



soundart

USER'S MANUAL

AUSTRALIS

Chameleon **Virtual Analog Synthesizer** Application

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Preface

This manual was written to help you to become familiar with Australis, the Polyphonic Virtual Analog Synthesizer for Chameleon. It will also aid experienced users with routine tasks.

To avoid confusion, the terminology used in this manual is based on the Australis's parameter names.

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Table of Contents

1	Overview.....	1
1.1	Main Features	1
1.2	Sound Architecture.....	3
1.2.1	AUDIO.....	3
1.2.2	MODULATION COMPONENTS	4
1.2.3	EFFECTS.....	5
1.3	Memory Structure	6
1.4	Setup and Connections	7
1.4.1	MAKING THE CONNECTIONS	7
1.4.2	LOADING THE SOUNDSKIN.....	7
1.5	Quick Tour of the Controls and the Front Panel	9
1.5.1	NAVIGATION AROUND THE SOUNDSKIN	10
2	Operating Modes and Menus	12
2.1	Single Preset Mode	14
2.1.1	THE DISPLAY.....	14
2.2	Single Edit Mode	16
2.2.1	AUDIO.....	17
2.2.2	MODULATION.....	21
2.2.3	INPUT	26
2.2.4	EFFECTS.....	26
2.2.5	ARPEGGIATOR	29
2.2.6	COMMON	30
2.2.7	ASSIGNING THE REALTIME CONTROLLERS	31
2.2.8	EXITING SINGLE EDIT MODE AND PREPARING TO SAVE.....	32
2.3	Single Save Mode.....	33
2.4	Multi Preset Mode.....	35
2.4.1	THE DISPLAY.....	35
2.5	Multi Edit Mode.....	38
2.5.1	SAVE AND EXIT.....	39
2.6	Multi Save Mode	40
2.7	Assigns Info Mode.....	41
2.8	System Mode	42
2.9	Demo Mode.....	45
A	Loading Soundskins	46
B	Midi Implementation.....	48
C	Quick Navigation Tables	53
D	Factory Presets.....	62
E	Chameleon GUI	69

Overview

Australis is a polyphonic analog synthesizer emulator for Chameleon capable of producing an enormous range of high quality synthesized sounds, from warm pads to distorted, punchy basses. The sound is generated using modern digital signal processing algorithms running on the Chameleon's DSP chip to emulate classic analog circuitry, while adding the benefit of digital control and stability.

The sound textures obtained with these techniques recreates the character found in classic vintage analog synthesizers of the 70's and 80's.

1.1 Main Features

- 16 dynamic allocated voices
- 8 multitimbral parts
- 4 single sound banks with 128 available presets each.
- 1 multi sound bank with 128 available presets (each multi sound is composed of 8 individual addressable single sounds)
- Factory sound banks and demo songs
- Tempo Sync (external, internal, auto) for time based parameters (Speed in LFOs, Chorus and Phaser, DelayTime in Delay, and note length in arpeggiator)
- 2 multi-wave oscillators (sine, triangle, sawtooth, square and a list of over 35 complex waveforms), suboscillator, coloured noise and ring modulation per voice; square wave with variable pulse width; synchronisation and frequency modulation (FM) between the oscillators allow the generation of metallic or percussive timbres; different phase initialisation options per oscillator
- Unison mode, with configurable detune and pan spread amount, to make the sound fatter
- 2 resonant analogue-like multimode filters (lowpass, highpass, bandpass, bandstop) per voice, with 12dB/oct slope and selectable

routing between serial-parallel configuration (the serial configuration gives you an equivalent 24dB/oct slope filter)

- 2 ADSR Envelopes (filter, amplifier) per voice
- 2 multiwave LFOs (sine, tri, saw, square, sample&hold) per voice. LFO functionality includes adjustable fade in, phase initialization and square waveform with variable pulsewidth
- Huge modulation matrix
- Individual chorus FX available per part
- Individual phaser FX available per part (with 3 and 6 peaks mode)
- Individual distortion FX available per part (with several distortion curves)
- Global delay FX with individual send level assignable per part
- External audio input support allowing to send it to the effects section of a part
- Individual programmable arpeggiator per part, with 128 pattern presets available (which can be redefined) and adjustable gate time, velocity, direction and note sort order
- Comprehensive MIDI automation and bulk Dumps
- Front-panel real-time controllers assignable to most internal parameters, with several operating modes: absolute, relative and pick up
- Parameters assignable to external controllers, including support for aftertouch and sustain and expression pedals
- Downloadable arpeggiator patterns via MIDI SysEx

1.2 Sound Architecture

Australis is a digital emulation of musical instruments developed in the analog electronics world. It is based around the concept of 'subtractive synthesis' that is one of the classic methods for generating complex sounds using analog circuitry.

The diagrams and short explanation below should provide all you need to know to understand the architecture of Australis.

1.2.1 AUDIO

These elements generate and manipulate the audio signals.

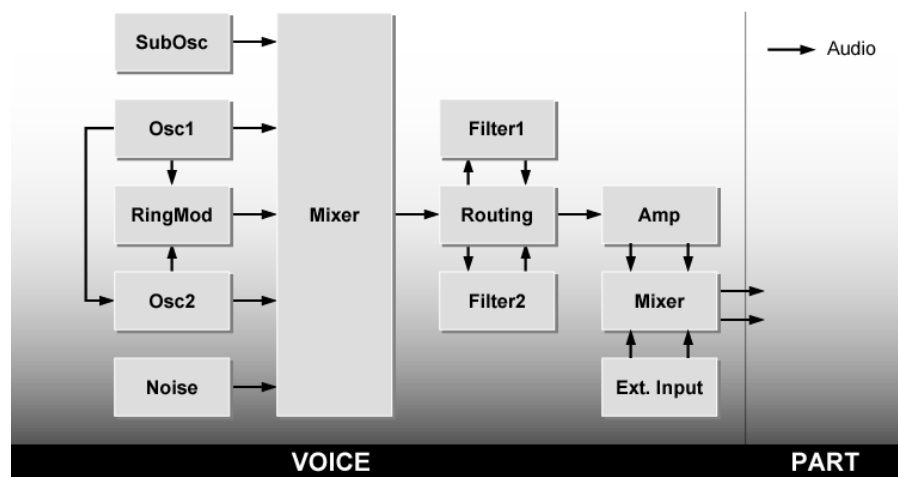


Figure 1-1

Simple signal types are generated by the oscillators (Osc1, Osc2, SubOsc) and noise generator (Noise).

The Mixer combines these signals together and sends the result to the Filters (Filter1, Filter2) for cutting out certain frequencies.

The Routing configuration establishes the signal flow between both filters, and the output is then passed to the amplification section, for setting the volume of the sound.

The sound or "part" can be polyphonic, meaning more than one note playable at a time (multiple voices). The output of all voices triggered by one part are mixed together automatically.

An additional source of audio can be mixed with the generated sound before going to effects: the signal present at any of the external input connectors of the Chameleon.

1.2.2 MODULATION COMPONENTS

These elements can be used for adding shape and movement to the sound.

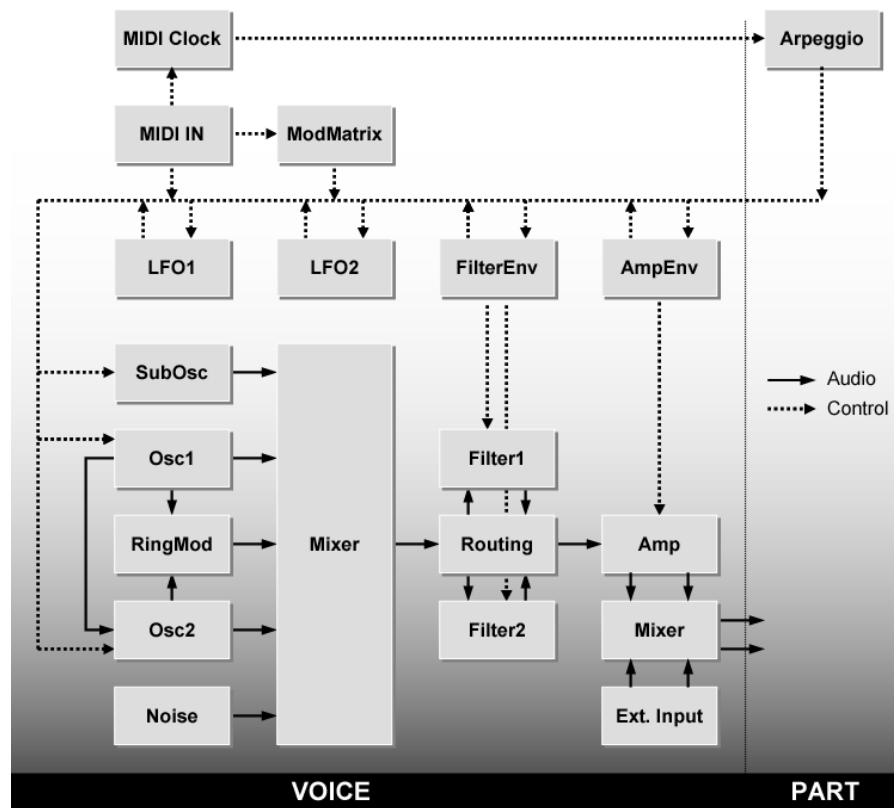


Figure 1-2

The modulation components control the synths parameters over time to add dynamic movement and are assigned to parameters through the Modulation Matrix. The diagram above shows the modulation components alongside the audio components. The possibilities for adding movement and dynamics to the sound are huge, and you can see all the modulation routings in Table 2-7 on page 25.

1.2.3 EFFECTS

This last stage takes the synth output and adds internal effects.

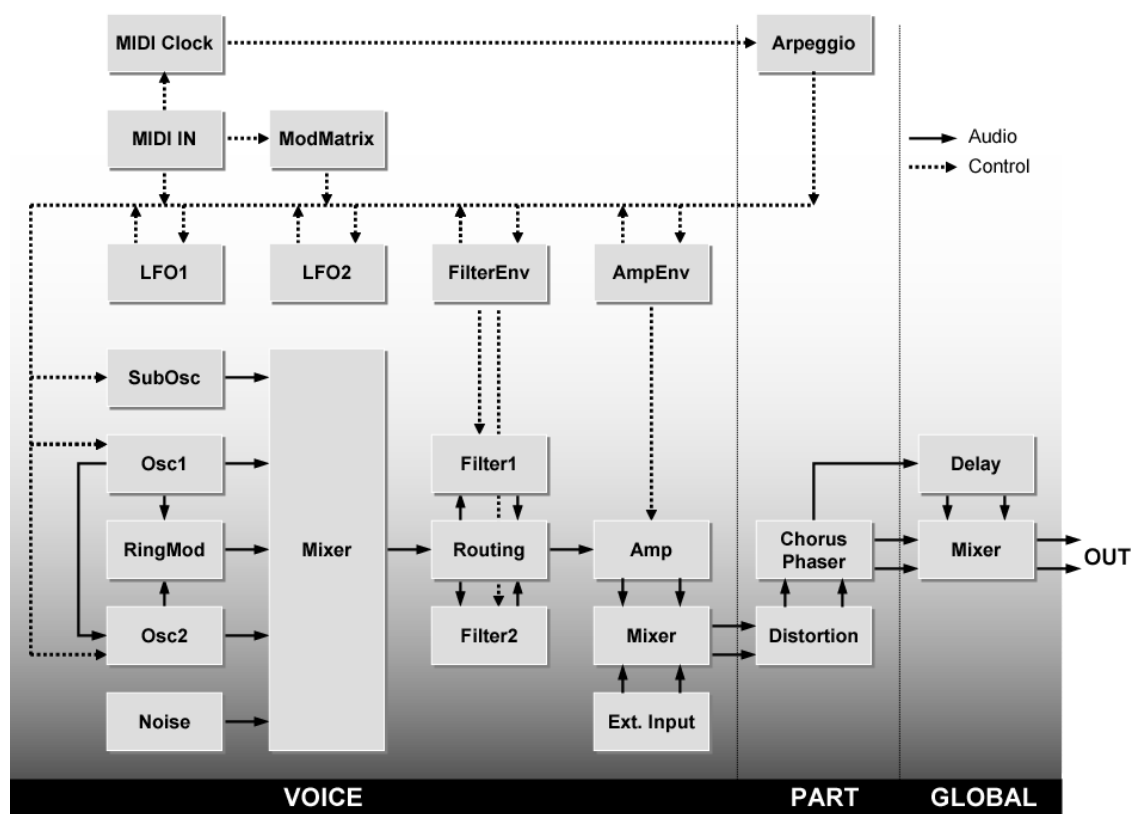


Figure 1-3

Each synth part can have its own PHASER, CHORUS and DISTORTION. At the very end, there is a global DELAY effect that can be put across all the sounds Australis makes, that is then mixed in before going to the output. You can learn more about the effects possibilities in section "EFFECTS" on page 26.

