Offsets to remove Events only.

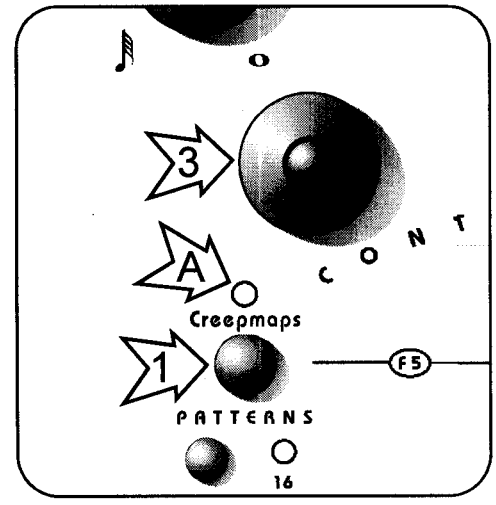
Note When Stop is pressed the accumulated 'skips' are negated and the element is reset to it's starting value. Likewise, if you mute the element you reset it and the shift process will begin again from the starting value.

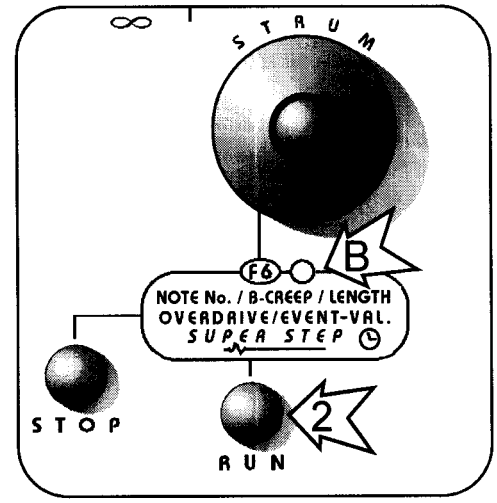
Note The maximum number of steps you can skip is 32. If you continue winding the F5 Velocity Control Knob after the column reaches step 16, a new display appears. The value of the skip is now shown by a blank step in the green column. Remember that this value is in addition to the 16 steps already dialed in.

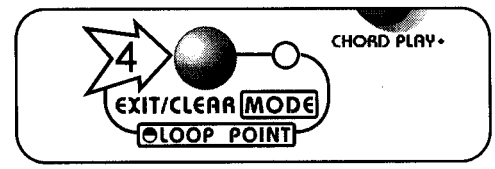
MR. GUIDELINES: ALWAYS HELPFUL

Don't forget the quick Element Clear (Green Events) if you want to remove all those greenies from an element. See A28 for a memory jog.

A48. SEQUENCE PAUSE EVENTS







This function allows you to programme an automated sequence pause onto an element. Every time the chaser light reaches the step with the Sequence Pause event on, it will pause for a 'dialled- in' number of steps, then continue playing.

Programme a few steps onto each of the elements.
Toggle the target element's F5 LED A to OFF with the F5 Function button 1 .
Next toggle the F6 LED B to Green with the Run button 2 .
Now press any step within the loop of the chosen element, you may even pick an inactive (blank) step.
The selected step begins flashing (it will flash orange if it was previously inactive).
Now rotate the target element's F5 Velocity Control Knob 3 to the LEFT. You will notice that the display on an adjacent element changes to a column of Red LEDs that increases or decreases in height as you turn the knob. You can dial in a value for the Sequence Pause event to be placed on the selected step. (If you turn the knob clockwise and the green display disappears below step 1 to be replaced with a rising green display, don't worry. You have strayed into Sequence Shift events, simply turn the F5 knob anti-clockwise until the green display returns.)
Return to the normal display by pressing Exit/Clear 4 or waiting for the extremely long timeout.
The step with the event you just programmed will now show Orange (for event) unless there was a normal step there already, in which case the event will be hidden by the red or green step. Every time the chaser light passes the step with the Sequence Pause event on it the sequence pauses for the number of steps you dialled in. The step lights Green for the duration of the pause to indicate there is an event present (if there is already a green step on the same point there will be no indication).

Note Sequence Pause events only affect the element they are on.

Note Sequence Pause events are saved as part of a pattern.

Note To remove a Sequence Pause event (or any other event for that matter) press Exit/Clear to Red and then press the step. Warning.... when you remove an event in this way any other red or green note present will also have it's offset removed. It is better to use Clear Specific Offsets to remove the Event only.

Note Mute works as normal with Pause events.

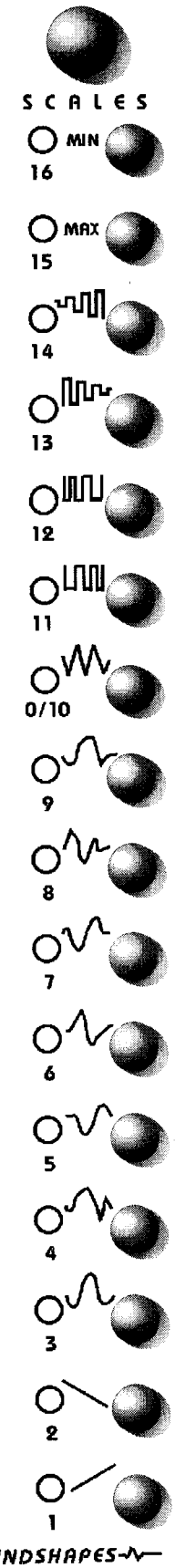
Note Long notes, chords/strums and echoes will continue to play out over the pause.

Note The maximum number of steps you can pause is 63. If you continue winding the F5 Velocity Control Knob after the column reaches step 16, a new display appears. The value of the pause is now shown by a blank step in the red column. Remember that this value is in addition to the 16 steps already dialed in.

CHAPTER 6 - COMPLICATED THINGS

A49. SUPERSTEP MODE

This function applies a preset waveform or Soundshape to a step. The type of soundshape is dictated by THE ELEMENT THAT IT IS APPLIED TO. The concept behind Supersteps is to programme different types of them to different elements but have the elements set to the same midi channel so that a form of 'crosstalk' occurs. Of course, you will probably find more devious and exciting ways of using Supersteps, but bear with us for the moment.
A Superstep written to element 1 will be a PITCHBEND waveform.
On element 2 the waveform will affect AFTERTOUCH.
On element 3 the waveform will be applied using whatever CONTROLLER NUMBER is currently selected on element three (default is controller number 10; panning).



ELEMENT 1. PITCHBEND SUPERSTEPS

First set the elements to the same midi channel and programme a lot of steps onto each.
Longer notes tend to give the best results for Supersteps.The drum voices on many sound-sources tend to be pitchbend disabled, so check and adjust your kit where necessary.
Mute elements 2 to 4.
Toggle the F6 LED to Orange using the Run button (though you can use Stop instead if you prefer), and press any ACTIVE note step on element 1. The step will flash orange.
Now select and press a Soundshape step on element 4.
The step you just pressed will begin flashing to show that it is
the currently applied soundshape. (If you want to change the Superstep later you can use this as an indication as to which Soundshape is currently applied to that step.)
You should now hear the Pitchbend Soundshape affecting the steps on element 1 every time the chaser light passes the step with the Superstep on it. The waveform you selected fits across the length of the note it is applied to, so if you alter the note length of this step you will directly affect the Superstep.
Remember that you can also adjust the underlying note length (see A3)
If you now unmute the other elements you will notice that the Superstep affects them too.
Muting element 1 will also mute the Superstep.
The Soundshape pictures down element 4 show a representation of the waveforms available with Superstep.

Superstep events are saved as part of a pattern.

As previously mentioned, it is note length that is important here, the velocity of a step can be zero and it's Superstep will still be effective.

Super Step Pitch Bend (see Chapter 6) can be 'mapped' to a resolution from using Menu Choice 2/2.

For wilder Super Step Pitch bend effects try setting the pitch bend range on your external equipment to +/-12 semitones or greater if possible.

You can apply Pitchbend Supersteps (only to element 1 of course) when other steps contain Controller Number events. This is because Pitchbend is not a Controller Number function.

MR. GUIDELINES TIP

You can 'mute' Supersteps by toggling the steps containing them to Off/blank. If you toggle the step back on the Superstep will still be present.

MR. GUIDELINES ALSO SAYS

Why not go for that TB303 sound by enabling Superstep Length Limit (Menu Choice 1/2). This will cause your Pitchbend Supersteps to be clipped when they hit an active NOTE step.

SUPERSTEP MODE - CONTINUED

ELEMENT 2 - AFTERTOUCH SUPERSTEPS

These are applied in exactly the same way as Pitchbend Supersteps, but on element 2.
Toggle the F6 LED to Orange using the Run button (though you can use Stop instead if you prefer), and press any ACTIVE note step on element TWO. The step will flash orange.
Now select and press a Soundshape step on element 4.
The step you just pressed will begin flashing to show that it is the currently applied soundshape. (If you want to change the Superstep later you can use this as an indication as to which Soundshape is currently applied to that step.)
You should now hear the Aftertouch Soundshape affecting the steps on element one (and any other element set to the same midi channel) every time the chaser light passes the step with the Superstep on it. The waveform you selected fits across the length of the note it is applied to, so if you alter the note length of this step you will directly affect the Superstep.
Remember that you can also adjust the underlying note length (see A3)

Superstep events are saved as part of a pattern.

As previously mentioned, it is note length that is important here, the velocity of a step can be zero and it's Superstep will still be effective.

MR. GUIDELINES HOLDS FORTH

The effect of aftertouch is entirely dependent upon on what your soundsource can do with it. In development we used a Roland SC-7 and found that with aftertouch mapped to Low Cut-Off filter, Aftertouch Supersteps produced some very pleasing 'squiggly' sounds.
Try choosing different soundshapes on the fly, altering the note length control and changing the underlying note length. Get to know how Notron interacts with your soundsource(s).
We have discovered that there is no such thing as an unusable sound.

ELEMENT 3 - CONTROLLER SUPERSTEPS

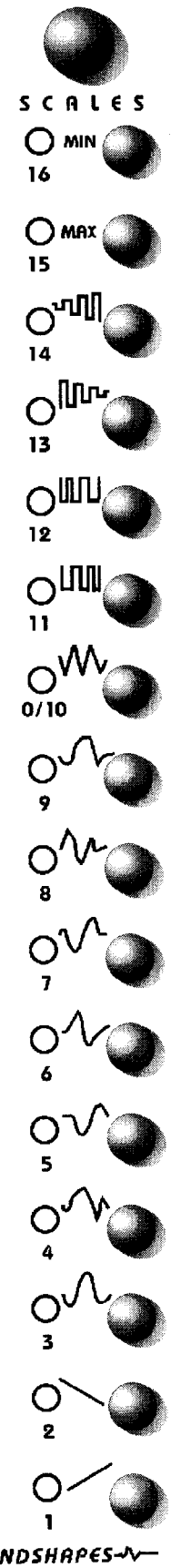
To apply a Controller Superstep you must first pick the Controller Number.
Toggle the F3 LED of element 3 to Orange and key in the Controller Number using the 1 to 0/10 steps (5 = steps 0, 0, 5)
Now select and press a Soundshape step on element 4.
The Controller Soundshape chosen for the target Step is applied across the Note Length for that Step and is triggered by the chaser light.

Unlike the previous 2 elements' Supersteps, Controller Number events present on this element WILL be affected if you alter the F3 Controller Number setting to apply a Superstep. The Controller Number events will adopt the new Controller Number, this could be a good or a bad thing, but it's another option to experiment with.

All of the other rules mentioned earlier apply, but for those with bad short-term memory:
*Notes and events sharing same Midi Channel Number may be affected.
*Stored as part of Pattern.
*Note Length Control / Underlying Note Length effects the length of the Soundshape.
*Note must be present to place Super Step onto but Velocity can be 0. Note Length is the important factor.

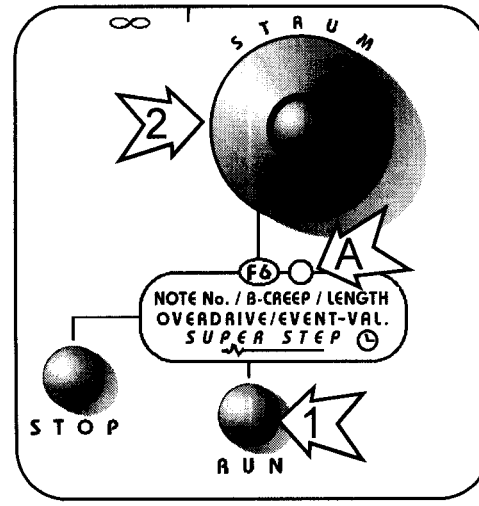
MR. GUIDELINES' SAYS

Try setting Controller Number to 120, if your soundsource can see it. An All Sounds Off message will be sent which we have found can nicely shorten drum sounds as the message only seems to work briefly whilst a value of 0 is sent. Can chop up ride cymbals or hats very pleasingly with a little experimentation/ adjustment of Note Length on the Soundshape. Also try Pan with Step 11 or 12 Soundshape.



A50. SUPERSTEP TIME OFFSET

This function allows you to delay the onset of a Superstep.
You must have a Superstep present to apply this function, so programme in a sequence with at least one Superstep.
First toggle the F6 LED (A) to Orange with the Run button (1).
Press any step containing a Superstep. Rotate the F6 Control Knob (2) CLOCKWISE to apply the time offset. You may have to rotate the Control Knob quite a lot to get the effect you are after. There is no visual indication of the delay, you will have to listen for it.
To test this function out set element 1's loop point to 16, and place a note on every step. Now put a Superstep on step 1.
Rotate the F6 knob clockwise and you should hear the Pitchbend Superstep waveform travelling up the element and affecting notes along it.



Note It is possible to apply too much time offset in which case the waveform will have no effect.

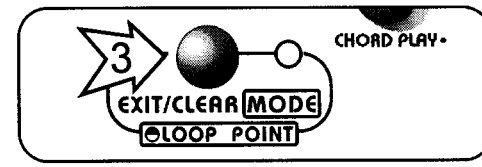
Note The length of the Superstep is dependent upon the note length of the step it is written to.
Also, Supersteps are channelwide messages and are not related to the velocity of the step they are placed on.

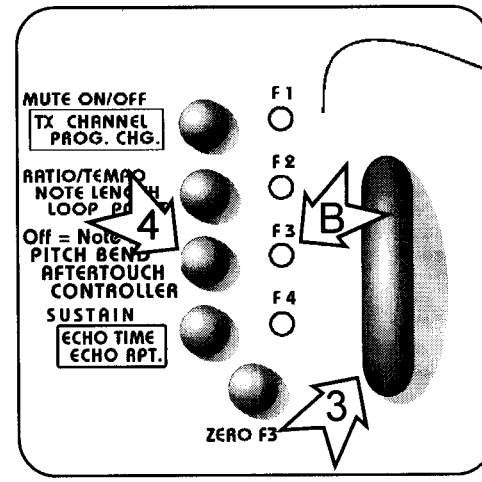
MR. GUIDELINES SAYS
This feature is particularly useful for applying Superstep to areas of the sequence that already have so many events that there is no more room. Simply dial the Superstep forward until it lies over the desired steps.

MR. GUIDELINES ALSO SAYS
In the same way as removing only Green events from an element, Notron cleverly allows you to take out all Orange events without affecting any other stuff.
Simply follw the procedure outlined in A28 but set the F6 LED to Orange.

A51. SUPERSTEP MAPPING

This function allows you to map Superstep features to the CURRENT RESOLUTION of an element's control wheel. It is enabled using Menu Choice 2/2.
Enter menu choices by pressing the Exit/Clear button (3) followed by the Zero F3 button of element 4.
It's default state is off, signified by a Green LED on step 2 of element 2. To enable the function toggle that step to Red.
Now press the Exit/Clear button (3) to exit from menu choices back to the normal display.
When Superstep Mapping is enabled, you can alter the resolution of an element's control wheel by following the instructions in Pitch Bend Control Resolution (see A39).
OK, we'll remind you;
On the target element toggle the F3 (B) LED to Red with the F3 button (4). Press the Exit/Clear button (3). Press the F3 button again and a column of Red lights appears on the target element.
At present the column extends to step 16, the default resolution, unless you've already changed it.
Select a new resolution from the steps on the target element.
The finer (lower) you set the resolution the more subtle the effect of a Superstep Soundshape on that element.
Exit from the function by pressing Exit/Clear.





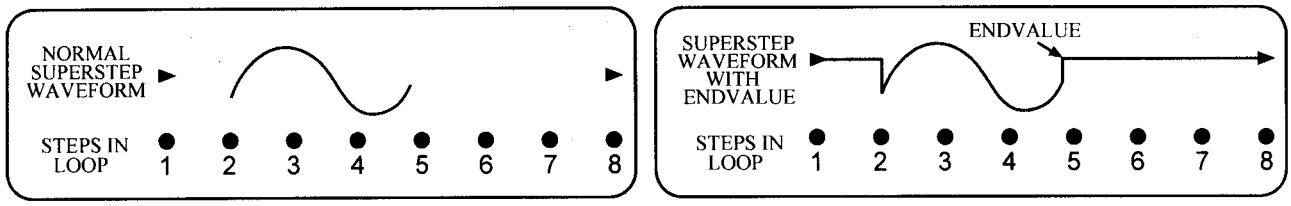
MR. GUIDELINES
Default resolution settings are:
Pitchbend - 16, Aftertouch - 10, Controller - 10.

Note Pitch bend resolution is saved as part of a setup.

A52. SUPERSTEP ENDVALUES

This only applies to elements 2 and 3, and their respective Supersteps; Aftertouch and Controller.
Basically, this function allows you to edit the value at the end of a preset Superstep Soundshape.
Rather than the Aftertouch or Controller Superstep ending normally, an extra value is tacked on at the end.
This Endvalue sets the amount of aftertouch or controller applied to the sequence FROM THAT POINT.
This value remains in effect until the chaser light hits a step containing a different value, in other words it will run to the start of the next Superstep on the element's loop.

The examples below might help to explain:
The lefthand diagram shows a Superstep Soundshape or waveform. It is placed on step 2 and lasts for 3 steps until ending just before step 5. If all the steps had notes programmed on them, the Superstep would only affect notes (and any echoes or chords) that play on or during steps 2, 3 and 4. It would then cut out and steps 5 to 8, and then step 1 would play as normal.
The righthand diagram shows the same waveform but with an Endvalue applied. In this examp le you can see that the waveform does not cut off. It leaps to a new value and continues until meeting another value at the start of the Superstep on step 2. If you listened to this you would hear the Superstep on steps 2, 3 and 4 , but from the start of step 5 the notes would continue to be affected by aftertouch or a controller. This effect would continue at a constant level (set by the Endvalue) until the Superstep waveform kicked in again on step 2.



ELEMENT 2 ENDVALUE - AFTERTOUCH

To apply an Endvalue you must obviously have a Superstep present to apply it to. Programme a Superstep on to a step on element 2.
Now set element 2 to Aftertouch mode by toggling the F3 LED to Green using the F3 button.
Endvalues are entered with the Element Control Wheel, so rotate it a couple of clicks. You should hear a change in the sound of the loop BETWEEN the Supersteps. The amount of this aftertouch can be changed by rotating the wheel. The F3 LED flashes Green to show that you have moved from the original setting. To get back to it turn the wheel until the light stops flashing.

MR. GUIDELINES' SAYS

Best with a coarse setting and slowly move the Wheel Control by a notch with each cycle to hear the different Endvalue placed at the end of a Soundshape. Remember this feature is completely dependant on the response of your soundsource to Aftertouch and what Aftertouch is effecting sonically, e.g.; low frequency cut off filter, modulation etc

ELEMENT 3 ENDVALUE - CONTROLLER

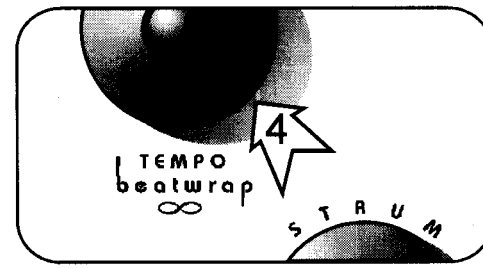
To apply a controller Endvalue set element 3 to Controller mode by toggling the F3 LED to Orange and then enter the value with the element 3 Control Wheel.
Remember that any future change of the Controller Number on element 3 will also affect all supersteps and their Endvalues.

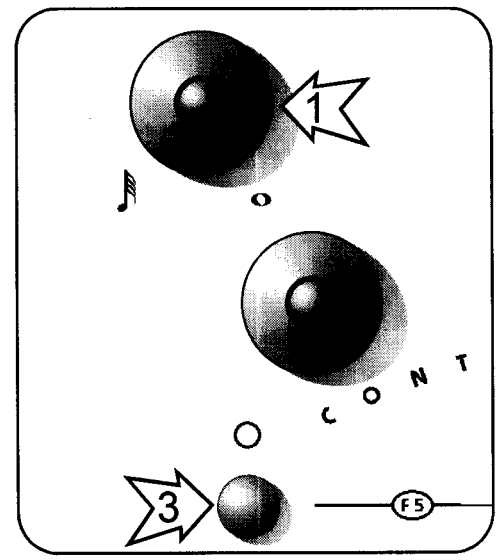
Note The effect of Endvalues can be dramatic or unnoticeable. It depends on three things:
*The response of the external equipment. Check your manuals and adjust accordingly.
*The length of the Superstep. Keep it shortish at first, then adjust to taste.
*The resolution of the Element Control Wheel. It is usually best to use coarse (high) settings.

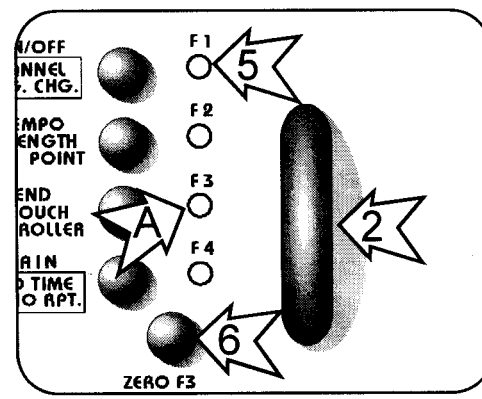
Note As a Channel Message, changes will affect other elements sharing the same Midi Channel.