1.3 Memory Structure

The memory of Australis can store all your presets, and combinations of presets. It is made up of three main sections, as shown in the following picture.

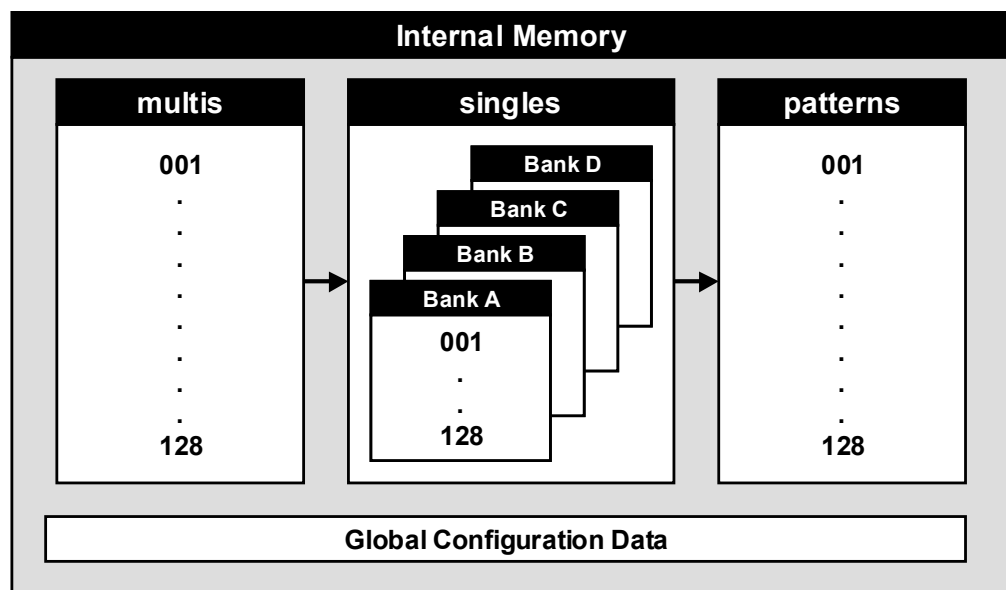


Figure 1-4

- **512 single sounds (singles) split into 4 banks of 128.**
Think of a single like one complete synthesizer. You can store the exact configuration of the synth in a single.
- **128 multi sounds combinations (multis)**
In Multi Preset Mode you can have up to 8 single sounds running side by side. You can mix them, pan them, detune them, activate or deactivate arpeggiators and select what MIDI channel they each respond to.

In memory you can also store:

- **128 arpeggiator patterns (patterns)**
The arpeggiator patterns are used by singles to play different rhythm and note variations when the arpeggiator is activated. Arpeggiator patterns can be changed using MIDI SysEx dump. See section "ARPEGGIATOR" on page 29.
- **Global data**
This stores the global soundskin parameters which affects all sounds in all parts, regardless of what single or multi you have loaded. This includes screensaver times, general MIDI configurations, master tuning, synchronisation options and so on.

1.4 Setup and Connections

This section explains how to load and get started with Australis for the first time.

1.4.1 MAKING THE CONNECTIONS

In order to start using Australis, you need first to have the Chameleon unit properly connected if you haven't already done so. Make sure that you have the Chameleon power supply (9V DC/1.2A) plugged to the device and connected to the AC mains. The following figure shows the Chameleon rear panel connections.

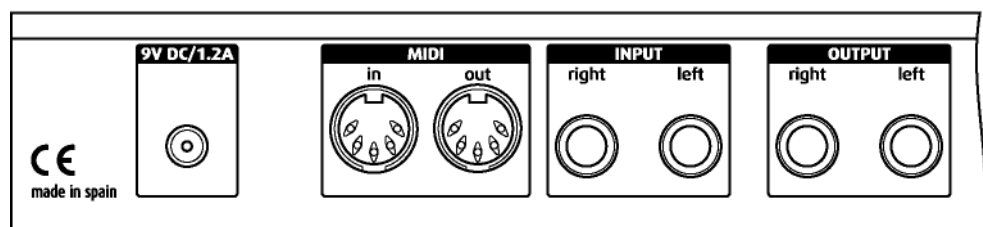


Figure 1-5

Before connecting the Chameleon to other units in your system, for safety ensure that the power to all units is off. There are no real surprises here: To hear sounds from the Chameleon, connect audio cables from the left and right Chameleon outputs to a suitable amplifier or mixing desk (line level inputs), or plug your headphones using the front panel jack.

You also need to connect your MIDI sequencer to the Chameleon so that it can send and receive MIDI data.

The MIDI OUT of your sequencer should be connected to the MIDI IN of the Chameleon.

The MIDI OUT of the Chameleon should be connected to the MIDI IN of your sequencer.

Once all connections are made, turn on the power of the Chameleon and all the other devices in your system.

1.4.2 LOADING THE SOUNDSKIN

The Australis soundskin is contained into a MIDI file called 'Australis_vX.X.mid' (where 'X.X' is the current version number of the soundskin). Like any other Chameleon soundskin, when you load Australis you will wipe the memory of the Chameleon and use it for this new soundskin instead. So you have to first make sure you have saved your personal settings and user data stored in the

soundskin you are about to replace with Australis. You can save it by making a quick MIDI SYSEX Total dump.

Remember if you have an older version of Australis or a different soundskin installed in your Chameleon you will lose your user data if you don't make a backup of it before updating the software version. Please read the important notice in the **Appendix A** to check how to save your and load new soundskins into the Chameleon.

When you have loaded the latest Australis, you can still reload again your old Australis presets previously backed up by MIDI. The new software version will update the preset formatting of your presets if necessary.

Once the soundskin is loaded, it is ready to use and you can treat the Chameleon as if it was a regular synth. By default, the soundskin comes loaded with the Factory presets banks, which provide a wide range of ready-to-use singles and multis to choose from. These are useful starting points for editing your own presets. Play around with these to take a quick overview of Australis. Remember you can tweak many parameters straight away with the Realtime controllers on the front panel.

NOTE: Factory presets can be edited, modified and overwritten like any other preset, so all 512 available presets are considered as “user” presets and there are not the so called “ROM presets”. So be careful how and where you save. However, don't worry about overwriting the Factory presets permanently. If you think you have made a mess of a single, individual sounds from the factory bank can be reloaded at any time.

Once the soundskin has been successfully downloaded into the Chameleon, You will need to make sure you have a MIDI keyboard or sequencer able to send MIDI to Australis in order to trigger sounds and control parameters.

1.5 Quick Tour of the Controls and the Front Panel

The following diagram highlights the main buttons and knobs used for controlling Australis. These are referred to throughout this manual. The only controller not magnified here is the BIG DIAL on the left of the Realtime controllers, in the centre.

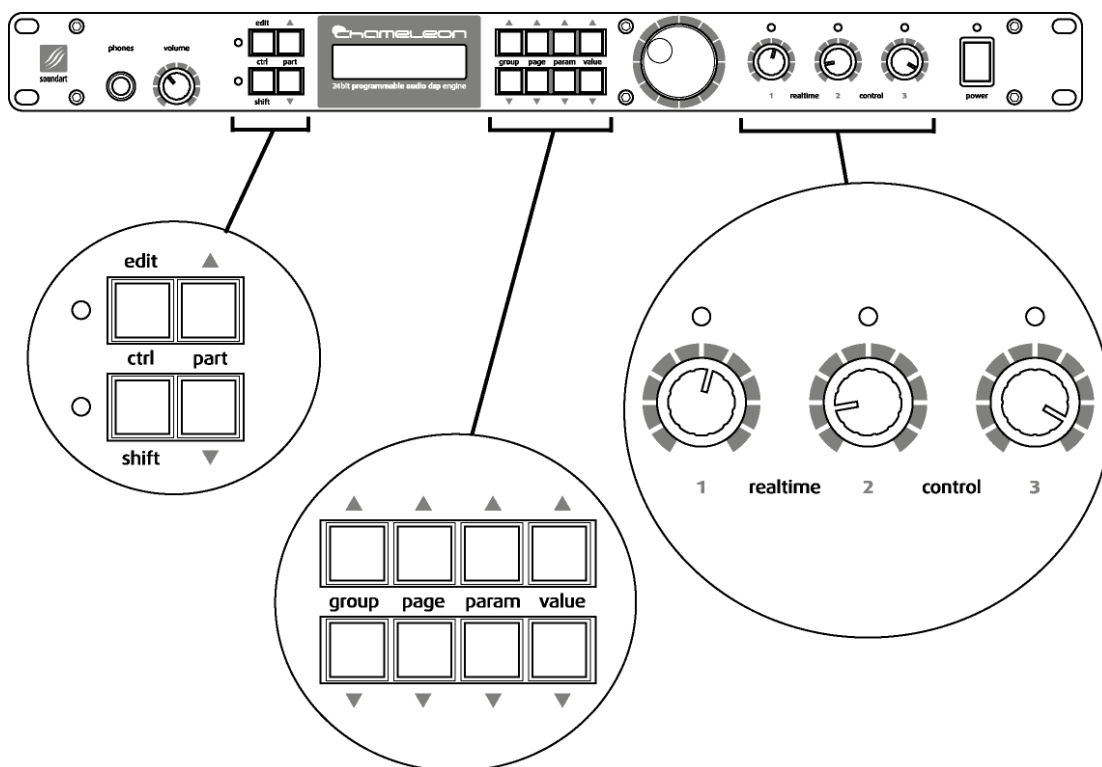


Figure 1-6

The first thing you see when powering up the Chameleon with Australis loaded is the default mode - Single Preset Mode:

A screenshot of the synthesizer's monochrome LCD display. The top line shows 'B A001>ChanPad' and the bottom line shows three small icons: a square, a circle, and a triangle.

In this mode you can listen and navigate across the full 512 single presets stored in internal memory: VALUE UP/DOWN and the BIG DIAL change the current single preset (1 to 128). Note that the menus wrap around from 128 to 1 for quicker selection. PARAM UP/DOWN change the current bank (A,B,C or D).

If you want to listen immediately how Australis sounds, you can enter the Demo Mode by pressing SHIFT+EDIT keys.

In all operating modes, the LED located next to the SHIFT key will flash at the selected **tempo** speed (quarter notes).

The **Realtime Controllers** on the right of the front panel are used to change the value of internal parameters that you assign to them for instant access. See page 31 for more details. The LED above each Realtime controller will light if its controller is assigned to any parameter. When you use a Realtime Controller, a screen will appear for a few milliseconds, telling you about the parameter changed and the new value assigned.



When browsing around the different presets for the first time, do have a play with these controllers to see how the sound can be manipulated.

The **volume knob** located in the left side of the front panel controls the global level of the audio outputs, including the headphone connection.

Stuck notes: By pressing together the SHIFT and PART UP keys, Australis performs a **Panic** function. The Panic function sends and executes an "All Notes Off" command to terminate stuck notes. Panic also immediately sets all envelopes to their release phases, while stopping the arpeggiator playing.

Australis includes a **screensaver** function which will fire after a number of minutes specified in the System menus. When the screensaver is activated, the display shows an animated message informing about the soundskin version. Any external event as pressing a key or MIDI activity will exit from the screensaver state.

When MIDI SysEx data is received, the current screen is temporary disabled and a blinking information message is shown instead.



1.5.1 NAVIGATION AROUND THE SOUND SKIN

Once you enter the Edit modes or System mode outlined below, you will find a lot of parameters to control. However navigating them is quite easy, with parameters grouped together into logical menus, which you can browse through to access and modify parameters.

The menus always have the following structure:

- **GROUP** (GROUP UP and GROUP DOWN keys)
The group buttons move you between the main sections within a Mode. The name of the current group is shown in the upper left line of the Display.

- **PAGE** (PAGE UP and PAGE DOWN keys)
Within each group outlined above there are usually several “pages” to navigate through that contain subsets of parameters for dealing with one particular aspect of the mode. The page name is shown on the right of the upper line.
- **PARAMETER** (PARAM UP and PARAM DOWN keys)
Once you have chosen a group and gone inside a particular page, you can then select from a list of parameters for adjusting. The name of the current parameter is shown in the lower line of the Display, aligned to the left.
- **VALUE** (VALUE UP and VALUE DOWN keys and/or BIG DIAL)
All the other buttons described above are for navigating around the soundskin. With VALUE UP/DOWN and/or the BIG DIAL you actually change the value of a parameter. The current value of the parameter you have navigated to is shown between animated brackets on the lower line of the Display.