A53. BEATWRAP

Beatwrap is one of our favourite features. Primarily designed to make manipulating drum loops easier, it allows you to map a sample to a loop and then lock it to the tempo controls. The tempo of the sequence can now be changed but the sample will always remain in time, without having to resort to tables and calculators.
Because it is quite a complex feature, though simple to use, there are various rules to it's application.







Initial settings:
*Pitch Bend on the external sound source must be set to +/-2 semitones ONLY.
*Scales or Range Limit must be TURNED OFF when using Beatwrap.
*Notron must be in MASTER mode (Menu Choice 1).

First assign an element to the midi channel of your sample then clear that element.
Turn the note length control knob 1 to full.
Programme in a step at step 1 and press Run. You should now hear your sample. It is highly unlikely that the sample/drum loop fits perfectly to the loop so adjust the element control wheel 2 and/or tempo 4 (see Guidelines).
Now toggle the F5 button 3 above the target element to Orange. (WARNING: the timeout function DOES occur in Beatwrap; the F5 LEDs revert to red.)
You can now adjust the tempo 4. You will find that the sample alters in pitch and stays in time.
Up to 4 separate elements/samples can be simultaneously wrapped using the function, and any element with Beatwrap in effect will indicate the fact by its F1 LED 5 flashing Orange/off, or Red/off if it is Muted.

We mentioned rules:

Make sure your chosen elements are in F5 Orange while changing tempo.A tempo change will turn Beatwrap OFF on any elements that do NOT have their F5 LEDs set to Orange.

Once Beatwrap is set, altering Pitch Bend or Note Number on target element(s) ALWAYS cancels Beatwrap on that element.

When Beatwrap is cancelled by the above methods the new pitch of the sample may not necessarily alter the whole sequence and it may still sound the same. Unfortunately the Pitch Bend update, which is vital for use with external midi sequencers if you want to record your results for later reproduction, won't be sent.

The overall pitch (if bent) on an element can be restored by setting the F3 LED A on target element to Red then pressing the Zero button 6. The original Note Number wheel Offset can also be restored by setting the F3 LED to Off and pressing the Zero button.

Beatwrap settings are saved if this Menu option is enabled.

MR. GUIDELINES SAYS

This powerful feature allows much more than simple mapping / wrapping of sample drum loops at any BPM. Try creating complex "cross-hatching" of rhythms by multiple, differently spaced triggering of the sample with or without Rebound ON to explore the possibilities. Alter the Resolution of Pitch Bend on the target element to Fine when tuning the sample loops.This helps to precisely establish the "base" of a sample you might wish to use with Beatwrap. It may be necessary to alter the Note Number first then fine tune using Pitch Bend. On establishing a "base" toggle the F5 LED on the target element(s) to Orange and rotate Tempo Control to any BPM. Remember you can do this on up to 4 midi Channels simultaneously! Try adjusting a few steps' individual note lengths and velocities. Or how about Echo?

A54. STEP PITCH LOCK

This function allows you to lock the pitch of a step. It will no longer be affected by the Element Control Wheels, Global Transpose, or be overwritten by the Step Note Number function.
To apply Step Pitch Lock the function must be enabled using Menu Choice - 3/1.

To lock an ACTIVE step simply toggle it to Orange.
By toggling a locked step to Off you will 'unlock' it, and remove any offsets that were present at the time it was locked.

Like most things with Notron, Step Pitch Lock is simple to apply but has quite a few consequences. (Actually, this one's a real complicated beasty, so make sure you understand it before you use it.) The most obvious is the fact that you are now using the step's Orange LED state in a new way. Events can still be written to locked steps, but will not be easily distinguished from locked steps, both being represented by an orange LED. Transpose, Sequence Shift and Pause events on locked steps will still light green as the chaser passes them.


Events on locked steps can still be edited.


Events that affect pitch/note numbers will not affect locked steps.


Applying a scale will not affect locked steps


Midi channel and programme change will affect locked steps.


To lock a step you toggle through red then green to orange. In practice this means that locked steps will have the velocity of GREEN steps, and will respond AS GREEN STEPS to velocity changes.
You CAN apply an Accent to a locked step. As usual the lowest value in the potential range of an accent is limited by the velocity of the step when the accent is applied (you can only dial in an accent up to the maximum velocity and then back to the step's original velocity). So it is a good idea to set the velocity of the step you are planning to lock to a low value. This will give you greater potential control over the locked step's velocity.
Locked steps respond as normal to Orange (F5) velocity changes.


Using the Exit/Clear function to clear a locked step will remove events and the note that was previously present, but will leave an empty orange locked step.


Locked steps are saved as part of a pattern.

MR. GUIDELINES ADVISES

A locked step can be just the thing when you need it, but understand the implications of unlocking it! With all the possible interactions potentially changing the note number, unlocking can return the step to a completely different note number than you expect. With a locked step's velocity, always plan ahea

A55. CHAINED PATTERNS

This function allows you to chain a number of patterns together and then save the whole chain. When you recall the chain it will play the patterns as saved. Check A59 to see which things are saved as patterns.
You can alter pretty much everything. Velocity, steps, events, programme changes, loop points, ratio, controller numbers etc.can all be added, removed, tweaked and generally edited. The best bit about this is that the editing is real timeand non-destructive, you are not affecting the saved patterns permanently. This allows you to do an infinite number of remixes of the chain, and potentially perform spontaneous music in a live setting.
Although Chaining Patterns is a relatively simple process, the following description is quite long and involved. We suggest you read it a couple of times, taking note of the various displays and explanations, before working through it to chain some patterns. Mr. Guidelines has a quick 'action-only' list at the bottom of the page.

Press the Pattern/Setup & Chain Save button. (Note that the timeout does occur while you are in this function.)
Select and press an unlit step on element 3.
This is now the location for your new pattern chain.
When you have pressed the chosen step the display changes:
Element 1 shows the saved patterns you can use in the chain, RED steps contain saved patterns and GREEN steps contain no patterns.
Element 2 shows a column of 16 GREEN steps, these represent the 16 potential LINKS in the chain. Each link can contain up to 16 repeats of one pattern.
The number of patterns in a link is selected using Element 3, which also lights in a column of 16 GREEN LEDs.
If the timeout has occurred while you were reading this, press the Pattern/Setup & Chain Save button again.
The step you selected will be flashing RED to show that this is the current chained pattern. You haven't filled it yet so:
A. Select and press link location 1 on element 2. It begins flashing.
B. Choose and press a saved (lit red) pattern from element 1. It begins flashing and the link location (step 1 on element 2 at the moment) lights RED and begins flashing. The first step of element 3 also lights RED, this shows that the default of 1 repeat of the pattern is active.
C. If you want more than 1 repeat of the pattern in the link, press a step on element 3 that corresponds to the number of repeats required. A column of RED LEDs lights to the chosen step/number.
Repeat A but select step 2 (on element 2) as the next link, then B and C.
Repeat A but select step 3, then B and C.
And so on.
To recall and play a chained pattern press the Pattern/Setup and Chain Recall button and then the step on element 3 with the selected chain. The chain will play out and then repeat, cycling round until Stop is pressed.
If you want the chained pattern to continue, press Exit/Clear followed by Run. If you don't do this before any other action Notron will revert to it's normal state and you will have to recall the chained pattern again.


You can recall another chained pattern while one is playing, it will play as soon as one of the loops of the current pattern reaches its loop point.


You can check the contents of a chained pattern while in chained pattern save mode. Toggling through the links will give you indications of what is already present.
A flashing Red LED on element 2 shows the position of the link in the chain.
A flashing Red LED on element 1 shows the position of the pattern of that link.
A column of Red LEDs on element 3 shows the number of patterns in the link.
To edit the chain simply select the link you want to change and then select a new pattern from element 1 and/or press the number of repeats you want on element 3.

MR. GUIDELINES QUICK CHAIN

Press the Pattern/Setup & Chain Save button.
Select and press an unlit step on element 3.
A. Select and press a link location on element 2.
B. Choose and press a saved (lit red) pattern from element 1.
C. Press a step on element 3 for the number of repeats required.
Repeat A, B and C.

MR. GUIDELINES AGAIN

The settings in Menu Choices have a crucial bearing on chained patterns. Check A56 for the details. In particular:
2/6 Velocity settings sent with pattern- bit obvious, really.
3/6 Recall pattern as saved- if off, element wheel movements will affect the next pattern in the chain as it arrives.
4/6 Recall tempo as saved- if on, no tempo changes will stick.

A56. MENU CHOICES

Notron has various internal settings that can be altered.
To enter the Menu Choices display press the Exit/Clear button (it lights Red) and then the Zero button on element 4. The steps of all four elements now display the Menu Choices 'page'.
Have a look at the next section (Menu Choices - Display) for a graphical representation.

Element/step
1/1. SYNCHRONISATION - NOTRON AS MASTER (ON - RED) OR SLAVE (OFF - GREEN)
Element 1 step 1: The default setting is ON. With Notron as master, midi clock data is sent from the midi out port. Notron acts as a master controller and should be connected to your midi set-up as such.
The option is OFF, with Notron as slave. This makes Notron receive midi clock data from the midi in port. It allows an external source to send Stop/Start/Continue messages, and control the tempo that Notron runs at. Notron's midi out port should be connected to the in port of the chosen external equipment (this could be back into the source of the midi clock). In this state Notron can be used to edit or add midi information on the various midi channels. This could be editing previously written sequences or controlling other external equipment, allowing real time live performance with synchronisation to other sequencers.

2/1. MIDI CHANNEL 10 - CHORD PLAY (ON/OFF)
Element 2 step 1: The default is OFF - GREEN, Notron can play chords on midi channel 10.
The option is ON - RED, which prevents Chords from being played on any element set to midi channel 10. This is particularly relevant to drums, which are often set to midi channel 10 on external soundsources.

3/1. LOCKED STEPS (ON/OFF)
Element 3 step 1: Default is OFF - GREEN, The Step Pitch Lock function (see A54) is disabled.
To enable this function toggle the step to ON - RED.

4/1. TIMEOUT DISABLE OPTION (ON/OFF)
Element 4 step 1: Default is OFF - GREEN, Timeout is active and in full effect.
The option is ON - RED, which disables the Timeout function: you will have to press Exit/Clear every time you want to exit a function. Once you are used to this mode of working it actually has quite a few benefits.

1/2. SUPERSTEP LENGTH LIMIT (ON/OFF)
Element 1 step 2: Default is OFF - GREEN, Supersteps will play out until hitting another Superstep. (this depends of course on the length of the Superstep, it may end naturally before meeting another.)
The option is ON - RED, in which case the Superstep Soundshape will stop at the next normal note step

2/2. SUPERSTEP MAPPED TO WHEEL RESOLUTION (ON/OFF)
Element 2 step 2: Default is OFF - GREEN, Supersteps will not be mapped to Control Wheel resolution.
The option is ON - RED, when this option is enabled the effect of Supersteps is dependent upon the resolution of the Element Control Wheel. This option must be enabled to allow Superstep mapping (see A51)

3/2. DELETE DOUBLE NOTES (ON/OFF)
Element 3 step 2: Default is ON - RED, any duplicate Note Numbers generated at the same time on the same midi channel will not be sent, the Note Number with the highest velocity will be the one sent.
The option is OFF - GREEN, Doubles will be allowed. The effects of this can often be interesting and unpredictable, due to the strange quirks of midi.

4/2. OVERLAPPING SAME NOTES (ON/OFF)
Element 4 step 2: Default is OFF - GREEN, identical Note Numbers sharing the same midi channel will be cut off by the later one, when they overlap.
The option is ON - RED, identical Note Numbers sharing the same midi channel will overlap, this can cause weird velocity effects.

A56. MENU CHOICES - CONTINUED

1/3. SEND SYSTEM EXCLUSIVE (ON/OFF)
Element 1 step 3: Default is OFF - GREEN.
Option is ON - RED, when enabled this option sends system exclusive values currently in memory when you power-up. The messages are only intended for initialising the Roland SC7 (which we used extensively during development) and sets Aftertouch to control filter and sets Pitchbend to +/- 12.
What it does to other equipment is in the lap of the Gods, best leave it off unless feeling experimental.

2/3. VIRTUAL RECORDING/REMOTE CONTROL (BLANK-OFF, 3 MODES-RED/GREEN/ORANGE)
This option allows you to remotely trigger Notron. It also enables you to record your jam sessions to one track in a sequencer package and then make Notron replay them.
Element 2 step 3: Default is OFF - BLANK.
Options are: 1. - RED, this allows you to send a 4 note strummed chord from an external source to reset the Starting Note Number of each element. For example; playing the notes C2, D2, G2, B3 (in that order) would set element 1's Starting Note Number to 48(C2), and element 2's Starting Note Number to 50(D2) and so on. Any offsets applied to steps on the element remain in force. In effect the element wheel positions are set from Left to Right by each of the 4 notes played in IN THE ORDER THEY ARE PLAYED.

2. - GREEN, this makes Notron receptive to incoming Note Numbers. Each individual Note Number triggers a virtual movement of a button, wheel or knob. This could be as real time user remote control from an external midi source (eg; a keyboard), or from a Virtual Recording. THE INFORMATION CAN ONLY BE RECEIVED ON MIDI CHANNEL 16. Also note that the positions of the Note Length Control Knobs are NOT controlled by this function.

3. - ORANGE, this sets Notron to transmit all button, wheel or knob movement (other than Note Length Control Knobs) as discreet Note Number values on midi channel 16. The information can then be recorded as a Virtual Recording onto a single track of a sequencing package for later playback and editing.

3/3. SYSTEM EXCLUSIVE DUMP/RECALL (ON/OFF)
Element 3 step 3: Default is OFF - GREEN.
Option is ON - RED, when enabled Notron can both send and retrieve Latronic sysex. You can dump the currently stored patterns, setups and chained patterns to an external sequencer package or midi storage device and/or reload previously stored sysex data. (see A63. SYSTEM EXCLUSIVE DUMP/RECALL.)

4/3. SET NOTE OFF VELOCITY VALUE TO 64 (ON/OFF)
Element 4 step 3: Default is OFF - GREEN.
Option is ON - RED, when enabled Notron sends a Note Off velocity of 64, a value required by certain midi equipment.

1/4 to 4/5. BLANK STEPS
Element 1 step 3, element 3 step 3, element 4 step 3, element 1 step 4, element 2 step 4,
element 3 step 4, element 4 step 4, element 1 step 5, element 2 step 5, element 3 step 5, element 4 step 5.
These are all blank, leave them alone.

1/6. PROGRAMME CHANGE NUMBERS SENT WITH SETUP (ON/OFF)
When you save a setup the current programme changes are always saved. This option gives you the choice of recalling them or not.
Element 1 step 6: Default is GREEN - OFF, no programme changes recalled from setup.
Option is ON - RED, when enabled all saved Programme Change numbers are sent when a setup is recalled. It is also worth noting that switching this option on will immediately reinstate the original programme changes of the current setup, and will overwrite any existing settings.
Option is ON - RED, when enabled the saved velocities of the pattern are sent when it is recalled. The original saved velocities of the current pattern will immediately be recalled upon switching on this option.

A56. MENU CHOICES - CONTINUED

2/6. VELOCITY SETTINGS SENT WITH PATTERN (ON/OFF)
When you save a pattern the current velocity settings are always saved. This option gives you the choice of recalling them or not.
Element 2 step 6: Default is OFF - GREEN, velocity settings are not sent with patterns, the default velocity is applied as a base for offsets when a pattern is recalled.
Option is ON - RED, when enabled the saved velocities of the pattern are sent when it is recalled. The original saved velocities of the current pattern will immediately be recalled upon switching on this option.

3/6. RECALL PATTERN AS SAVED (ON/OFF)
Element 3 step 6: Default is ON - RED, when enabled patterns will be recalled exactly as saved.
Option is OFF - GREEN, the current pattern's element wheel positions (eg. offsets) will remain in force when another pattern is recalled. The new pattern will therefore probably not be as you saved it. Expert users only.

4/6. RECALL TEMPO AND BEATWRAP AS SAVED (ON/OFF)
Element 4 step 6: Default is OFF - GREEN, current tempo will not be saved as part of a pattern. Pattern will be recalled at a default tempo of 120 bpm if Notron is stopped or at the current tempo if running.
Option is ON - RED, the current tempo will be saved and recalled as part of a pattern. Beatwrap pitchbend updates will also be saved and recalled.

1/7. MENU PAGE OPTIONS SETTINGS RECALLED WITH SETUP (ON/OFF)
Element 1 step 7: Default is OFF - GREEN.
Option is ON - RED, when enabled the settings of the menu options page at the time of saving a setup are recalled with the setup.

2/7. ADJACENT SETUPS SAVED WITH PATTERN (ON/OFF)
Element 2 step 7: Default is OFF - GREEN, setups saved independently from patterns as normal.
Option is ON - RED, the setup adjacent to a pattern will be saved and recalled with that pattern. This is useful with chained patterns where associated program and midi channel changes are needed to occur automatically.

3/7 to 4/8. BLANK STEPS
Element 1 step 7 through to element 4 step 8 working left to right and up are blank, don't mess with 'em.

1/9.CREEPMAPS- NORMAL/ADDITIVE/SUBRACT/MULTIPLY.
Element 1 step 9: Default is OFF -RED / GREEN / ORANGE, makes the mathematics behave accordingly until the values "rollover".

2/9. CHORD EVENTS FIT TO SCALE (ON/OFF)
Element 2 step 9: Default is OFF - GREEN, Chords are not affected by scales.
Option is ON - RED, all chords will be changed so that they fit to any scale imposed on an element.

2/10.VELOMAPS- NORMAL/ADDITIVE/SUBRACT/MULTIPLY.
Element 2 step 10: Default is OFF -RED / GREEN / ORANGE, makes the mathematics for this feature behave accordingly until the values "rollover". "Holes" can seem to be punched into sequences !

3/9. WHEEL MOVEMENTS AFFECT CHORD / STRUM EVENTS (ON/OFF)
Element 3 step 9: Default is OFF - GREEN, Chords or Strums are not affected by Element Wheel movement.
Option is ON - RED, Chords and Strums will be affected by Element Wheel movement.

A56. MENU CHOICES - CONTINUED

4/9. SOFT MUTE (ON/OFF)
Element 4 step 9: Default is OFF - GREEN, Mutes occur normally instantly muting all sounds on an element.
Option is ON - RED, a 'soft' mute now causes any pending notes to play out rather than being cut dead.
Echoes, strums and chords will play out fully.

1/10. EVENT ACCUMULATION (ON/OFF)
Element 1 step 10: Default is OFF - GREEN, Pitchbend, Aftertouch and Controller events do not accumulate or rollover.
Option is ON - RED, Pitchbend, Aftertouch and Controller events do accumulate and then rollover.

2/11 to 4/11. BLANK STEPS
Element 2 step 11 through to element 4 step 11 working left to right and up are blank, don't mess with 'em.

1/12 to 4/12. KILL CONSECUTIVES
Element 1 Step 12 across to element 4 step 12: Default is OFF - GREEN
Option is ON - RED, when applied to an element this option will cause Notron to delete any consecutive notes in a sequence. For example: a note sequence of A, C, D will play normally, whereas a sequence of A, A, C, D will play as A, C, D. The second (consecutive) A will be killed off. Even weirder, a sequence of A, B, B, A will end up as A,B, both consecutive notes are not generated. Note Kill Consecutives does indeed kill all consecutives,THIS INCLUDES ECHOS that fall as consecutives. This feature is pretty whacky and unique to Notron (we think). We have found it to be good for injecting some much needed space into busy patterns.
The best way of seeing what it does is to get some sequences playing and toggle the feature on and off in the menu choices page. Don't forget about the settings when you switch Notron off, this can lead to confusion when you reboot and strange things happen to your notes.

1/13 to 4/13. DISABLE ELEMENT TRANSPOSE (ON/OFF)
Element 1 step 13 to element 4 step 13: Default is OFF - GREEN. element responds to all transpose commands
Option is ON - RED, each element can be set to ignore Transpose Events and Transpose buttons (though it will respond as normal to Element control wheel movement/offsets).

1/14 to 4/14. ECHO
Element 1 step 14 over to element 4 step 14: Default is OFF - BLANK, echo affects ALL notes on an element.
Options are RED, only red notes on that element will respond to echo.
GREEN, only green notes on that element respond to echo.

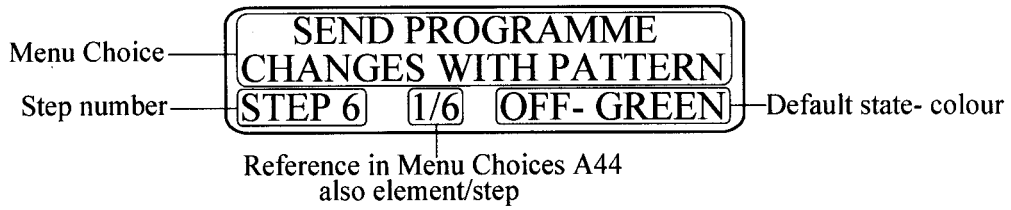
1/15 to 4/15: covered after next option

1/16 to 4/16. ELEMENT OCTAVE RANGE
Element 1 step 16 to element 4 step 16: This option allows you to set the range off octaves each element will play across. The option applies only to that element and is not channelwide.
Default is BLANK, the element can play Note Numbers from the entire range of 127, about 10.5 octaves (assuming your external equipment doesn't have any range restrictions set).
Options are RED, the element note range is restricted to 2 octaves.
GREEN, a 4 octave range limit.
ORANGE, a 6 octave range limit.