The LCD display always tells you where you are as you navigate - the upper line shows the Group name and the current page (separated with “:”). The lower line shows the current parameter name and their value between animated brackets.

In the following chapters we have laid out all the groups, pages, parameters and their possible values in tables, which show this hierarchical menu structure clearly.

Operating Modes and Menus

Australis has several different operating modes. Here is a brief description of what they do and how to move between them:

- **Single Preset Mode:**

This is the default start up mode as shown above, and it is where you can browse through the various single sounds available. (the soundskin uses the MIDI Channel set in the Global system controls). From here you can:

- Enter Single Edit Mode by pressing EDIT (for editing a sound).
- Enter Multi Preset Mode by pressing PART UP (for grouping sounds together).
- Enter System Mode by pressing and holding down EDIT (for adjusting global parameters).
- Enter Demo Mode by pressing SHIFT+EDIT (for playing the demo songs included).

- **Single Edit Mode:**

Here you 'go inside' the single, to adjust all the parameters for that sound. You can make your changes, and then exit by pressing EDIT. If necessary, it will ask you if you want to save your changes (see page 32).

- **Single Save Mode:**

This mode is used to store the single preset edited in the Single Edit Mode in any of the available memory locations.

- **Multi Preset Mode:**

In this mode, up to 8 singles can be selected to be played, mixed and modified together. Each one is called a "Part". You can switch between the 8 parts, choosing a single sound for each one. (The current part is indicated by a small number on the lower right of the screen). From here you can:

- Enter Single Edit Mode by pressing EDIT. This will edit the current single Part as outlined above.

- Enter the Multi Edit Mode by pressing SHIFT+EDIT (see below).
- Enter System Mode by pressing and holding down EDIT (for adjusting global parameters).
- Return to Single Preset Mode by pressing PART DOWN, counting down through the Multi Preset Mode parts until you enter Single Preset Mode again at the bottom.

- **Multi Edit Mode:**

In this mode you set up the multi. You can adjust the relative mix, pan and so on between the 8 parts and set their MIDI channels. You also set up the global DELAY effect here. You exit by pressing EDIT, and if necessary it will ask you if you want to save your changes (see page 39).

- **Multi Save Mode:**

This mode is used to store the multi preset edited in the Multi Edit Mode in any of the available memory locations.

- **Assigns Info Mode:**

It is useful to see the current parameter assignments for the front panel realtime controllers (Knob1, Knob2 and Knob3) and the external MIDI controllers (Modulation Wheel, Expression Pedal, Sustain Pedal and Aftertouch).

- **System Mode:**

For adjusting global parameters and functions that remain the same regardless of what preset you have loaded, e.g. screensaver times, MIDI SYSEX dump requests, etc.

- **Demo Mode:**

The Demo Mode will playback a number of factory songs for your pleasure...

Each of these Modes is described in detail in their own section, below.

2.1 Single Preset Mode

Single Preset Mode is for selecting from the 4 banks of 128 presets. An Australis preset is a combination of synth settings, modulation routings and other such parameter values stored in memory. When you switch on the Chameleon with Australis loaded, it automatically defaults to this Single Preset Mode. From here you can enter the other modes easily.

2.1.1 THE DISPLAY

In Preset Mode, the LCD display will show information about the currently loaded single preset, as showed in the following picture.



Here's a detailed list of what you see.

The upper line:

- A little "s" in reverse colour will appear in the upper-left corner of the display to indicate Single Preset Mode. This small "s" will blink if the preset is "dirtied" in any way - that is, the preset is somehow changed in relation to what is stored in the memory and it has not yet been saved. This can happen via MIDI, by moving an assigned front panel Realtime controller, or by editing something while in Edit Mode.

So if you change preset without first saving what you have edited, you will lose all the changes you may have made. Equally, if you have ended up with a sound you don't like and want to return to the saved preset, simply use VALUE UP/DOWN to change to another a preset and back again to reload the original preset from memory again.

- Next, there is the name and memory location of the currently loaded preset. The four banks are indicated by their letter (A, B, C, D) and the 3 digits show the preset number (001-128) within the bank.
- Between the "s" symbol and the number of the selected sound, the round MIDI data reception symbol will be shown when Australis receives any incoming MIDI data. Use this to check your MIDI connections are active.

The lower line:

- This simply shows the three Realtime controllers potentiometer's current position.

To choose from the different presets available, simply scroll with the BIG DIAL or use the VALUE UP and VALUE DOWN keys.

To change to a different Bank (A,B,C or D) use PARAM UP and PARAM DOWN.

By pressing and holding about a second the SHIFT key, the screen will display temporary the same information shown in the screensaver (soundskin info).

2.2 Single Edit Mode

This is where you customise the synth sound by browsing through the sections adjusting its parameters.



A little symbol in the top left hand corner will remind you what you are doing. Either:

- A little “s” symbol is shown in the corner if you have entered the mode from Single Preset Mode.
- A little part number will show if you have entered from Multi Preset Mode, to remind you what part you are editing.
- Both these symbols will blink if any parameter’s value is changed, to remind you to save as you exit.

As stated in the section above on “Sound Architecture”, the synthesis process is split into several sets of components and their controls. In Single Edit Mode there are also the controls for the arpeggiator patterns and some common controls:

1. **AUDIO**
This section deals with generating and manipulating audio signals.
2. **MODULATION**
For adding movement to the audio generation parameters over time.
3. **FX**
For adding sound FX to the synthesized sound.
4. **ARPEGGIATOR**
For automatically generating patterns of notes from the notes you hold down on the keyboard.
5. **COMMON**
For adjusting some common parameters like external controller setups and the internal tempo for the synth’s clock.

2.2.1 AUDIO

2.2.1.1 OSCILLATOR

The Oscillator is the basic building block of an analog synthesizer, the raw audio material to be used as a starting point for a sound.. An Oscillator generates a sound continuously. It actually generates a periodic waveform or a shape that will be fed into the other processes for manipulation. The shape determines the "timbre" characteristic of a sound. The rate at which it generates each cycle of the waveform is what we hear as pitch.

Here you can set up the waveforms of the two oscillators plus the noise generator, as well as determine general characteristics of the OSC in relation to your MIDI keyboard.

Table 2-1

Group	Page	Parameter	Value	Comments
OSC	Osc1	Wave	Sine, Triangle, Sawtooth, Square, Wave01..36	You have the four classic basic waves, plus a range of more complex waveforms.
		PulseWidth	0..127	If the selected wave is Square, this controls the period when the wave is "up", changing the harmonic content of the waveform.
		Pitch	-64..0..+63	Here you can tune the pitch of the OSCILLATOR in semitones.
		KeyTrack	OFF/ON	This turns on or off the option of using the keyboard to modify the pitch of the oscillator. For instance, with a bassdrum sound you might not want to alter the fundamental pitch as you play along the keyboard.
		Phase	Free 0..360 Deg.	You can set at exactly what point in the wave cycle the sound starts when triggering a new note. Free stands for an arbitrary value.
	Osc2	Wave	Sine, Triangle, Sawtooth, Square, Wave01..36	See OSC 1
		PulseWidth	0..127	
		Pitch	-64..0..+63	
		Detune	OFF/ON	You can set the pitch of Osc 2 to be detuned in relation to Osc 1.
		KeyTrack	OFF/ON	See OSC 1
		Phase	Free 0..360 Deg.	
		Sync	OFF/ON	This feature allows to use the phase of the Osc1 to synchronize or "reset" the phase of the Osc2. This results in a new static wave whose frequency is that of the Osc1, but whose shape is a portion of the Osc2. Note that the choice of wave for the Osc1 is irrelevant and only it's frequency matters.

Group	Page	Parameter	Value	Comments
		FmAmount	0..127	FM synthesis is a way of generating musically interesting sounds by changing the basic frequency of a sound using another signal with a frequency in the hearing range. In practice it just means connecting the audio output of an oscillator to the frequency input of another oscillator. In Australis, FmAmount controls the amount of the output of Osc1 used to modulate the frequency of Osc2.
	Noise	Color	-64..+63	Here you adjust the frequency contents of the generated noise. A value of 0 is used to generate white noise (uniform energy distribution). With positive values the noise contains less low frequency energy than white noise, and with negative values the noise contains less high frequency energy than white noise.
	Unison	Active	OFF/ON	This parameter activates or deactivates the unison mode, where two voices of Australis are used to render the same played note, making a sound fatter.
		Detune	0..127	It is used when Unison Mode is active to slightly detune the two voices, providing a chorus-like effect.
		PanSpread	0..127	It is used when Unison Mode is active to vary slightly the panorama position of both voices, providing an stereo effect.
	Keyboard	KeyMode	Poly Mono	You can either have a synth that only plays one note at a time (mono) or a synth that can play multiple notes and chords (poly).
		Trigger	Always Staccat	It specifies if the envelopes are restarted every time you play a note (always) or at the first note only when playing legato (staccato).
		Glide	Always Legato	when the portamento is active, it either always triggers or only on the separated notes of a legato phrase.
	Common	Portamento	0...127	Here you set the amount of time used to glide the pitch from the current note to the next note played.
		Transpose	-64..0..+63	This raises or lowers the pitch of the whole OSCILLATOR section
		BendRange	-64..0..+63	This determines how much the pitch bender on your MIDI keyboard bends the note up or down in semitones (12 is an octave). Negative values are used to reverse the meaning of the pitch bend control: moving it up will lower the pitch and vice versa.

2.2.1.2 MIXER

Here you mix the sounds that you have generated in the OSC section. You can also add a Sub-oscillator that always oscillates at the same pitch as Osc1, but

an octave lower, using a triangle waveform. Furthermore, you can ring modulate (multiply) the two oscillators together, for creating new overtones giving the sound a metallic and percussive character.

Table 2-2

Group	Page	Parameter	Value	Comments
MIXER		Osc1Level	0..127	Sets the mixing level for each of these sound sources.
		Osc2Level	0..127	
		SubOscLevel	0..127	
		NoiseLevel	0..127	
		RingModLev	0..127	Sets the amount of signal sent to the mixer from the Ring Modulator.

2.2.1.3 FILTER

The range of sounds generated in the oscillator section can be greatly enhanced by selectively removing or 'subtracting' frequency components. This is what filters are for. By using different filter types you can carve away parts of the frequency spectrum from the mix of waveforms, changing drastically the timbre of the sound.

In Australis there are available two identical resonant multimode filters with two poles each (slope of 12dB/octave). A flexible routing mechanism allow you to get for example a LowPass filter of 24dB/octave by putting the two filters in series each with a LowPass configuration.

Table 2-3

Group	Page	Parameter	Value	Comments
FILTER	Filter1	Type	LowPass HighPass BandPass BandStop	Filters operate around a determined frequency called the cut-off point. In a lowpass filter all frequencies below the cut-off point are allowed to pass. In a highpass filter all frequencies above the cut-off point are allowed to pass. A bandpass filter lets frequencies in a "mid-range" band (defined by the cut-off point and resonance) pass through, while lower and higher frequencies are cut out. The bandstop filter type can be seen as the opposite of a bandpass filter. It cuts off frequencies in a "mid-range" band, letting the frequencies below and above through.
		Frequency (cut-off point)	0..127	This sets the cut off point of the chosen filter.
		Resonance	0..127	This is used to further adjust the characteristics of the filter. With lowpass and highpass filters, it

Group	Page	Parameter	Value	Comments
				<p>feeds-back the frequency around the cut-off point into itself, which at low amounts creates a 'sharpening' of the sound and at high amounts creates a piercing tone.</p> <p>In bandpass and bandstop filters the resonance affects the width of the passband and the rejected band respectively.</p>
		EnvAmount	0..127	In the modulation sections below, you can set up a filter envelope to manipulate the cut-off frequency over time. This parameter determines how much the filter cut-off is controlled by the filter envelope.
		EnvInvert	OFF/ON	With this parameter you can 'invert' the above envelope so that it acts in reverse upon the cut off frequency value. As the envelope raises the value, the filter lowers it correspondingly.
		KeyTrack	-64..0..+63	This allows the filter to modify the cutoff point depending of the note played in the keyboard. For instance, if you left this off while using a heavily LowPass filtered sound, you would hear nothing at the very top of the keyboard.
	Filter2	Type	LowPass HighPass BandPass BandStop	See Filter 1
		Frequency	0..127	
		Resonance	0..127	
		EnvAmount	0..127	
		EnvInvert	OFF/ON	
		KeyTrack	-64..0..+63	
	Common	Routing	Serial Parallel	<p>You can route the sound through the filters in different ways.</p> <p>Serial configuration means that one filter processes the sound before passing it to the other.</p> <p>Parallel configuration means that they both take the signal at the same time, process it and then the results are mixed back together again.</p>
		Balance	-64..+63	When the Routing parameter has been set to parallel, this specifies the mix ratio of each filter. Negative values affect the Filter1 output and positive values affect the Filter2 output.
		Frequency	0..127	These parameters modify two related values at a time (i.e.
		Resonance	0..127	

Group	Page	Parameter	Value	Comments
		EnvAmount	0..127	FILTER:Common:Resonance will change at the same time FILTER:Filter1:Resonance and FILTER:Filter2:Resonance, overriding the old value of them). This is for controlling them simultaneously.