1/15 to 4/15. CENTRE OF ELEMENT OCTAVE RANGE
Element 1 step 15 across to element 4 step 15: This option works in conjunction with the one above to place the base C note within the octave range, and allows the octave range to cover high, middle or low Note Numbers.
Default is GREEN, the C note is placed in the middle of the range of Note Numbers. This is the normal position for Notron and corresponds with the settings on most external equipment/sequencers.
Options are RED, this places the base C note in the Low end of the range of Note Numbers.
or ORANGE, this places the C note in the High end of the range of Note Numbers.

A57. MENU CHOICES - DISPLAY

This is a representation of the Main area display in Menu Choices mode. There are some conventions to be observed when reading the boxes:



PATTERNS	SETUPS / LINKS	CHORDS / CHAINS	SCALES
SET OCTAVE RANGE RED-2 GREEN-4 ORANGE-8 STEP 16 1/16 FULL-BLANK	SET OCTAVE RANGE RED-2 GREEN-4 ORANGE-8 STEP 16 2/16 FULL-BLANK	SET OCTAVE RANGE RED-2 GREEN-4 ORANGE-8 STEP 16 3/16 FULL-BLANK	SET OCTAVE RANGE RED-2 GREEN-4 ORANGE-8 STEP 16 4/16 FULL-BLANK
SET CENTRE OF RANGE RED < GREEN > ORANGE STEP 15 1/15 MID- GREEN	SET CENTRE OF RANGE RED < GREEN > ORANGE STEP 15 2/15 MID- GREEN	SET CENTRE OF RANGE RED < GREEN > ORANGE STEP 15 3/15 MID- GREEN	SET CENTRE OF RANGE RED < GREEN > ORANGE STEP 15 4/15 MID- GREEN
ECHO APPLIED TO: ALL < RED > GREEN STEP 14 1/14 ALL- BLANK	ECHO APPLIED TO: ALL < RED > GREEN STEP 14 2/14 ALL- BLANK	ECHO APPLIED TO: ALL < RED > GREEN STEP 14 3/14 ALL- BLANK	ECHO APPLIED TO: ALL < RED > GREEN STEP 14 4/14 ALL- BLANK
DISABLE TRANSPOSE ON ELEMENT WHEN ON- RED STEP 16 1/16 OFF- GREEN	DISABLE TRANSPOSE ON ELEMENT WHEN ON- RED STEP 13 2/13 OFF- GREEN	DISABLE TRANSPOSE ON ELEMENT WHEN ON- RED STEP 13 3/13 OFF- GREEN	DISABLE TRANSPOSE ON ELEMENT WHEN ON- RED STEP 13 4/13 OFF- GREEN
KILL CONSECUTIVES PER ELEMENT WHEN ON- RED STEP 12 1/12 OFF- GREEN	KILL CONSECUTIVES PER ELEMENT WHEN ON- RED STEP 12 2/12 OFF- GREEN	KILL CONSECUTIVES PER ELEMENT WHEN ON- RED STEP 12 3/12 OFF- GREEN	KILL CONSECUTIVES PER ELEMENT WHEN ON- RED STEP 12 4/12 OFF- GREEN
11	11	11	11
EVENT VALUES FIXED/ ROLLOVER- GREEN/RED STEP 10 1/10 FIXED-GREEN	VELOMAPS-NORM./ADD/ SUBTRACT/ MULTIPLY STEP 10 2/10 OFF-R/G/O	0/10	0/10
CREEPMAPS...NORM./ADD/ SUBTRACT/MULTIPLY STEP 9 1/9 OFF- R/G/O	CHORD EVENTS FIT TO SCALE STEP 9 2/9 OFF- GREEN	WHEEL MOVEMENTS AFFECT CHORD / STRUM EVENTS STEP 9 3/9 OFF- GREEN	SOFT MUTE (ON/OFF) STEP 9 4/9 OFF- GREEN
8	8	8	8
MENU PAGE OPTIONS RECALLED WITH SETUP STEP 7 1/7 OFF- GREEN	ADJACENT SETUPS SAVED WITH PATTERN STEP 7 2/7 OFF- GREEN	7	7
SEND PROGRAMME CHANGES WITH PATTERN STEP 6 1/6 OFF- GREEN	VELOCITY SETTINGS SENT WITH PATTERN STEP 6 2/6 OFF- GREEN	RECALL PATTERN EXACTLY AS SAVED STEP 6 3/6 ON- RED	RECALL TEMPO AND BEATWRAP AS SAVED STEP 6 4/6 OFF- GREEN
5	5	5	5
4	4	4	4
SEND SYSTEM EXCLUSIVE (ROLAND SC7) STEP 3 1/3 OFF- GREEN	VIRTUAL RECORDING/ REMOTE CONTROL- R>G<O STEP 3 2/3 OFF- BLANK	SYSTEM EXCLUSIVE DUMP SEND & RECALL: ON- RED STEP 3 3/3 OFF- GREEN	SET NOTE OFF VELOCITY TO VALUE OF 64 STEP 3 4/3 OFF- GREEN
SUPERSTEP LENGTH LIMIT STEP 2 1/2 OFF- GREEN	SUPERSTEP MAPPED TO WHEEL RESOLUTION STEP 2 2/2 OFF- GREEN	DELETE DOUBLE NOTES STEP 2 3/2 ON- RED	ALLOW OVERLAPPING OF SAME NOTE NUMBERS STEP 2 4/2 OFF- GREEN
SYNCHRONISATION ON=MASTER OFF=SLAVE STEP 1 1/1 ON- RED	MIDI CHANNEL 10 NOTES CHORD PLAY (ON/OFF) STEP 1 2/1 OFF- GREEN	LOCKED STEPS STEP 1 3/1 OFF- GREEN	TIMEOUT DISABLE OPTION NO TIMEOUT WHEN RED STEP 1 4/1 OFF- GREEN
PITCH BEND	AFTERTOUCH	CONTROLLER	SOUNDSHAPES

A58. BEATCREEP

This function allows you to move whole elements and single steps by small increments, giving you subtle control over the feel of tracks, and making 'pushes' and 'pulls' possible within your music.


In exactly the same way as Accent, Beatcreep can only be applied in a positive direction from the starting position. You can add to the starting position of the step/element and subsequently remove these additions but can never move a step/element back from it's original position.

1. ELEMENT BEATCREEP
First toggle the F6 LED to Red with the Run button. Then toggle the F5 LED on the target element to Off/Blank using the F5 button. To 'creep' the chosen element simply rotate it's F5 Velocity Control Knob. An adjacent element display will appear, indicating the amount of Beatcreep applied. This display begins as a column of Green LEDs. Each step represents an increment of approximately 4 milliseconds. If you carry on winding the F5 knob above step 16, the display will move on to another column with the position represented by a travelling blank step. In fact there are a further 6 columns after the second, this means that you can actually move an element up to 8 x 16 increments of 4 milliseconds.


When Element Beatcreep is active the affected element's F1 LED flashes Green (or Red if muted). Should Beatcreep and Beatwrap both be present the indication for Beatwrap wins.

2. STEP BEATCREEP
Toggle the F6 LED to Red with the Run button and then toggle the chosen element's F5 LED to Off/Blank with it's F5 button. Select a step to creep, it begins flashing. Now dial in the amount of creep with the F5 Velocity Control Knob. The adjacent display for the amount of an individual step's Beatcreep works in the same way as that for an element. There is no F1 LED display for individual steps.


When Beatcreep is present the chaser light behaves as normal but is no longer an accurate indicator of a step/element's 'crept' position.


Beatcreep does not affect events.


Beatcreep is not tempo related, the increments remain at 4 milliseconds despite tempo changes.


Beatcreep is saved as part of a pattern. To make sure that it is recalled in relation to the tempo at the time of saving Menu Choice 4/6 should be enabled.


When Beatcreep is on Notron is unable to delete any double notes actively caused by Beatcreep. This applies even if Delete Doubles is active in Menu Choices. You will find that this commonly occurs with echoed notes.

Notron also has a set of "Creepmaps" which are groups of Beatcreep offsets applied to all steps in an element or across the whole machine. They can be globally or individually changed, muted or mutated on the fly to help you "unsquare" your sequences beyond anything commonly available. See A35 for the full deatils.

A59. SAVING TO PATTERNS AND SETUPS

When you save your work within Notron the various parameters are saved to either Patterns or Setups. Although this information is given with each function, this handy reference guide should give you a quick overview of what is saved where.

PATTERNS

1. The state and content of all STEPS on all elements, including their offsets or events at the moment of saving.
2. ECHO if on.
3. VELOCITY settings. (Only RECALLED if Menu choice 2/6 is enabled)
4. position of LOOP POINTS on all elements.
5. REBOUND(S) if on.
6. Any SCALES, BEATCREEPS or Velomaps (effectively Individual Step Accents) in force.
7. The positions of the ELEMENT CONTROL WHEELS for Note Numbers. (See Menu Choice 3/6)
8. The UNDERLYING CHORD used as the basis for the current Element Control Wheel positions.
9. TEMPO with BEATWRAP settings. (Only Recalled if Menu Choice 4/6 is enabled)
10. Menu Choice settings...The whole "page" of settings at moment of saving are recalled when 1/7=ON. There are a couple of exceptions (free standing Menu Choices)1/7 and 4/1.

SETUPS

1. MUTES (whether on or off) for each element.
2. MIDI CHANNEL setting for each element.
3. PROGRAMME CHANGE settings for each element. (Only sent if Menu Choice 1/4 is on)
4. RATIO settings for each element.
5. UNDERLYING NOTE LENGTH for each element.
6. State of F3 FUNCTIONS including all F3 RESOLUTIONS, CONTROLLER NUMBER settings and LEDs.

An important point to bear in mind about Menu Choices is that their use can dramatically alter the behaviour of Patterns. Recalling different Setups with their saved Menu attached will demonstrate what can occur. The last Menu Page in use will still be in force when Notron is powered up again...dont forget this. This is to save you having to re-enter all your favourite Menu settings , but it does have this consequence.

A60. VIRTUAL RECORDING

In this mode a Notron session can be recorded (as a series of key presses and wheel movements) onto a single track of an external sequencer package. This VR session can then be played back into Notron (see following pages) and Notron will be triggered to reproduce your original doodlings as they happened.
To set Notron into this mode go into menu choices by pressing Exit/Clear followed by the Zero button of element 4. Then toggle step 3 of element 2 to Orange. Press Exit/Clear to return to the main display.


It is a good idea to disable the Timeout feature during your VR session (set menu choice step 1 on element 4 to Red).


It is also best to begin the VR session from a blank state so that any pattern/setup choices are recorded. When the sequencer sends remote VR information to Notron it is simply pressing a button or turning a wheel or knob as you did. This action will be applied to Notron and affect to whatever notes/settings/events etc that ARE THERE AT THE TIME. If any of these settings are different from those when you began your VR session the remote controls will still be applied in the order they were made. To ensure that you can return to the state before VR it is advisable to store all the settings etc with a sysex midi dump. You can then reload these before playback. (However, maybe you WANT to experiment with VR triggering from a different point, and get a new twist on it all. Go for it.)


The VR data is sent out as Note On messages on midi channel 16 only.


This function does not record Note Length controls. Sorry.