2.2.1.4 AMPLIFIER

In this section, an amplitude envelope (see below) is applied to the signal from the previous stages and the resulting sound is finally sent to the stereo part bus with the level and stereo pan specified.

Table 2-4

Group	Page	Parameter	Value	Comments
AMPLIFIER		Volume	0..127	General level
		Panorama	-64..0..+63	Left to right stereo positioning

2.2.2 MODULATION

Next we have the sets of components that deal with controlling many of the above parameters over time, to add movement and dynamics to the sound.

2.2.2.1 ENVELOPES

Envelopes are used to generate a control signal which value changes over time. The envelope starts when it is triggered whenever you press a key on the keyboard. The four parameters (the classic ADSR) give you control over the start, the middle and the end of the sound.

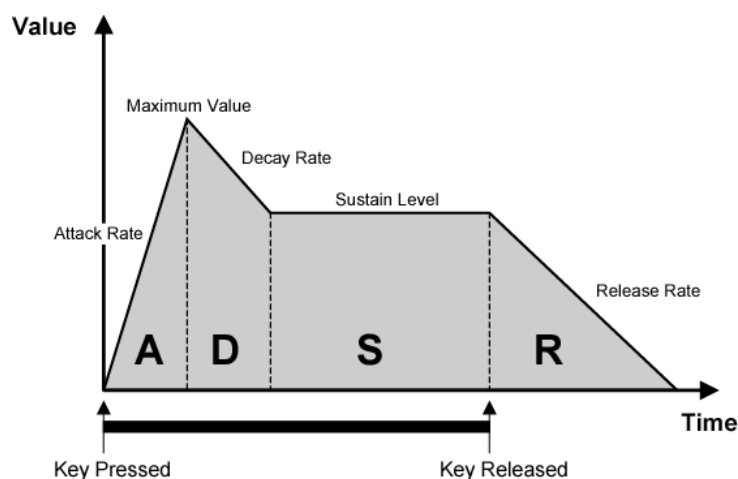


Figure 2-1

You have control over certain time-dependant parameters and levels. The output signal from an envelope is usually unipolar (only positive values) and it can be inverted (only negative values).

The ATTACK phase is entered just after the envelope is triggered. In this phase, the control signal rises up to the maximum value at a rate specified in the Attack parameter.

The DECAY and SUSTAIN stages are for adjusting how the envelope behaves once the attack phase has finished but you still have your notes held down.

The RELEASE phase is entered once the key pressed is released. In this phase, the control signal drops to zero from the Sustain level at a rate specified in the Release parameter.

For instance, with a long “attack” (high value) the sound will fade in slowly, and with a long “release” it will fade out slowly after you take your fingers off the keyboard. This is typical for soft string pads and so on. Whereas: even with the same OSCILLATOR waves, a short, instant attack and release (low value) would sound much more like an organ.

There are two independent envelopes in Australis, one for controlling the AMPLIFIER and one for the FILTER cut-off.

Table 2-5

Group	Page	Parameter	Value	Comments
ENV	Amp	Attack	0..127	How quickly the sound fades in.
		Decay	0..127	How quickly the volume then fades down to the SUSTAIN level.
		Sustain	0..127	The level that the volume finally holds at if you keep the keys held down.
		Release	0..127	How quickly or slowly the sound fades away once you let go of the keys.
	Filter	Attack	0..127	These controls are exactly the same as the Amp envelope above, but control the filter cut-off point instead of the overall volume of the AMPLIFIER section.
		Decay	0..127	
		Sustain	0..127	
		Release	0..127	

2.2.2.2 LFOS

LFO stands for Low Frequency Oscillator. It creates a periodic slowly moving control signal that can be used to automate another parameter in cycles. Here you set up the pattern, and you can then assign the LFOs to control various parameters by different amounts using the Modulation Matrix.

For instance, a triangle shaped LFO control attached to the panning control of a synth, would shift the sound repeatedly left and right at the same speed as the LFO. Here are two examples of the LFO waves available:

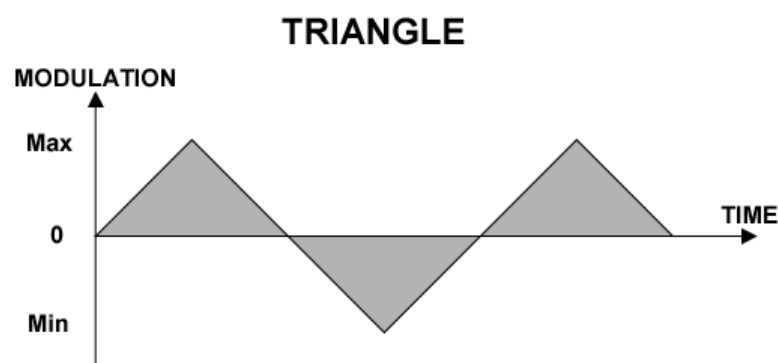


Figure 2-2

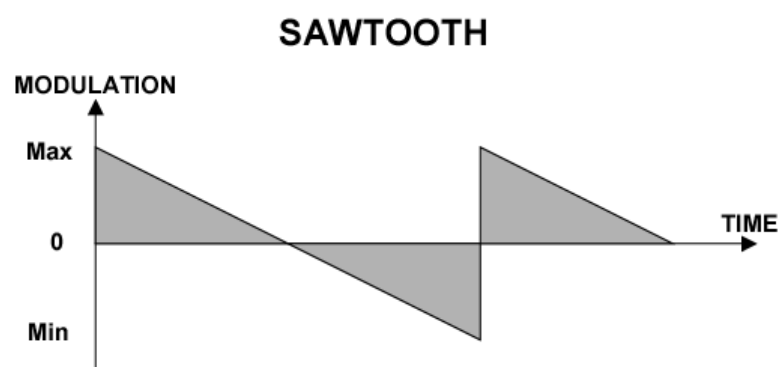


Figure 2-3

This is quite different from the ENVELOPES above, which are designed to create a control movement only once, on every key trigger. The LFO normally just keeps going, regardless of whether you are playing or not (however, sophisticated LFOs like the ones here can be coordinated with the keyboard for even more control).

Table 2-6

Group	Page	Parameter		Value	Comments
LFO	Lfo1	Wave		Sine Triangle Sawtooth Square S&H	You can choose the waveform shape that you want the control signal to take. Sample & Hold is a random value generator.
		Sync (ON)	Clock	OFF/ON 32T ... 1/4 notes ... 8 Bars	The LFO can be synchronised to the MIDI clock or set at a certain speed in Hertz (cycles per second) or milliseconds. When the SYNC is OFF, you can set the speed directly. When SYNC is ON, you have a range of tempo based options for synchronising the speed to your MIDI tempo e.g. 1/4 notes, 1/8 note Triplets, etc.
		(OFF)	Speed	101 Hz ... 281 seconds Static	
		Fadeln		0..127	
					You can set it so that the LFO takes time to kick in when you press a key. For instance, the panning control outlined above could slowly become more and more extreme using a fade in.

Group	Page	Parameter		Value	Comments
		Mode		Poly Mono Poly1Shot Mono1Shot	Poly means each note played has its own LFO starting point. Mono means all notes share a common LFO. 1Shot means that when you trigger a note, the LFO cycles once only. This makes the LFO similar to an Envelope in function.
		KeyTrack		0..127	This allows the LFO to increase its speed as you rise up the keyboard.
		Phase		Free 0...360deg	You can choose where in the waveform cycle the LFO begins. For instance, with a sine wave, you might choose to start it at the top of the peak or at the bottom of the trough.
		PulseWidth		0..127	When the Wave selected for this LFO is the Square wave, this parameter sets the pulsewidth of the Square signal generated.
	Lfo2	Wave		Sine Triangle Sawtooth Square S&H	See LFO 1
		Sync		OFF/ON	
		(ON)	Clock	32T ... 1/4 notes ... 8bars	
		(OFF)	Speed	101Hz ... 281seconds Static	
		Fade In		0..127	
		Mode		Poly Mono Poly1Shot Mono1Shot	
		KeyTrack		0..127	
		Phase		Free 0...360 deg.	
		PulseWidth		0..127	

2.2.2.3 MODULATION MATRIX

This is where you assign the many modulation controllers to parameters that have already been discussed in the previous sections. The list of options is extensive, and these controls can twist the sound in all sorts of directions.

You can apply positive or negative amounts of control to the paramters, so that as one parameter value is being being raised by a controller, another can be simultaneously lowered. Several modulation controls can also be sent to the same parameter, and they can interact to create a very expressive synth

sound.

Table 2-7

Group	Page	Parameter	Value	Comments
MOD	Velocity	Volume	-64..0..+63	Velocity refers to MIDI signals that are sent from most keyboards as you play that indicate how hard you hit the keys.
		Panorama	-64..0..+63	
		PulseWidth (*)	-64..0..+63	The most obvious application of this is to Volume, so that the harder you play the louder it gets.
		PulseWidth1	-64..0..+63	
		PulseWidth2	-64..0..+63	
		Osc2Detune	-64..0..+63	
		OscFm	-64..0..+63	
		FilterEnv (*)	-64..0..+63	
		Filter1Env	-64..0..+63	Using these parameters you can create a very expressive synth sound that responds to your touch as you play.
		Filter2Env	-64..0..+63	
		FilterFreq (*)	-64..0..+63	
		Filter1Freq	-64..0..+63	
		Filter2Freq	-64..0..+63	
		FilterReso (*)	-64..0..+63	
		Filter1Reso	-64..0..+63	
		Filter2Reso	-64..0..+63	
	Lfo1	Volume	-64..0..+63	Here you can assign LFO 1 to control parameters automatically.
		Panorama	-64..0..+63	
		OscPitch (*)	-64..0..+63	
		Osc1Pitch	-64..0..+63	Applied to several parameters you can create very complex and rich evolving soundscapes.
		Osc2Pitch	-64..0..+63	
		PulseWidth (*)	-64..0..+63	
		PulseWidth1	-64..0..+63	Particularly interesting is to apply LFO1 to control the speed of LFO2. This way you can create quasi - random and wildly varying LFO patterns that rarely repeat themselves, and as you mix the LFO wave types there is a wealth of sounds to be created by these simple controls.
		PulseWidth2	-64..0..+63	
		OscFm	-64..0..+63	
		FilterFreq (*)	-64..0..+63	
		Filter1Freq	-64..0..+63	
		Filter2Freq	-64..0..+63	
		FilterReso (*)	-64..0..+63	
		Filter1Reso	-64..0..+63	
		Filter2Reso	-64..0..+63	By using the realtime controllers to adjust the LFO speeds and waveforms you can explore...
		LFO2 speed	-64..0..+63	
	Lfo2	Volume	-64..0..+63	This is the same as LFO 1.
		Panorama	-64..0..+63	
		OscPitch (*)	-64..0..+63	By getting the LFOs to interact on different parameters and with each other, there are endless sounds that can be created.
		Osc1Pitch	-64..0..+63	
		Osc2Pitch	-64..0..+63	
		PulseWidth (*)	-64..0..+63	
		PulseWidth1	-64..0..+63	
		PulseWidth2	-64..0..+63	
		OscFm	-64..0..+63	
		FilterFreq (*)	-64..0..+63	
		Filter1Freq	-64..0..+63	
		Filter2Freq	-64..0..+63	
		FilterReso (*)	-64..0..+63	
		Filter1Reso	-64..0..+63	
		Filter2Reso	-64..0..+63	
	FilterEnv	OscPitch (*)	-64..0..+63	Not only does the Filter Envelope control the filter cut-off, you can apply it here to control these other
		Osc1Pitch	-64..0..+63	
		Osc2Pitch	-64..0..+63	

Group	Page	Parameter	Value	Comments
		Osc2Detune	-64..0..+63	parameters at the same time.
		OscFm	-64..0..+63	
	AmpEnv	OscPitch (*)	-64..0..+63	Not only does the Amplifier Envelope control the AMPLIFIER section volume, you can apply it here to control these other parameters at the same time.
		Osc1Pitch	-64..0..+63	
		Osc2Pitch	-64..0..+63	
		Osc2Detune	-64..0..+63	
		OscFm	-64..0..+63	
	Random	Panorama	-64..0..+63	Every time you hit a key, this random generator can adjust these parameters.
		PulseWidth (*)	-64..0..+63	
		PulseWidth1	-64..0..+63	
		PulseWidth2	-64..0..+63	Use just a little for a touch of liveliness and a 'human' factor, or loads to create really random movement and changes into the sound.
		Osc2Detune	-64..0..+63	
		OscFm	-64..0..+63	
		FilterEnv (*)	-64..0..+63	
		Filter1Env	-64..0..+63	
		Filter2Env	-64..0..+63	
		FilterFreq (*)	-64..0..+63	
		Filter1Freq	-64..0..+63	
		Filter2Freq	-64..0..+63	
		FilterReso (*)	-64..0..+63	
		Filter1Reso	-64..0..+63	
		Filter2Reso	-64..0..+63	

(*) These adjustments change simultaneously the value of the two next parameters.

2.2.3 INPUT

This section is used to feed any external signal to the synthesis structure of Australis just before the effects section of a part.

Table 2-8

Group	Page	Parameter	Value	Comments
INPUT		Select	OFF L+R L R	Here you can select the external input channels to be used with the internal effects. L+R stands for stereo input.
		Level	0...127	The level applied to the input signal before being mixed with the part voices.
		Balance	-64..+63	This parameter adjusts the stereo positioning of the input signal.

2.2.4 EFFECTS

After all the synthesis building blocks that create and manipulate the audio, next are the internal effects you can add to the final sound you are working on. There are two types of effects:

- Individual effects that can be applied to each synth preset uniquely, Distortion, Phasing and Chorus.
- The global Delay FX that operates across all sounds.

2.2.4.1 DISTORTION

This effect allows you to heavily transform the signal, by clipping and overdriven it and adding a lot of new overtones.

Table 2-9

Group	Page	Parameter	Value	Comments
FX	Distortion	Curve	OFF 1...10	There are 10 different distortion curve types, ranging roughly from mild to highly overdriven types
		Gain	0...127	For boosting the sound with the distortion curve.
		Volume	0...127	Use this to turn back down the volume level of the signal after boosting it with the gain.

2.2.4.2 THE CHORUS/PHASER

This effect is really composed of two different ones, but only one of them can be activated at a time.

The Chorus effect is delay-based and it simulates the effect of multiple stereo voices. It 'thickens' the signal by reproducing the same sound on top of itself several times with a very slight delay and pitch change. Controls are added to make these extra voices move about in pitch over time.

The Phaser effect is a set of 3 or 6 allpass filters which displace the phase 180 degrees each, giving 3 or 6 peak resonance frequencies. A phaser reproduces the same signal on top of itself, but this time modulates the frequency phase difference between the two (thus causing a frequency-dependant delay between both signals). The result is that certain frequency components are eliminated and others are enhanced as the phase relationship changes over time. It is usually controlled by its own internal sine wave LFO.

An internal LFO is used to modulate the delay time in the Chorus and the Frequency in the Phaser, giving the sound movement.

The menus for this particular effect are dynamic, that is, they change depending which effect type you have selected. So if you choose Phaser, as you scroll upwards you will see the Phaser effects parameters. The same is true for Chorus.

Table 2-10

Group	Page	Parameter		Value	Comments
FX	Chor/Phas	Type		Chorus Phaser	Select the effect type you want.
		(Chorus)	Mix	Off 1-127	MIX sets the balance between the FX and the original sound. DELAY sets the time difference between the original and the processed signal. Feedback adds a portion of the output signal to the input, and depth controls how deeply the LFO affects the delay.
			Delay	0-127	
			Feedback	0-127	
			Depth	0-127	

Group	Page	Parameter	Value	Comments		
			Sync	OFF/ON	The internal LFO can be synchronised to the MIDI clock or set at a certain speed directly. When the SYNC is OFF, you can set the speed in milliseconds or in Hertz (cycles per second). When SYNC is ON, you have a range of tempo based options for synchronising the speed to your MIDI tempo e.g. 1/4 notes, 1/8 note Triplets, etc.	
			(ON)	Clock		32T ... 1/4 notes ... 8 Bars
			(OFF)	Speed		101 Hz ... 281 seconds Static
		(Phaser)	Mix	Off 1-127	MIX sets the balance between the FX and the original sound. Peaks defines the number of allpass filters to use. Frequency sets the base pitch area that is effected. Feedback adds a portion of the output signal to the input, and depth controls how deeply the LFO affects the frequency.	
			Peaks	3-6		
			Frequency	0-127		
			Feedback	0-127		
			Depth	0-127		
			Sync	OFF/ON	The effect can be synchronised to the MIDI clock or set at a certain speed in directly. When the SYNC is OFF, you can set the speed in milliseconds or Hertz (cycles per second). When SYNC is ON, you have a range of tempo based options for synchronising the speed to your MIDI tempo e.g. 1/4 notes, 1/8 note Triplets, etc.	
			(ON)	Clock		32T ... 1/4 notes ... 8 Bars
			(OFF)	Speed		101 Hz ... 281seconds Static

2.2.4.3 GLOBAL DELAY

This effect operates across all the Parts. Here in Single Preset Mode this is effectively the same as the individual effects, but in Multi Preset Mode you have one delay setting for all the different Parts. There, you set the delay effect parameters in Multi Edit Mode instead. The send levels can still set within each preset, or changed in the multi parameters. See page 38 for more details.

Table 2-11

Group	Page	Parameter	Value	Comments
FX	Delay	Send	Dry 1...125 Wet	This turns on the effect and determines how much of the sound is sent to the global delay.
			Sync	OFF/ON
		(ON) Clock	32T ... 1/4 notes ... 1 Bar	The effect can be synchronised to the MIDI clock or set at a certain speed directly. When the SYNC is OFF, you can set the speed in milliseconds. When SYNC is ON, you have a range of tempo based options for synchronising the speed to your MIDI tempo e.g. 1/4 notes, 1/8 note Triplets, etc
		(OFF) Speed	0...1354ms	

Group	Page	Parameter	Value	Comments
		Feedback	0...127	Without feedback the effect creates only a single echo. This feeds a portion of the output back into the effect for creating more echoes that die away. At high levels you can get a recurring feedback that grows and grows in a similar way to guitar feedback.
		Filter	-64...+63	This uses a frequency filter to either make the output "darker or lighter" in relation to the original
		PingPong	-64...+63	For creating stereo movement in the delay lines.

2.2.5 ARPEGGIATOR

The arpeggiator splits the incoming MIDI chord into its single notes and repeats them rhythmically. Different sequence modes can be defined to cover a wide range of applications. In addition to the synthesis features, Australis offers a deeply programmable arpeggiator for every preset sound.

The arpeggiator uses a so-called note list that can store up to 16 notes. This list is set up depending on the arpeggiator parameter settings. For example, when Sort is set to ByVel, the list is rearranged so the note with the lowest velocity is placed in the first position, the second with the lowest velocity at the next, and so on.

This function can automatically generate patterns and rhythms from the notes you hold down. Use it to create sweeping harp like chords or stuttering basslines, hi-hat patterns and more.

It will follow the internal clock unless you set the synchronization options in System Mode to Auto or Ext (see page 42 for more details).

Table 2-12

Group	Page	Parameter	Value	Comments
ARPEGGIATOR		Mode	Off On OneShot Hold	This, Like the LFOs, means that the pattern can play continuously (ON), once through (OneShot) or forever (Hold).
		Clock	32T ... 1/4 notes ... 8 Bars	You have a range of tempo based options for synchronising the speed to your MIDI tempo e.g. 1/4 notes, 1/8 note Triplets, etc.
		Pattern	001...128	There are 128 different rhythm patterns to choose from.
		Dir	Up Down Up&Down Down&Up Chord	When you hold down a chord, the pattern will trigger the active sorted notes in this order. UP or DOWN only go in one direction. UP&DOWN / DOWN&UP will do just that CHORD will play them all at a time.

Group	Page	Parameter	Value	Comments
		Sort	AsPlayed ByNote ByVel Random	This determines the order used by Dir. AsPlayed follows the temporal order as they were pressed. ByNote and ByVel uses the Note and Velocity values respectively as a key to be sort. Random is auto explanatory.
		Octaves	1...6	It will span the notes over more octaves than you play using this parameter.
		Velo	Played Pattern First Last Full Half	This specifies what velocity pattern it uses. PLAYED is what you play, PATTERN is what is in the pattern, FIRST is from the first note pressed. LAST is from the last note pressed. And FULL and HALF are used to specify a velocity value of 127 and 64 respectively.
		Note	Off Pattern	You can have automatically generated note offset sequences within the patterns as well. If Pattern is selected, the active note will be added with the stored offset, creating complex melodic phrases.
		GateTime	-64...+63	You can shorten and lengthen the length (gate time) of the pattern notes.
		PatternLen	1...16	The pattern can be any length up to 16. Trying unusual numbers like 13 and 11 can make some very interesting patterns that cycle well over the top of standard 4/4 beats.
		Quantize	OFF/ON	This allows you to start the pattern synchronously in the next quarter note.
		KeyRestart	OFF/ON	It specifies if a new key will restart or not the selected rhythm pattern.
		PatReset	OFF/ON	It is used to restart the note list from the beginning when the rhythm pattern is reset.

2.2.6 COMMON

Lastly in Common you can adjust a number of common parameters that are global to the sound, including the set up of your external MIDI controllers (see page 32 for more details).

Table 2-13

Group	Page	Parameter	Value	Comments
COMMON	Tempo	BPM	65...192	To set the internal tempo clock that is used when no external MIDI clock is used.
	Wheel	MinValue	0...127	For adjusting the range of these external MIDI controllers that are
		MaxValue	0...127	

Group	Page	Parameter	Value	Comments
	Exprs	MinValue	0...127	assignable to parameters – Modulation wheel (CC 1, found on most keyboards), Expression pedal (CC 11), Sustain pedal (CC 64), and Aftertouch (pressure sensitive touch on keyboards that still reads pressure while you are holding a chord).
		MaxValue	0...127	
	Pedal	MinValue	0...127	
		MaxValue	0...127	
	Aftch	MinValue	0...127	
		MaxValue	0...127	

2.2.7 ASSIGNING THE REALTIME CONTROLLERS

The Realtime controllers allow you hands on control of almost any parameter. Every preset can have its own unique Realtime controller set up.

As well as for live performance they can be used for intuitive editing.

For instance, while editing a preset, you could then assign three of the FX parameters, say Delaytime, DelaySend and Feedback to the three controllers. Then you could tweak the parameters simultaneously, focusing on the sound while finding the 'sweet spot' - without thinking in numbers or staring at the screen.

The Realtime controllers also send out MIDI controller data, so you record any parameter edits into you sequencer effortlessly in the same manner.

This is all really easy, as assigning parameters is a very quick process. In Edit Mode:

1. Find the parameter you want to assign.
2. Press SHIFT while turning one of the pots.

2.2.7.1 WHAT HAPPENS AS YOU ASSIGN

The value of the parameter won't change but a message "Knob x assigned" will be shown in the Display for a few seconds. "Knob X" refers to which knob you are assigning - 1, 2 or 3. It will also show the assigned parameter name. When a potentiometer is assigned, the LED above it will lit. If you want to assign the same pot to different parameter, simply repeat the process.



Knob1 assigned
NoiseColor

You can also un-assign a pot by pressing the SHIFT key and turning the pot all the way to the left. The Display will show this message: "Knob x unassigned" and its LED will turn off to show that this potentiometer is free.



Knob1 unassigned

Once a parameter is assigned to a controller, its value can be modified outside of Edit Mode as well. When you move it, the screen will always briefly show you details of what you are doing.

Note that there are some specific parameters that cannot be assigned. If you try to assign them, the display will show the following message:



This Parameter
cant be assigned

2.2.7.2 EXTERNAL MIDI CONTROLLERS

You can assign a number of MIDI controllers to any parameter just like the Realtime controllers. This includes MIDI expression pedal (CC 11), Modulation Wheel (CC 1), Sustain Pedal (CC 64) and Aftertouch.

When assigning, the whole mechanism behaves in exactly the same way as the Realtime controllers. Simply hold down the SHIFT key and move the controller to send a MIDI signal to the Chameleon when you are looking at a parameter you want to assign.



Pedal assigned
Osc1 Volume

In the common menu of each single there are the parameters for adjusting the ranges of each controller. See page 30 above for more details.

2.2.8 EXITING SINGLE EDIT MODE AND PREPARING TO SAVE

You exit Single Edit Mode by pressing the EDIT key. If any of the parameters have been modified, the soundskin will show the Single Save screen, so that you can save your work. If you have made no changes, you will simply return to the Mode you entered single edit from – either Multi Preset Mode or Single Preset Mode.