A61. REMOTE CHORDS

This function allows you to remotely change the Starting Note Number for each element.
To activate the function first access the menu choices page by pressing Exit/Clear followed by the Zero button of element 4. Then toggle step 3 of element 2 to Red. Press Exit/Clear to return to the main display.
Notron will now accept a four note sequence from an external midi source ON ANY MIDI CHANNEL.

So.... try sending a 4 note strummed chord from an external source to reset the
Starting Note Number of each element. For example; playing the notes C2, D2, G2, B3 (in that order) would set element 1's Starting Note Number to 48(C2), and element 2's Starting Note Number to 50(D2) and so on.
In effect the element wheel positions are set from Left to Right by each of the 4 notes played in, IN THE ORDER THEY ARE PLAYED.


Any offsets applied to steps on the element remain in force.


When Notron is in Remote Chord mode and Stopped, any midi data arriving at the midi in port will be sent to the midi out port, a sort of midi thru. This allows you to connect Notron in series with a normal midi keyboard which can be used when Notron is not Running.

A62. REMOTE CONTROL

To set Notron to receive incoming commands go into the menu choices by pressing Exit/Clear then the Zero button on element 4. Set the receive mode by toggling step 3 on element 2 to Green. Press Exit/ Clear again to exit Menu Choices.
Notron will now accept commands sent as specific Note Numbers (only on midi channel 16) from either an external keyboard/midi device or from a Virtual Recording on a sequencer package.

We suggest that if you are playing back a Virtual Recording it's probably a good idea to disable the Timeout feature (step 1 element 4 to Red in the menu choices page).

It is also very important to start any session of Virtual Recording replay with Notron in a blank state. The easiest way to do this is to reboot Notron and then activate this function. Use the sysex dump function to reload any patterns/settings that you had when you made the original Virtual Recording.

There follows a list of which Note Number/key performs which action:

FUNCTION	NOTE NUMBER	KEY
STEP 1, ELEMENT 1	24	C0
then each subsequent step is activated by the next Note Number/Key (see following chart) up to...		
STEP 16, ELEMENT 4	87	D#5
RUN/STOP	92,93	G#5,A5
PATTERN SAVE/RECALL	94,95	A#5,B5
CHORD SAVE/RECALL	96,97	C6 ,C#6
CHORD PLAY	98	D6
CANCEL	99	D#6
TRANSPOSE MODE	100	E6
TRANSPOSE 1/2/5/7/12	101,102,103,104,105	F6 ,F#6,G6 ,G#6,A6
F1 (A-D)	106,107,108,109	A#6,B6 ,C7 ,C#7
F2 (A-D)	110,111,112,113	D7 ,D#7,E7 ,F7
F3 (A-D)	114,115,116,117	F#7,G7 ,G#7,A7
F4 (A-D)	118,119,120,121	A#7,B7 ,C8 ,C#8
F5 (A-D)	88, 89, 90, 91	E5 ,F5 ,F#5,G5
ZERO (A-D)	122,123,124,125	D8 ,D#8,E8 ,F8
RESET	126	F#8

WHEEL/KNOB FUNCTION	LEFT TURN KEY	RIGHT TURN KEY
TEMPO ADJUST	G-1	G#-1
NOTE LENGTH/PITCH ADJUST	F-1	F#-1
NOTE NUMBER ELEMENT A	D#-1	E-1
NOTE NUMBER ELEMENT B	C#-1	D-1
NOTE NUMBER ELEMENT C	B-2	C-1
NOTE NUMBER ELEMENT D	A-2	A#-2
VELOCITY ELEMENT A	G-2	G#-2
VELOCITY ELEMENT B	F-2	F#-2
VELOCITY ELEMENT C	D#-2	E-2
VELOCITY ELEMENT D	C#-2	D-2

A62. REMOTE CONTROL (CONTINUED)

These charts give an easy reference for the key/Note Number that represents a single press of a step button. Don't forget that each remote press will toggle the step on to it's next setting. If you work out the order of key presses you would actually need to make for a certain result and then apply them remotely you will have the desired affect.

Element 1

Step	Key	Note Number
1	C0	24
2	C#0	25
3	D0	26
4	D#0	27
5	E0	28
6	F0	29
7	F#0	30
8	G0	31
9	G#0	32
10	A0	33
11	A#0	34
12	B0	35
13	C1	36
14	C#1	37
15	D1	38
16	D#1	39

Element 2

Step	Key	Note Number
1	E1	40
2	F1	41
3	F#1	42
4	G1	43
5	G#1	44
6	A1	45
7	A#1	46
8	B1	47
9	C2	48
10	C#2	49
11	D2	50
12	D#2	51
13	E2	52
14	F2	53
15	F#2	54
16	G2	55

Element 3

Step	Key	Note Number
1	G#2	56
2	A2	57
3	A#2	58
4	B2	59
5	C3	60
6	C#3	61
7	D3	62
8	D#3	63
9	E3	64
10	F3	65
11	F#3	66
12	G3	67
13	G#3	68
14	A3	69
15	A#3	70
16	B3	71

Element 4

Step	Key	Note Number
1	C4	72
2	C#4	73
3	D4	74
4	D#4	75
5	E4	76
6	F4	77
7	F#4	78
8	G4	79
9	G#4	80
10	A4	81
11	A#4	82
12	B4	83
13	C5	84
14	C#5	85
15	D5	86
16	D#5	87

A63. SYSEX DUMP

This function allows you to save all your patterns/settings and chained patterns to an external midi recording package, and then reload them.

A. Data Dump:
Make sure that you have a midi connection from Notron's midi out to the external sequencer's midi in.

Sysex Dump or Retrieval can only be performed when Notron is stopped.

First set the tempo to 120 BPM or above. The optimum tempo for sysex dump depends upon your external equipment and software, so you might want to experiment with the tempo setting.

To remove the dump safety catch;
first enter the menu choices page by pressing Exit/Clear then the Zero button of element 4. Now toggle step 3 on element 3 to Red.

Set your external sequencer (Cubase or similar) to record (sync doesn't need to be on).

Press Exit/Clear then Pattern/Setup Save.
All the data is now dumped from the patterns/settings and chained patterns onto whatever track you have selected on the recording equipment. The main display will momentarily go blank and then Green LEDs will light up the elements as the data is sent. The time this process takes is dependent upon the amount of data (full patterns etc..),we have found that if all the pattern/setup/chain slots are full, the dump takes just over a minute at 120 BPM. Let the dump run it's course, there is no way of exiting the dump function while it is progressing other than switching Notron off.

Note When the dump is completed menu choice 3/3 will AUTOMATICALLY TURN ITSELF OFF.

B. Data Retrieval:

To reload the data
Make sure that you have a midi connection from the external sequencer's midi out to Notron's midi in.

Sysex Retrieval can only be performed when Notron is stopped.

Remove the dump safety catch; first enter the menu choices page by pressing Exit/Clear then the Zero button of element 4. Now toggle step 3 on element 3 to Red.

Press Exit/Clear then Pattern/Setup Recall.

Set your external sequencer (Cubase or similar) to play (sync doesn't need to be on).

Once again the optimum tempo differs but reloading the data can usually be faster than dumping, so try setting the sequencer's tempo higher, you'll have to experiment with this.

All the data is now reloaded from the midi track back into Notron. The main display will momentarily go blank and then Red LEDs will light up the elements as the data is sent.
HOWEVER, the difference here is that data CAN ONLY BE LOADED INTO EMPTY SLOTS. Full patterns/ setups/chains will be left alone and as much of the dump as possible written in order to the empty ones.

You can cancel and exit this function while it is progressing by pressing Exit/Clear.

Note When the retrieval is completed menu choice 3/3 will AUTOMATICALLY TURN ITSELF OFF.

A64. SPECIAL SYSTEM FUNCTIONS

When Notron is switched on 2 special functions are made available which can be accessed only AFTER powerup and BEFORE pressing any keys.

FACTORY DEFAULT RESET

The first function is used to set the Notron back to its factory default settings. To access this function switch the Notron on and press Exit/Clear followed (quickly) by Zero F3 on element 2. All steps will initially be switched off and the unit will then proceed to turn each step green as Notron's memory is cleared. When all of memory is cleared Notron resets itself and is ready to operate. The effect of clearing down is to remove all saved patterns, setups, chords and chains and to reset all menu options to their default values.

Notron will perform this function automatically if, following a powerup, it can't understand the contents of its own memory. Again the sequence of steps being lit green shows you that the cleardown is taking place. Unless Notron has been struck by lightning or some kind of Midi borne virus (now there's a thought) this should never happen. If it occurs repeatedly your Notron may have developed a fault or alternatively you may have a problem with your power socket. Plugging the kettle, electric fire, fridge, cooker, washing machine and Notron into the same 13A socket may be expedient but something's got to give sometime.
We do recommend you a isolate your mains supply with a backup device or at least a mains spike suppressor, especially during live work. Your other gear would probably appreciate it too.

DIAGNOSTICS

The second function is used to check out the Notron hardware. Note that once you begin the Diagnostic Check, you MUST progress through the various checks to the end. There is no quick exit, though pressing Exit/Clear will stop the check in progress and move you on to the next one.
To access this function switch the Notron on and press Exit/Clear followed (quickly) by Zero F3 on element 4. All the LEDS light red. This is (not surprisingly perhaps) the LED check. Press any key and they go green then orange then back to red again.
Press Exit/Clear to get into the keyboard check. Each key lights a corresponding LED, generally one nearby. Only one LED should light per key and the colour should be the same as the colour that you were last showing in the LED check.
Press Exit/Clear to get into the note length check. An LED lights next to the note length pot under test. Turning the corresponding note length pot should light more or less LEDs depending on the direction you are turning it. No more than two LEDs should flicker - if they do the pot may be faulty. Press any key to test each of the remaining 3 pots in the same way.
Effortlessly we're now checking the rotary switches. Again an LED will light near the rotary being checked (and note it's tempo first followed by note length). Rotating clockwise should start to light green LEDS, rotating anti-clockwise should turn them off. Press any key to test each of the remaining 8 rotaries in the same way.
Next up is the Notron memory check. A fast run through showing a green LED on each step is followed by a slow run through again showing a green LED on each step. A problem is indicated if a red step appears (and you will need to call us). The slow check became so tedious during development that you can bypass it by pressing Exit/Clear.
Which moves you onto the Midi port test. If you loop a cable between the Midi In and Midi Out ports of Notron this test should show a sequence of green LEDs appearing to confirm that the ports are working.
A red LED means the port didn't receive the correct reply and if you don't plug in the loop cable. At the end of this test all the leds should be green (or red if you couldn't be bothered to plug in the cable. Press Exit/Clear and your back to normal operation.

And that, friends and neighbours, is the Notron self check. Enjoy.

A65. SUGGESTIONS FOR USE WITH YOUR MIDI GEAR...

To get the most out of your Notron make sure that any sounds you are triggering on external sound modules/ samplers or keyboards are set to respond to Note Length and Velocity as fully as possible.

In practice this means ensuring that the sound starts as soon as a Note On message (responding as dynamically as possible to the 1-127 range of loudness/Velocity) is received, and stops as soon as the Note Off occurs. On a sampler set the sound envelope to look like a square to achieve this part of the requirement.

Place Notron where you would normally put your "master" keyboard in any chain of equipment. Notron will be helping you generate most of what you were doing laboriously and much more now!