If you have not made changes but you DO want to save it (for instance to save the sound to a different slot as it is) it's possible to force the saving of the current single sound by holding down the EDIT key in Single Edit Mode.

2.3 Single Save Mode

To exit the Edit Mode and return to the Preset Mode (single or multi), press and release quickly the EDIT key again. If at this point any of the parameters of the current preset have been modified, you will be asked if you want to store the modified preset to memory. You can choose whether you want to overwrite the old preset or save it with a new name / new location.

So it will ask you if you want to store the altered single preset like this:



By pressing VALUE UP and VALUE DOWN selects between yes (Y) or no (N).

Once selected, press EDIT to proceed or SHIFT to abort and return to the Preset Mode without storing. If you abort, your preset will still be modified, the number will blink to remind you of this, and you will still be able to store it later.


If you want to start over with the original preset from memory, from Preset Mode simply use VALUE UP/DOWN to change to another preset, and then change back to load the original sound from memory.

If you are sure you want to save your preset, just press and hold the EDIT key down. This is also useful if you haven't changed anything but want to save it to a new location (otherwise the Edit button wouldn't normally ask you if you want to save it as you have made no changes, and would simply take you back to Preset Mode.)

2.3.1.1 NAMING AND NUMBERING

So once you have chosen to save the preset, the next screen will allow you to set the name and number of the preset you are saving. By default the current preset number and name will be shown.

First you can change the number and bank, then the name. Use the BIG DIAL or the VALUE UP and VALUE DOWN keys to alter the value, PARAM UP and DOWN to select the bank, and the EDIT key to move to the Name field to edit that. (The active field is enclosed between two animated brackets).



When the Name field is selected, you edit the name like this: the VALUE UP and VALUE DOWN keys choose from the different characters available (from

numbers to capital letters and symbols), and the PARAM UP and PARAM DOWN keys move you around left or right within the name.

You can always jump back to the preset number field from the preset name field and back using the keys PAGE UP&DOWN.

If you are saving to another location, by default the name and number of that location will be shown. However, if you wish to use the original name of the source preset you are copying to the new location, you can do so. While you are editing the name, simply press PART UP or DOWN and it will give you the option of using the source name. The VALUE UP and VALUE DOWN keys choose between "Y" or "N", and the EDIT key will execute.

Once finished, press the EDIT key to store the settings, or press the SHIFT key to cancel the operation.

2.4 Multi Preset Mode

Multi Preset Mode is for playing several synth sounds at once, selected from your banks of Single presets. You can play up to 8 synths together, and each one is called a Part.

You have lots of control over how the 8 Parts work together: you can set it up so that they all play on a single MIDI channel, or just within a certain range on the keyboard, and even within a certain velocity range. So you can place different instruments in each hand, while also layering sounds on top of each other that only trigger when you play quietly or loudly. These options are great for creating lush pads and expressive, multi-layered instruments for performance work.

Alternatively, you can set it so that each of the 8 Parts can be controlled independently on its own MIDI channel from a MIDI sequencer, for studio work.

Of course these layering and MIDI options can be combined any way you please.

You can also do things like mix the relative volume levels, stereo pan positions and individual delay sends, as well as transpose individual Parts up and down in pitch. Another exclusive feature available is the possibility of overriding the preset's parameter arp mode, allowing to determine the presets arp behaviour in Multi Preset Mode too.

2.4.1 THE DISPLAY

In Multi Preset Mode, the LCD display will show information about the currently loaded multi preset and the details about the different Parts that make up the multi (you can view and edit the parts one at a time), as showed in the following picture:



Heres a detailed list of what you see.

The upper line:

- A little “m” in reverse colour appears in this screen at the top left corner of the display to denote MultiMode. Like the “s” of Single Preset Mode, it blinks when any parameter is modified in the selected multi.

- Beside this symbol, 3 digits indicate the number of the current selected Multi. There are 128 Multis slots to save to, in one bank. There are some factory multis to show you what's possible.
- On the right of the number appears the name of the Multi.

The lower line:

- The number of the current selected Part (in reverse colour, which again blinks if any parameter is modified in the selected Single preset).
- The bank, number and name of the selected Single preset in this Part.

2.4.1.1 CHOOSING OTHER MULTIS

To change to another Multi set up, you press SHIFT while turning the BIG DIAL or while pressing VALUE UP/DOWN. This will take you through the other Multis available.

In older versions of Australis you could just browse the Multis without having the press SHIFT, but this has been changed. The reason we have done this is because we want to preserve the use of the BIG DIAL without SHIFT for selecting sounds for the Parts, where you often have one hand on the keyboard as you cycle through looking for a sound you like (see below).

2.4.1.2 SELECTING THE SOUNDS FOR THE 8 PARTS

To select a sound for the current Multi Part, you can now simply browse with the BIG DIAL or VALUE UP/DOWN buttons just as in Single Preset Mode. As soon as you have changed the Multi's configuration like this the "m" will blink.

If you want to edit a different Part, use PART UP/DOWN to move between them. (Note that PART DOWN at the bottom of the list takes you back to Single Preset Mode).

2.4.1.3 EDITING THE SOUND OF A PART

If you want to edit a Single sound's internal parameters, you can still press EDIT to go to Single Edit Mode, make the changes, save and exit in just the same way as in Single Preset Mode. Only this time you will return to Multi Preset Mode.

Remember that while editing a single that is being used in Multi Preset Mode, the internal TEMPO and the DELAY related parameters are disabled in the Single Sound. The reason is because in Multi Preset Mode the DELAY adjustments are stored in the Multi preset as the Delay effect is a global resource.

2.4.1.4 TO EDIT THE SET UP OF THE MULTI

To set up the mix and so on for a particular Multi, you go into Multi Edit Mode by pressing SHIFT+EDIT. (Again, the key presses have been reversed from previous versions of Australis).

The following section deals with the Multi Edit Mode options that you find.

2.5 Multi Edit Mode

Here you can set up the mix, pan, transpose, Delay FX, tempo and Part layering options for your Multi.

In the Multi Edit screen the little “m” symbol and the number of the current edited part are shown in the upper left corner of the display.



Just as in Single Edit mode, the Multi adjustments are ordered using the same “Group – Page – Parameter” menu structures. The tables below outline the available options:

The first Group houses all the parameters for each Part. Here you can set up the layering, mix and so on.

Table 2-14

Group	Page	Parameter	Value	Comments
PART		Enable	OFF/ON	This turns on the Part.
		MidiChannel	1...16	Sets the MIDI channel that the Part responds to.
		NoteLow	C-2...G8	You can choose to only put the sound in a portion of the keyboard. These parameters set the range. For instance, a drum kit could be made up of different drum sounds that are set to one key only, or a pad sound could be placed in the left hand and a lead in the right.
		NoteHigh	C-2...G8	
		VelLow	0...127	With these parameters you can set a Part to only respond within these velocity values. This means if you put several sounds on the same MIDI channel with different velocity layers, you can create a really expressive performance instrument that changes sound as you play loud or soft..
		VelHigh	0...127	
		Volume	-64...+63	To set the Part's relative volume level.
		Pan	-64...+63	To place the Part in the stereo field, relative to the preset adjustment.
		Transpose	-64...+63	You can change the pitch of the part in relation to the others. This is also useful if you have put two Parts side by side on the keyboard. You can re-adjust the octave so that the sound on the low part of the keyboard doesn't need to sound low. (12 = one octave).
		Detune	-64...+63	For fine-tuning the pitch of the Part.

Group	Page	Parameter	Value	Comments
		DelaySend	Preset Dry 1..125 Wet	It allows you to use the same value set in the single preset (Preset). Or reassign it to a new value for using it in the new Global Delay context of the multi.
		ArpMode	Preset Off On OneShot Hold	It allows you to use the same value set in the single preset (Preset), or reassign it to a new mode for using it together with the rest of presets in the multi.

The second group in Multi Edit Mode is for setting up the global tempo and Delay effect settings. Remember that a single that is being used in Multi Preset Mode has its internal TEMPO and the DELAY related parameters disabled.

Table 2-15

Group	Page	Parameter	Value	Comments
MULTI	FxDelay	Sync	OFF/ON	The effect can be synchronised to the MIDI clock or set at a certain speed directly. When the SYNC is OFF, you can set the speed in milliseconds. When SYNC is ON, you have a range of tempo based options for synchronising the speed to your MIDI tempo e.g. 1/4 notes, 1/8 note Triplets, etc.
		(ON) Clock	32T ... 1/4 notes ... 1 Bar	
		(OFF) Speed	0...1354 ms	
		Feedback	0...127	Without feedback the effect creates only a single echo. This feeds a portion of the output back into the effect for creating repeating echoes that die away. At high levels you can get a recurring feedback that grows and grows in a similar way to guitar feedback.
		Filter	-64...+63	This uses a frequency filter to either make the output "darker or lighter" in relation to the original.
		PingPong	-64...+63	For creating stereo movement in the delay lines.
	Tempo	BPM	65...192	Sets the internal clock tempo for the multi.


2.5.1 SAVE AND EXIT

To exit Multi Edit mode once you are done, press EDIT. If any value has been changed, the soundskin will automatically ask you if you want to save by taking you to Multi Save Mode (below). If there have been no changes, you return straight away to Multi Preset Mode.

Again, as in Single Edit Mode it's possible to force the saving of the current multi preset even if it hasn't been altered, by holding down the EDIT key instead. This is useful if you want to save it to another location without any changes.

2.6 Multi Save Mode

This screen is very similar to the Single Save, although without the possibility of selecting the destination Bank, as there's only one bank for storing multi sounds.



Multi changed
Store it? (Y)



Write 001 to
(001) Sequencer

2.7 Assigns Info Mode

In this mode the display shows the parameter assignments for each available controller source, that is:

- Realtime Controllers (Knob1, Knob2 and Knob3)
- Standard MIDI Modulation Wheel (Wheel) with a controller code of 1.
- Standard MIDI Expression Pedal (Exprs) with a controller code of 11.
- Standard MIDI Sustain Pedal (Pedal) with a controller code of 64.
- Standard MIDI Channel Pressure/Aftertouch (Aftch) with a status value of 0xDn (where n is the MIDI channel).

The parameter assigned is shown in the lower line.



```
B ASSIGNS:Knob1
<Noise Color >
```

The keys PAGE UP and DOWN are used to change the current controller selected showing the parameter assigned.

If a controller hasn't a parameter assigned, the lower line will show the <NOT ASSIGNED> message.

Pressing the EDIT key will leave the Assigns Info Mode.

2.8 System Mode

You enter this mode by pressing and holding down the EDIT key when in Single Preset Mode or Multi Preset Mode. In System Mode you can modify several global parameters and access different utility functions. These parameters are independent of whatever Single or Multi you might have loaded.

This section also includes the pages where you perform the all-important MIDI System Exclusive (SYSEX) dumps that safeguard your presets before you might load a new soundskin instead of Australis.



You can simply select from the different SysEx dump types (using PARAM UP and DOWN) and then press VALUE UP/DOWN to execute when you are ready.

If your MIDI sequencer has been put into record first, you can record the data as it streams out from the Chameleon and save it as a MIDI file, just like the other Chameleon files from us that you use to load soundskins and presets.

To reload these back into Australis later you simply play them to the Chameleon on any MIDI channel and the Chameleon will do the rest.

Be careful to start your sequencer before you execute a system exclusive MIDI dump, and not to stop your sequencer before it has finished.

This table shows all the available system parameters.

Table 2-16

Group	Page	Parameter	Value	Comments
Dump		Snapshot	Do it...	SysEx dumps are MIDI code that the Chameleon will send to your MIDI sequencer to save the internal settings of a SoundSkin for safekeeping. Place your sequencer in record and then use the VALUE UP key to execute. Snapshot sends the current part parameters as standard MIDI control codes (see table in Appendix B).
		Performance	Do it...	This sends the current state of all parts as SysEx in order of being repeated exactly as is, without modify any stored preset.
		Single	Do it...	Sends the current single state as SysEx.
		Multi	Do it...	Sends the current multi state as SysEx.
		Arp Pattern	Do it...	Sends the current arpeggiator pattern as SysEx.
		Single Bank A	Do it...	This sends a whole bank of presets as SysEx.
		Single Bank B	Do it...	

Group	Page	Parameter	Value	Comments
		Single Bank C	Do it...	
		Single Bank D	Do it...	
		Multi Bank	Do it...	Sends the full bank of multi presets as SysEx.
		ArpPat. Bank	Do it...	Sends the full bank of arpeggiator patterns as SysEx.
		Global Data	Do it...	This sends the global parameters not stored with any single or multi preset, as SysEx.
		Total	Do it...	Sends a dump of everything. This is the safest to use to make sure you never lose all your finely tuned presets.
Input		InputThru	0...127	This parameter defines the portion of the input signal that will be fed to the output directly (bypass).
Sync		Syncmode	Int. Auto Ext.	SyncMode defines the source of the MIDI clock to synchronize the delays and LFOs. When set to internal, the MIDI clock is generated internally using the Tempo specified in the next parameter. If set to external, the clock is extracted from the incoming MIDI stream and the Tempo is calculated from it. The Auto Mode is used to automatically change between external and internal tempo: if the system receives incoming MIDI clock, then it will follow the external tempo. If there is not incoming MIDI clock, then the system will use the internal tempo.
MIDI		MIDI Thru	OFF/ON	When on, the Chameleon will echo out instantly of the MIDI OUT port all information that it receives at the MIDI IN port.
		Global Chan	1...16	It is used as the listening MIDI channel when in Single Preset Mode.
		Sysex ID	0...126 Any	If you have more than one Chameleon, and you want to send SysEx information to them independently on the same MIDI chain, you can uniquely identify them using this setting
		ArpSend	OFF/ON	When this parameter is ON, Australis will send out through the MIDI OUT port the stream of notes generated by the internal arpeggiator.
		Rx CtlChg	OFF/ON	Australis will respond to MIDI controller change messages.
		Tx CtlChg	OFF/ON	When this is "ON", whenever you adjust a parameter, Australis will transmit the corresponding MIDI controller change message. Useful if you want to record a performance with the real time controllers.
		Rx PrgChg	OFF/ON	Will respond to program change messages (for changing preset).
		Tx PrgChg	OFF/ON	Australis will transmit a program change messages whenever you change preset from the front panel.
Set Up		Mastertune	-64...+63	Determine the overall pitch of Australis.
		KnobMode	Abs Rel Pick	Provides a selection of several knob operating modes depending on personal preference or suitability to the tasks you are dealing with. In absolute mode (Abs) the assigned parameter value will jump directly to the value determined by the current position of

Group	Page	Parameter	Value	Comments
				<p>the knob.</p> <p>In Relative mode (Rel) the parameter value will change in the same proportion as the knob changes from the current position.</p> <p>In Pick Up mode (Pick) the parameter value will remain at the original setting until the movement of the knob passes beyond this position.</p>
		TempoLED	Alt Typ	You can choose between two types of flash patterns for the tempo LED. Straight flashes or a slightly longer flash on the first beat of the bar.
		LockEnc	OFF/ON	When playing with the real-time controllers, it is possible to knock the BIG DIAL by accident, which could mean changing preset. This option switches off the big dial so that during a gig you don't accidentally change preset and sound stupid. Aren't we nice?
		ScrnSaver	OFF 1m 3m 5m 15m	You can set the time before the screensaver kicks in.
Utility		Init Single	Do it...	You can initialise a preset's parameters (but without losing it's name) to their default value so you can start again. Note: you still have to save the changes for it to be permanent.
		Init Multi	Do it...	This will initialise the current multi to default settings. The same applies as the Init Single.
		Reset All	Do it...	This will wipe your user presets and initialise ALL presets back to the factory banks. Unlike Init Preset this will happen straight away. Careful...
		Reset Bank A	Do it...	These commands are for recalling the factory bank sounds or patterns one at a time. You don't need to recall them all if you don't want to lose other things you have made that you like.
		Reset Bank B	Do it...	
		Reset Bank C	Do it...	
		Reset Bank D	Do it...	
		Reset Multis	Do it...	
		Reset ArpPat.	Do it...	
Info		Version		For your information...
		Serial number		For your information...

2.9 Demo Mode

You enter this mode by pressing SHIFT+EDIT when in Single Preset Mode. In Demo Mode, Australis will play back demo songs written specially for this soundskin and stored internally.



```
Playing song #1  
"Mello"
```

The user can select one from the available demos using the keys VALUE UP&DOWN. Any other key will exit this operating mode and will return to the Single Preset Mode.



```
Press value keys  
to change song
```

While the demo song is playing, the SHIFT led blinks at the song tempo, and the LEDs above the knobs will sequence to keep you amused...

Loading Soundskins

To load a new application or version update into the Chameleon, follow the instructions below:

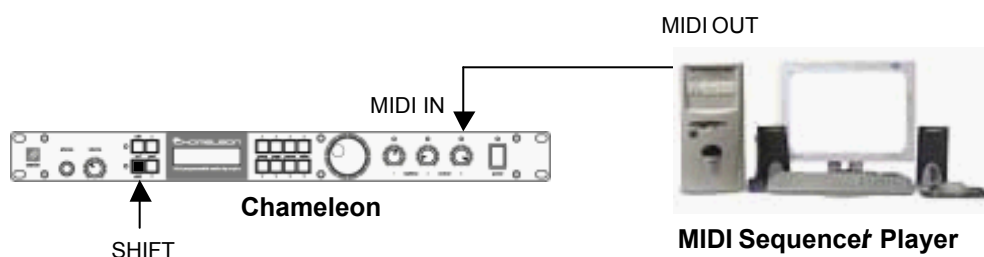


Figure 2-4

- Power up the Chameleon with the Shift Key held down, to put it in ready mode to accept the new application. It will show this message:

Chameleon #01
(WAITING)

- Connect the MIDI OUT of your MIDI Sequencer/Player machine (for example, a computer with a MIDI interface) to the MIDI IN of the Chameleon and Play the Application MIDI File containing the new application or version update. It's recommended to disable the MIDI clock in the MIDI Sequencer/Player. If everything is connected properly, the following screen will be displayed showing an increasing block counter.

Receiving MIDI
0123 of 0756

- When the counter arrives at the last block the Chameleon will ask you to store the application in the internal Flash memory: this must be confirmed by pressing the SHIFT key within 20 seconds in order to accept the received data. If you don't press SHIFT the Chameleon will simply return to the "Waiting" state. If you do press the SHIFT key to accept, the application will be burned in the internal FLASH memory.

If any problem happens during the downloading process, the display

will show "***BAD DATA**" or "***TIME OUT**". To solve this, try setting a lower tempo in the sequencer (e.g. 90 BPM).



Receiving MIDI
TIME OUT

- After the process has been successfully completed, the Chameleon will power-up automatically, loading the new application, which will need a few seconds to be fully operative after reconfiguring all the internal resources to it's needs. It is at this stage that all the old presets of the previous application are wiped out.

It is therefore vital that you save all your precious work by doing a MIDI dump BEFORE you load a new application, even if it is just a version update.

NOTE: There's no risk of damaging the Chameleon with wrong or corrupted data, as the Chameleon just won't accept it. In case of error, the old application will remain unharmed.

Midi Implementation

The next table shows the parameters mapped to MIDI Controllers, whose value can be changed using standard MIDI control change messages (0xBn, ctrl, value).

MIDI Ctrl	Australis Parameter
0	MidiBankSelect
1	MidiModulationWheel
3	Osc1Pitch
5	OscPortamento
7	MidiVolume
9	Osc2Pitch
10	MidiPanorama
11	MidiExpressionPedal
12	Osc1PulseWidth
13	Osc1KeyTrack
14	Osc2PulseWidth
15	Osc2KeyTrack
16	Osc2Detune
17	Osc2FmAmount
18	NoiseColor
19	MixerOsc1Volume
20	MixerOsc2Volume
21	MixerSubOscVolume
22	MixerNoiseVolume
23	MixerRingModVolume
24	Filter1Frequency
25	Filter1Resonance
26	Filter1EnvAmount
27	Filter1KeyTrack
28	Filter2Frequency
29	Filter2Resonance
30	Filter2EnvAmount
31	Filter2KeyTrack
32	MidiBankSelect
33	EnvFilterAttack
34	EnvFilterDecay
35	EnvFilterSustain
36	EnvFilterRelease
37	EnvAmpAttack

MIDI Ctrl	Australis Parameter
38	EnvAmpDecay
39	EnvAmpSustain
40	EnvAmpRelease
41	Lfo1Speed
42	Lfo1KeyTrack
43	Lfo2Speed
44	Lfo2KeyTrack
45	ModVelocityAmpVolumeAmount
46	ModVelocityAmpPanoramaAmount
47	ModVelocityOscPulseWidthAmount
48	ModVelocityFmAmount
49	ModVelocityEnvFilter1Amount
50	ModVelocityEnvFilter2Amount
51	ModVelocityFilter1ResoAmount
52	ModVelocityFilter2ResoAmount
53	ModLfo1VolumeAmount
54	ModLfo1PanoramaAmount
55	ModLfo1FmAmount
56	ModLfo1Filter1FreqAmount
57	ModLfo1Filter2FreqAmount
58	ModLfo2Osc1PitchAmount
59	ModLfo2Osc2PitchAmount
60	ModLfo2OscPulseWidthAmount
61	ModLfo2Filter1ResoAmount
62	ModLfo2Filter2ResoAmount
63	FilterBalance
64	MidiSustainPedal
67	AmpVolume
68	AmpPanorama
69	ModRandomFmAmount
70	ModEnvFilterOsc1PitchAmount
71	ModEnvFilterOsc2PitchAmount
72	ModEnvFilterFmAmount
73	ModEnvAmpOsc2DetuneAmount
74	ModEnvAmpFmAmount
75	ModRandomPanoramaAmount
76	ModRandomFilter1FreqAmount
77	ModRandomFilter2FreqAmount
78	ModVelocityOsc1PulseWidthAmount
79	ModVelocityOsc2PulseWidthAmount
80	ModVelocityOsc2DetuneAmount
81	ModVelocityFilter1FreqAmount
82	ModVelocityFilter2FreqAmount
83	ModLfo1Osc1PitchAmount
84	ModLfo1Osc2PitchAmount
85	ModLfo1Osc1PulseWidthAmount
86	ModLfo2Osc2PulseWidthAmount

MIDI Ctrl	Australis Parameter
87	ModLfo1Filter1ResoAmount
88	ModLfo1Filter2ResoAmount
89	ModLfo2VolumeAmount
90	ModLfo2PanoramaAmount
91	ModLfo2Osc1PulseWidthAmount
92	ModLfo2Osc2PulseWidthAmount
93	ModLfo2FmAmount
94	ModLfo2Filter1FreqAmount
95	ModLfo2Filter2FreqAmount
96	ModEnvFilterOsc2DetuneAmount
97	ModEnvAmpOsc1PitchAmount
100	ModEnvAmpOsc2PitchAmount
101	ModRandomOsc1PulseWidthAmount
102	FilterFrequency
103	FilterResonance
104	FilterEnvAmount
105	ModVelocityEnvFilterAmount
106	ModVelocityFilterResoAmount
107	ModLfo1FilterFreqAmount
108	ModLfo2OscPitchAmount
109	ModLfo2FilterResoAmount
110	ModEnvFilterOscPitchAmount
111	ModRandomFilterFreqAmount
112	ModRandomOsc2PulseWidthAmount
113	ModRandomOsc2DetuneAmount
114	ModRandomEnvFilter1Amount
115	ModRandomEnvFilter2Amount
116	ModRandomFilter1ResoAmount
117	ModRandomFilter2ResoAmount
118	ModLfo1Lfo2SpeedAmount
120	MidiAllSoundOff
123	MidiAllNotesOff

BLUE = Standard Midi controllers supported

BOLD = Australis v0.9 parameters

The two standard BankSelect MIDI controllers (ctrls 0 and 32) are equally used to select the Preset Bank which will be used in the next Program Change message. The next table summarizes the possible values of **value** and their meaning.

value	Bank
0	Single Preset Bank A
1	Single Preset Bank B
2	Single Preset Bank C
3	Single Preset Bank D
16	Multi Preset Bank

When selecting a Multi Preset (Bank Change=16, Program Change=multi preset number), Australis will change to Multi Preset Mode if it is in Single Preset Mode.

The next table shows the parameters mapped to MIDI Polyphonic Pressure (parameters less used to continuously control), whose value can be changed using standard MIDI polyphonic pressure messages (0xAn, ctrl, value).