If connected to a computer, (we extensively tested Notron through Cubase on Ataris and Macs) set up the sequencer program to receive/sync via midi clocks so that the sequences generated on Notron can be played, in time, directly into the program.

Note: When you are connected to an external sequencing package in this way you will notice that the tempo read out on the computer's screen will flicker up and down by approximately 1 BPM. This is normal with connection via Midi Clock Synchronisation between computers and is not to be worried about as this occurs very briefly and causes no audible fluctuations.
The only time that this may need attention is when playing back recorded passages from the external sequencing package.
The moment you stop using Midi Clock Sync. the tempo will have stopped flickering and may have ended at a BPM slightly higher or lower than the final BPM required; e.g. 139 instead of 140.

In this regard, when using Beatwrap, be sure to check that, if you are playing back "Beatwrapped" sequences recorded into the external sequencer, the playback tempo from the sequencer is correct.

One further point regarding Beatwrap is the importance of ensuring that the sample you want to trigger is "mapped" across the entire keyboard range.
This is because Beatwrap works by a combination of altering the Note Number and adding any necessary Pitch Bend to bring the sample to the correct overall pitch to fit to any BPM.
Altering the Tempo from Notron may well involve shifting the sample over several octaves-therefore to avoid further complications use only one sample loop per midi channel in your sampler when using Beatwrap.

Notron is designed to help you come up with riffs and tunes and it is strongly suggested that you are always ready to record these variations into packages like Cubase, where you can then cut paste and edit, if necessary. Then do further overdubs of Note or Controller data, from Notron, in sync.!

IMPORTANT NOTE FOR USE WITH CUBASE.
Cubase has a Remote Control function which MUST be disabled when playing sequences from Notron in the Cubase program. Remote Control in Cubase recognises certain Note Numbers to switch various settings- this is why it is a good idea to disable the function.

ATARI USERS with unexpanded memory.
You will soon discover that Notron can generate huge amounts of Midi data. When recording into external sequencers with limited memory you may soon reach the limit on the equipment. Try things like making "ghost Copies" of repeating parts that contain large amounts of Note and/or Controller data to reduce the data consumption.

SPEED OF NOTRON EVENTS?
There comes a point when using Notron where the amount of data generated combined with the Tempo and Ratio settings mean timing is compromised. Fortunately these extreme settings are so fast as to be truly unlistenable even if your external equipment can take the deluge of data. If you really want to make use of these noises try sampling the results if you have the gear.
Set Notron to produce Super Steps, Controller and Note events firing off at 222bpm with a Ratio of 1 to hear what is described.

MIDI GEAR CONTINUED

When you powerup Notron the default setting for the machine appears...

All Steps are Off and empty of any Offsets.
The Loop Points on all Elements are at step 8 (shown by an Orange LED at step 9).
The Starting Note Numbers for each Element form a C major Chord.
Each Element is set to a different Controller Number;
Element 1 is 91- Reverb Depth
Element 2 is 93 Chorus Depth
Element 3 is 10 Panning
Element 4 is 11 Expression.
Expression is often mapped in external equipment to control an aspect of Volume, so be aware that you might turn down the Volume on a Midi Channel by zeroing Expression Controller, if this is so, and not realise that the reason you can't hear any Notes is because of this!
All elements are set to play on Midi Channel 1.
The default Tempo is set to 120 BPM with Midi Clocks being sent when Run is pressed.
Default Ratios on all elements are set to 6.
The Red steps start at a velocity of 64 whereas Green steps are set to send a Velocity of 80 as a default- this provides a quick way of obtaining Accenting by switching a step from Red to Green. These can be completely altered as desired.

A66. TROUBLESHOOTING

Most problems are related to trying to trigger sounds as they were when set a few minutes ago.
Remember, when you are recalling data it is unlikely that you have all the controls set to NOT INTERFERE with the conditions which made your earlier sounds behave as they did..

Notron is all about moving away from STARTING CONDITIONS which are by design intended to make the user respond and manipulate their sounds. Our intention is to show that there are plenty more, even better tunes, where that one came from!

However, get to grips with some of the underlying features which drastically alter the starting conditions and you should soon stop worrying or caring precisely which key you are in. Manipulate your melodies and get on with making more enjoyable music despite MIDI. Hey, aren't we Radical?

Can't get the sequence on an element to play the same as before? - you wouldn't have this problem if you had saved the Pattern but try these solutions...

1.Note Number change?
Fundamental Notron use will change the Starting Note Number by adding and subtracting from the initial value in many ways. Try...
Clearing the Element Wheel position back to its starting point (electronically) with F3 set to NOTE NUMBER (F3=OFF) then pressing the ZERO F3 button under the element.
If that doesn't give you the set of Notes playing on the element as before slowly move the Element Wheel to change the Notes up or down.

2. Is the Transpose Area LED flashing?
Press Chord Play button to return Transpose LED to RED or GREEN if this isn't so already. If it is flashing a Transpose Offset may be present on the element. Press Exit/Clear followed by Interval 0 button to clear the Transpose Offset.
Now try instruction 1 again to see if you can find what you had.

3. Have you recalled a different chord since the previous sound? Recall the original Chord that set the Starting Note Number(s).

4. Have you applied Step Note Number Offsets from F6 to any steps in the element?
You can clear them but you will be clearing other offsets such as Super Step, Note Length, Event data etc. all at once-Try altering them again but only if you are sure this is what has changed.

5. Have you altered the MIDI channel? Change it back.

6. More advanced users may have messed with Controller Numbers and affected the sound radically. Change it back, if you know what you've done.

7. Program Change? You may be triggering a slightly different piano or whatever- get it back.

8. Range Limit? Have you altered any of the parameters-shifting sounds up or down an octave can cause surprisingly different effects . Get into Menu Choices and adjust them, on the fly, to hear these differences on all elements.

TROUBLESHOOTING CONTINUED

9. Scale present?
If you have put a scale on an element it might prevent the series of notes you were previously producing from actually occurring.
Another problem along these lines might be introduced by altering the overall Key that Notron is operating in by applying a Transpose to Element 1.
Remember, all Elements refer to the Key that Element 1 is in when Scales are present on them- even though a Scale isn't necessarily present on element 1. Neither need it be playing or have any activity occurring on it at all.
The net result of this rule is that an element, say element 2 could have formerly been sounding exactly how you wanted. Then an adjustment which caused the Key of Element 1 to change will also have changed the Key that Element 2 is playing in, thus making that particular series of notes impossible in the new Key.
To fix this ensure that Element 1 is not causing the wrong Key on the other Elements.

10. No drums on an element?
The most likely explanation is that the range limit is enabled and at a setting where there are no drum sounds. Go into Menu Choices and switch range limit off, check the centre of range setting too.
Another reason could be you have programmed in chords and the Channel 10 Chord Play is off (it's default setting). Switch it on if you really want chords of drums.

PROBLEM:- NO SOUND IS HEARD OR IS QUIETER THAN BEFORE...

1. Have you inadvertantly turned down the Velocity or Midi Channel Volume.?
Midi Channel Volume may have been assigned as one of your Controllers (Controller 7) and you may have Zeroed F3 when in Controller Mode...Change it back.
The default Controller on Element 4 is for Expression (Controller 11) ....In some equipment this message is mapped to Volume and, therefore, altering the Expression Controller may have set the Volume to low... Change it.

2. You may be sending Note Numbers beyond the range that your equipment can handle...if you have a sampler you may not have samples mapped to play completely across the keyboard range (0-127). Set it to do so or move the element wheels on Notron.

3. Combinations of filters mapped to the Controllers that you are triggering from Notron might be set to a state where none or very little sound can be heard, particularly if you are using Low Frequency Cut Off point filters. Check it out on your external gear.

4. If you are using Pan (Controller 10) and your external equipment is only set to play out of a left or right output this might be another cause of quiet or no sound.

SUMMARY...
The list of fixes could continue but basically be aware of how you are arriving at a set of sounds. There are only a few parameters that can radically alter the actual Note Number but they can all interact with each other to cause unexpected results.

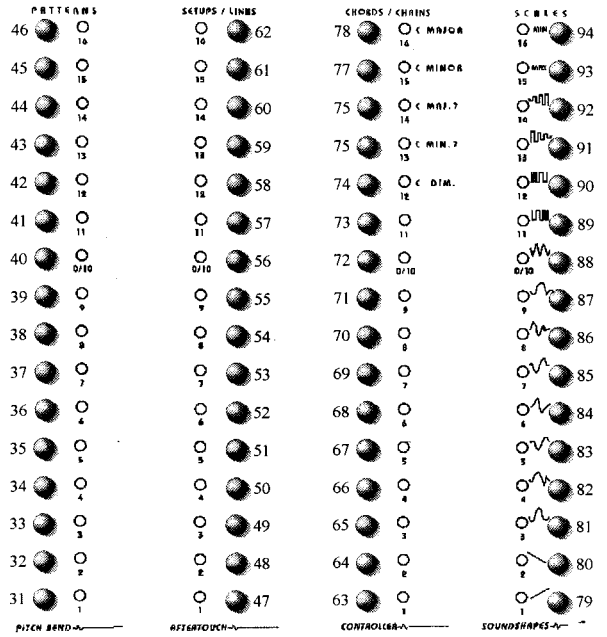
Remember, elements are designed to interact, particularly using messages which will affect all elements set to the same MIDI channels such as Pitch Bend or Controllers or Aftertouch messages.

A67. USEFUL CHARTS: BPM

This might help if you need to quickly find a specific tempo.

LOW TEMPO PAGE

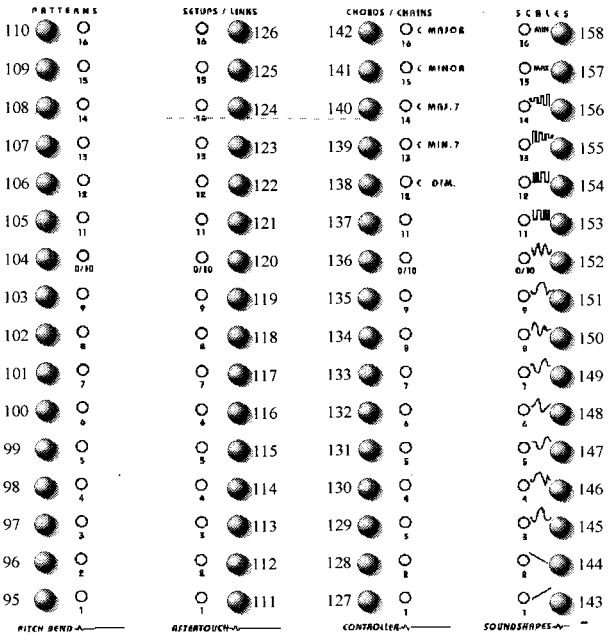
ORANGE
RED
ORANGE



MIDDLE TEMPO PAGE

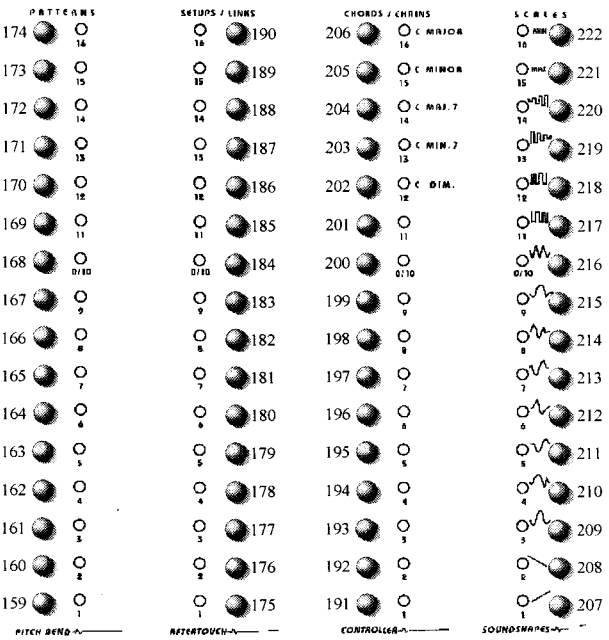
RED
GREEN
RED

DEFAULT
120 BPM



HIGH TEMPO PAGE

GREEEN
ORANGE
GREEN



A68. GLOSSARY OF TERMS USED.

ADJACENT ELEMENT. Refers to the way some parameters are displayed when being altered. When altering a parameter on elements 1, 2 or 3 a display of LEDs will light in the column to the right, the adjacent element display for element 4 will be on element 3.

AFTERTOUCH. Midi message used to control aspects of the sound. Use depends on external equipment settings. We suggest that, if possible, you set aftertouch on your external equipment to control low pass filter cut off point.

BEATCREEP. A function which allows the time offset of whole elements or single steps by milliseconds.

BEATWRAP. A special feature on Notron which enables samples to be played at any tempo and fit to that tempo.

CHAINS. Is the ability to create a series of your saved Patterns into ,effectively, a song. Up to 16 sets of Chains (songs) can be stored. A Chain is the set of Patterns in the order and number of repeats of each pattern required.

CONTROLLER NUMBER. Midi terminology. Many aspects of a sound can be altered by specific CONTROLLERS. Number 91 , for example is Reverb Depth. Number 7 is Channel Master Volume.

DIALLING IN. Means applying alterations by using a Rotary Control (usually F6) to change a value of a parameter.

DEFAULT. Refers to settings in Notron that always occur on powerup (can sometimes be altered in Menu Choices).

ECHO. Sets number of repeats along with their decay amount. Echoes can be set to become louder with successive repeats.

ELEMENTS. Refers to the collections of buttons, LEDs and controls in 4 columns on your Notron. Each is completely independantly controllable but has the underlying ability to interact.

ENDVALUE. Affects only elements 2 and 3 when Superstep is working on those elements and only when the Superstep is short. In this case the setting of the control wheel is inserted at the end of the Superstep Soundshape.

ENTERING. Means using the Step buttons on an element to enter a 3 figure set of digits between 0-127 as a value for Program Change, or to press 1-16 to select parameters such as Midi Channel or Ratio on an element.

EVENTS. An event can be applied to a step at the same time as a normal note. The playing of more than one note at once (a chord), movement of the Element Control Wheel, Sequence Shifts and several other functions can be automated via EVENTS. An event is a channelwide message.

FUNCTIONS. Most functions are indicated via LEDs (small lights) near the buttons used to access these functions.

LINKS. Refers to the Pattern selected along with the number of repeats (Links in Chain) of each Pattern at that point in the Chain (song) you create.

LOOP POINTS. Each element of Notron can be set cycle to a loop of 1 - 16 steps. The loop point is used to set the length of each loop.

MAIN AREA. Is the set of 64 buttons and 64 LEDs in the centre of Notron.

MAPPING. The ability to set Pitch Bend, Aftertouch, Controller or Superstep Soundshapes to be dependent on the current Resolution setting for the function in question.

MENU CHOICES. Notron has a number of settings which the user can alter to their own preference. They remain as they are set, even after Notron has been turned off.

MIDI CHANNEL. Each element on Notron can be assigned to one of 16 midi channels and then independently affected by Controllers, Aftertouch and Pitch Bend etc. Elements set to the same midi channel will affect each other.

NOTE NUMBER. This is midi terminolgy for a note's pitch. It has a range of 0-127. The "middle " C in this terminology is NOTE NUMBER 60.

NOTRON LIMITATIONS. All the rotary controls can be moved at the same time, but only one button can be pressed at any time.
When sending lots of data at high tempo your external equipment may be overwhelmed and notes may not trigger. Make sure your equipment is set to respond as fully as possible. Voice Reserve/Polyphony settings may need optimising on your external equipment.

OFFSET. Steps can be subject to many effects and keypresses which combine to alter the starting conditions of a few basic parameters . There are Offsets which are usually "Dialled in" using the F6 rotary Control/ Functions to add/change Note Number, Note Length, Events, Overdrive, Super Step type and Time Offset.

PATTERN. This is the arrangement of LEDs and their states in the main area including any hidden states on unlit LEDs. If Echo is on this is also saved.

PITCH BEND. A midi message which bends the pitch of a Note Number. Can be set to a very fine setting or quite coarse then automated via Super Step Soundshapes or EVENT functions.

PROGRAM CHANGE. Midi term for changing the sound / instrument on a selected Midi Channel. Notron allows you to dial in or enter a separate program change on each element.

ROLLOVER. The Element Control Wheels have a variable point where the data sent exceeds a maximum. The data then begins again at zero. Rollover also occurs on many events which accumulate each time they are triggered. Settings in menu choices allow or prevent rollovers.

SCALES. Notron has 45 different scales which can force notes to the pitches within those scales. Transpose is used to alter the key of the scale. The overall key of any scale on all Notron elements is determined by the underlying STARTING NOTE NUMBER on ELEMENT 1 at that moment, irrespective of the settings on other elements when scales are selected.

SETUP. Is the state of all the F1 to F4 LEDs at the bottom of the machine including the states for controllers used at the time of saving.

STARTING NOTE NUMBERS. When Notron is turned on each element has a different underlying midi note number. Played together these default starting notes form a C major chord. When a new chord is selected (either preset or recalled from memory), the Starting Note Numbers change to the underlying note numbers comprising that chord.

STRUM. A chord can be made to play with a variable time spacing between the notes of the chord.

TARGET STEP/ELEMENT. Refers to the step or element chosen for effects or changes.

TIMEOUT. Whenever you enter a function on Notron, commonly a setting which causes the display to be different from the normal display where steps and the chaser light show, the function you have entered will usually exit back to the normal display after a few seconds. Any use of the function will start the timeout period again. Some functions have no timeout and others have very long ones, you can always exit a function by pressing EXIT/CLEAR.

TOGGLE. When more than one keypress is needed on a button to alter a setting, the phrase "Toggle" is used in this manual. With single keypresses the phrase "Press" is used.

TOTAL CLEAR DOWN. Notron can be completely reset to its factory condition. This will clear all stored settings and data.

SPECIFICATION.

- o Notron Software Version 2.0
- o Parts:-
  4 step time sequencer "Elements" with 16 steps per element.
  Each element is completely independent but can interact with others when they share the same Midi Channel.
- o Maximum data generated at any instant:-
  Up to 4 Midi Channels with total of up to 24 Note On or Note Off messages plus up to 3 other Midi messages of Pitch Bend, Aftertouch or Controller; all user-definable for Channel / type.
- o Effects (generated by Midi data)
  Echo -up to 4 simultaneous different settings (Delay Time and Number of Repeats-user definable)
  Super Step Soundshapes (user manipulates wave forms to control Pitch Bend, Aftertouch or Controller messages)
  Beatcreep adds "swing" to steps or whole Elements or both.
  Kill consecutives for special echo effects.
  Scale correction (45 available).
  Events (user "draws" own shape of effect on Note Numbers, Pitch Bend , Controller, Aftertouch, Sequence Skip or Sequence Pause.) Other Events can be Transpose, Chord or Strum up/down
  Midi Kill for "broken midi lead" effects.
  Element Mute with "Inverse"
  Loop Point flipping with "Inverse"
  Copy and Paste element data
  Creepmap & Velomap combinations
  CreepMute
  Element & Global Volume and Panning with "Inverse"
  Preset & Custom instant recall Controllers
  Re-assign Controllers & Aftertouch
- o Internal Memory:-
  Chords 16 (5 are pre-set) plus extra functions see Patterns...
  Patterns 16
  Setups 16
  Chained Patterns 16
  Scales 45
  Super Step Soundshapes 16
  ...All above can be saved and retrieved as System Exclusive data.
- o Connectors:-
  Midi Connectors (In and Out)
- o Display:-
  87 triple colour LEDs
- o Power Consumption:-
  D.C. 5v up to 1 AMP
- o Dimensions:-
  Approximately 14 inches wide x 18 inches long x 2.5 inches high.
- o Weight:-
  5Kg

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MIDI Note & Control Event Instrument — Date: 16th January 1999

Model: Notron

MIDI Implementation Chart

Version: 2.0

Function...		Transmitted	Recognised	Remarks
Basic	Default	o 1	o 16	# Up to 4 different Midi Channels at once can be used. Recognised for "Virtual Recording" feature.
Channel	Changed	o 1-16	x	
	Default	x	x	
Mode	Messages	x	x	
	Altered	x	x	
Note Number		o 0-127	x	
Velocity	Note ON	o	o/x [1]	**1 and 2 Can be switched to recognise Note On messages for internal function switching.**
	Note OFF	o **Default Note Off Velocity is 0 but can be set to transmit Note Off Velocity 64**	o/x [2]	
After	Key's	x	x	Value sent per click of Wheel movement (Resolution) can be altered.
Touch	Ch's	o	x	
Pitch Bend		o	x	Wheel send movement (Resolution) can be altered.
Control Change		o 0-127	x	Value sent per click of Wheel movement (Resolution) can be altered. Any Controller can be selected-Up to 4 active at any one time on Element Control Wheels. Default (on powerup) settings are: Element 1 set to 91 (Reverb Depth) Element 2 set to 93 (Chorus Depth) Element 3 set to 10 (Panning) Element 4 set to 11 (Expression)
Program Change		o 0-127	x	
System Exclusive		o/x	o/x	*see notes
System	Song Pos	x	x	
	Song Sel	x	x	
Common	Tune	x	x	
System	Clock	o/x	o/x	^Enable / Disable from Menu Choices-see manual.
Real Time	Commands	x	x	
	Local ON/Off	x	x	Can be set to ON/OFF by Control Change 123.
Aux	All Notes OFF	o/x	x	
Messages	Active Sense	x	x	
	Reset	x	x	
Notes		# Up to 4 different Channels at once, each sending Aftertouch(Channel only), Controller and / or Pitch Bend and Note Number / Velocity data. ^ Only recieves Midi Clock Messages to sync. with other equipment. *Sends Sys. Ex. which enables Aftertouch (Channel) set to control low frequency cut off and Pitch Bend to +/- 12 semi-tones on all midi channels, **on Roland Sc-7 only**, when on from Menu Choices. Also used for Bulk Dump / Recall on ver. 1.3.		

o: Yes
x: No

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notron