MIDI Ctrl	Australis Parameter
0	SingleTempo
1	Osc1Waveform
2	Osc2Waveform
3	Osc2Sync
4	OscKeyMode
5	OscTranspose
6	OscBendRange
7	Filter1Type
8	Filter1EnvInvert
9	Filter2Type
10	Filter2EnvInvert
11	FilterRouting
12	Lfo1Waveform
13	Lfo1Mode
14	Lfo2Waveform
15	Lfo2Mode
16	FxChorusMix
17	FxChorusDelay
18	FxChorusFeedback
19	FxChorusLfoDepth
20	FxChorusLfoSpeed
21	FxDelaySend
22	SingleFxDelayTime
23	SingleFxDelayFeedback
24	SingleFxDelayFilter
25	SingleFxDelayPingPong
26	ArpMode
27	ArpClock
28	ArpPatternSelect
29	ArpDirection
30	ArpSortOrder
31	ArpOctaveRange
32	ArpVelocity
33	ArpGateTime
34	ArpPatternLen
35	ArpQuantize
36	ArpKeyRestart
37	ArpPatternReset
38	OscKeyTrigger
39	OscKeyGlide
40	Osc1PhaseInit
41	Osc2PhaseInit
42	Lfo1Sync
43	Lfo1Clock

MIDI Ctrl	Australis Parameter
44	Lfo1Fadeln
45	Lfo1PhaseInit
46	Lfo1PulseWidth
47	Lfo2Sync
48	Lfo2Clock
49	Lfo2Fadeln
50	Lfo2PhaseInit
51	Lfo2PulseWidth
52	FxDistortionCurve
53	FxDistortionGain
54	FxDistortionVolume
55	FxChorusPhaserType
56	FxChorusLfoSync
57	FxChorusLfoClock
58	FxPhaserMix
59	FxPhaserOrder
60	FxPhaserFreq
61	FxPhaserFeedback
62	FxPhaserLfoDepth
63	FxPhaserLfoSync
64	FxPhaserLfoClock
65	FxPhaserLfoSpeed
66	SingleFxDelaySync
67	SingleFxDelayClock
68	UnisonActive
69	UnisonDetune
70	UnisonPanSpread
71	ModVelocityFilterFreqAmount
72	ModLfo1OscPulseWidth
73	ModLfo1OscPitchAmount
74	ModLfo1FilterResoAmount
75	ModLfo2FilterFreqAmount
76	ModEnvAmpOscPitchAmount
77	ModRandomOscPulseWidthAmount
78	ModRandomFilterEnvAmount
79	ModRandomFilterResoAmount
80	ArpNoteOffset
81	InputSelect
82	InputLevel
83	InputBalance

BOLD = Australis v0.9 parameters

Quick Navigation Tables

These tables summarize the menu entries shown in the different operating modes of Australis. Some entries can be disabled depending of the value of other parameters. For example, the entry OSC:Osc1:Pulsewidth will be disabled if OSC:Osc1:Wave has a value different of "Square".

Single Edit Mode

Group	Page	Parameter
OSC	Osc1	Wave
		PulseWidth
		Pitch
		KeyTrack
		Phase
	Osc2	Wave
		PulseWidth
		Pitch
		Detune
		KeyTrack
		Phase
		Sync
		FmAmount
	Noise	Color
	Unison	Active
		Detune
		PanSpread
	Keyboard	KeyMode
		Trigger
		Glide
	Common	Portamento
		Transpose
		BendRange

Group	Page	Parameter
MIXER		Osc1Level
		Osc2Level
		SubOscLevel
		NoiseLevel
		RingModLev

Group	Page	Parameter
FILTER	Filter1	Type
		Frequency
		Resonance
		EnvAmount
		EnvInvert
		KeyTrack
	Filter2	Type
		Frequency
		Resonance
		EnvAmount
		EnvInvert
		KeyTrack
	Common	Routing
		Balance
		Frequency
		Resonance
		EnvAmount

Group	Page	Parameter
AMPLIFIER		Volume
		Panorama

Group	Page	Parameter
ENV	Amp	Attack
		Decay
		Sustain
		Release
	Filter	Attack
		Decay
		Sustain
		Release

Group	Page	Parameter
LFO	Lfo1	Wave
		Sync
		Clock
		Speed
		FadeIn
		Mode
		KeyTrack
		Phase
		PulseWidth
	Lfo2	Wave
		Sync
		Clock
		Speed
		FadeIn
		Mode
		KeyTrack
		Phase
		PulseWidth

Group	Page	Parameter
MOD	Velocity	Volume
		Panorama
		PulseWidth
		PulseWidth1
		PulseWidth2
		Osc2Detune
		OscFm
		FilterEnv
		Filter1Env
		Filter2Env
		FilterFreq
		Filter1Freq
		Filter2Freq
		FilterReso
		Filter1Reso
		Filter2Reso
	Lfo1	Volume
		Panorama
		OscPitch
		Osc1Pitch
		Osc2Pitch
		PulseWidth
		PulseWidth1
		PulseWidth2
		OscFm
		FilterFreq
		Filter1Freq
		Filter2Freq
		FilterReso
		Filter1Reso
		Filter2Reso
	Lfo2	Volume
		Panorama
		OscPitch
		Osc1Pitch
		Osc2Pitch
		PulseWidth
		PulseWidth1
		PulseWidth2
		OscFm
		FilterFreq
		Filter1Freq
		Filter2Freq
		FilterReso
		Filter1Reso
		Filter2Reso

Group	Page	Parameter
MOD (continued)	FilterEnv	OscPitch
		Osc1Pitch
		Osc2Pitch
		Osc2Detune
		OscFm
	AmpEnv	OscPitch
		Osc1Pitch
		Osc2Pitch
		Osc2Detune
		OscFm
	Random	Panorama
		PulseWidth
		PulseWidth1
		PulseWidth2
		Osc2Detune
		OscFm
		FilterEnv
		Filter1Env
		Filter2Env
		FilterFreq
		Filter1Freq
		Filter2Freq
		FilterReso
		Filter1Reso
		Filter2Reso

Group	Page	Parameter
INPUT		Select
		Level
		Balance

Group	Page	Parameter
FX	Distortion	Curve
		Gain
		Volume
	Chor/Phas	Type
	Chorus	Mix
		Delay
		Feedback
		Depth
		Sync
		Clock
		Speed
	Phaser	Mix
		Peaks
		Frequency
		Feedback
		Depth
		Sync
		Clock
		Speed
	Delay	Send
		Sync
		Clock
		Time
		Feedback
		Filter
		PingPong

Group	Page	Parameter
ARPEGGIATOR		Mode
		Clock
		Pattern
		Dir
		Sort
		Octaves
		Velo
		Note
		GateTime
		PatternLen
		Quantize
		KeyRestart
		PatReset

Group	Page	Parameter
COMMON	Tempo	BPM
	Wheel	MinValue
		MaxValue
	Exprs	MinValue
		MaxValue
	Pedal	MinValue
		MaxValue
	Aftch	MinValue
		MaxValue

Multi Edit Mode

Group	Page	Parameter
PART		Enable
		MidiChannel
		NoteLow
		NoteHigh
		Vellow
		VelHigh
		Volume
		Pan
		Transpose
		Detune
		DlySend
		ArpMode
MULTI	FxDelay	Sync
		Clock
		Time
		Feedback
		Filter
		PingPong
	Tempo	BPM

System Mode

Group	Page	Parameter
SYSTEM	Dump	Snapshot
		Performance
		Single
		Multi
		Arp Pattern
		Single Bank A
		Single Bank B
		Single Bank C
		Single Bank D
		Multi Bank
		ArpPat. Bank
		Global Data
		Total
	Input	InputThru
	Sync	SyncMode
	MIDI	MidiThru
		GlobalChan
		SysEx ID
		ArpSend
		Rx CtlChg
		Tx CtlChg
		Rx PrgChg
		Tx PrgChg
	Setup	MasterTune
		KnobMode
		TempoLED
		LockEnc
		ScrnSaver
	Utility	Init Single
		Init Multi
		Reset All
		Reset Bank A
		Reset Bank B
		Reset Bank C
		Reset Bank D
		Reset Multis
		Reset ArpPat.
	Info	Australis vX.X

Factory Presets

The following tables contain the name of the factory presets supplied with this version of Australis. They fill completely the Single Banks A, B and C, and a portion of the Multi Bank.

Single Bank A

Number	Name	Number	Name
001	ChamyPad	036	Beaming
002	FilmPad	037	PolySynth
003	DarkPad	038	Interact
004	HiStrings	039	Password
005	Ensemble	040	Transgen
006	DarkStr	041	Loathing
007	LargeStrn	042	Sacrilege
008	FmStrings	043	Syntax
009	HiSweep	044	Debacle
010	Mistery	045	Syncope
011	ResSweep	046	Flipper
012	HiPassPad	047	Umbrella
013	GrowPad	048	Spot
014	Milkyway	049	Finely
015	OpenSweep	050	Inflamed
016	Spiky	051	Hoarse
017	SpecPad	052	Rope
018	Tremolous	053	Venice
019	Galaxy	054	Allusion
020	WonderPad	055	Oomph
021	SoftSquar	056	Smudgy
022	SynChoir	057	Pouding
023	MaleChoir	058	ByGone
024	MelloPad	059	Disto303
025	VoxPad	060	Declaim
026	Aurora	061	SynBass
027	BellStr	062	SubBass
028	ForceOne	063	LowBass
029	SynthEp	064	Oizo
030	HarpyHarm	065	ObyBrass
031	Flux	066	SynBrass
032	Silicone	067	Brassiere
033	Evenly	068	Brash
034	Party	069	Concoct
035	Bathos	070	Shortfall

Number	Name
071	GreenLead
072	Philately
073	Bindweed
074	Graffiti
075	Syphilis
076	Untrained
077	Transcend
078	Loopy
079	Distend
080	Zodiac
081	Zipper
082	DistGuit
083	Tsarina
084	GuitaJam
085	BassJam
086	Gummed
087	Surrender
088	ClaviSyn
089	BellyEp
090	Surreal
091	Bellows
092	Epilogue
093	Nana
094	Dropy
095	MyJeans
096	Chorale
097	Blower
098	Church
099	Feria

Number	Name
100	Orgasm
101	HouseOrg
102	Viper
103	FarEast
104	BassDrum
105	MoreBeats
106	DistoBD
107	HardBD
108	DeepBD
109	SynSnare
110	AnaSnare
111	SynTom
112	CloseHH
113	Brush
114	OpenHH
115	Sticks
116	Snip
117	TecnoZip
118	Clave
119	Tribal
120	Borax
121	Playful
122	Barrel
123	Noiseness
124	AmbWind
125	Ghostly
126	NoSinger
127	NoisChoir
128	Input

Single Bank B

Number	Name	Number	Name
001	Big Poly	046	Transfer
002	VS-Bell	047	LowMutes
003	ChurchBel	048	LeadPick
004	FM Bells	049	Psychotic
005	Crystal	050	SyncCity
006	Glass Pad	051	SynBass2
007	PPG Vox	052	ChorBass
008	PPG Choir	053	Bastard
009	EntryPad	054	TBxfer
010	OuterLimt	055	ResoTB
011	WahPad	056	DanceBass
012	TrancePad	057	BootBass
013	RainPad	058	MeloBass
014	Sticker	059	Raver
015	Iceberg	060	MiniNoisy
016	ResoPad	061	MoogMan
017	FlangerPa	062	Acidify
018	Warm Pad	063	PillBass
019	Under G	064	FilterAtk
020	SynNymph	065	WarBass
021	Synthi	066	B Bass
022	FM Freak	067	Dee`Troit
023	SawThing	068	VerySub
024	Orbiter	069	Netwerk
025	VelRaptor	070	TypBass
026	Modulate	071	AccBass
027	HardSynth	072	PickBass
028	HappyHour	073	SiloBass
029	SubTrakt	074	LowBrass
030	Madness	075	SoftBrass
031	Evolution	076	Brassy
032	Da Force	077	Brasster
033	ClearArp	078	Anattack
034	Floating	079	MeloBrass
035	AKLsynbas	080	TerraNova
036	Antenna	081	Brassic
037	Organic	082	Darkness
038	Picker	083	LeadBrass
039	DreamOn	084	Leading
040	Progressy	085	SineLead
041	SoftieArp	086	Leader
042	Lonely	087	SawLead
043	Receiver	088	ShortLead
044	Mastermin	089	SyncLead
045	Cheesy	090	CrazyLead

Number	Name
091	OldSkool
092	MagicOrg
093	OrganPad
094	ChorusOrg
095	Epiano
096	HighEP
097	PerceEP
098	SoftEP
099	RingPiano
100	FazOrgan
101	Metalkey
102	Vibes
103	Vibes Vib
104	Woodkey
105	Marimbaaa
106	Kaleemba
107	Congas
108	Bongo
109	DanceKick

Number	Name
110	DeepSubBD
111	Bum BD
112	RingRide
113	Brass SN
114	DrySnare
115	HipSnare
116	NoiseSnr
117	AnaSnare2
118	BigHat
119	Maracas
120	ClosedHH2
121	Shaker
122	TickSnare
123	NoiSnare
124	BigSnare
125	Snap
126	WhitePing
127	AnalogTom
128	XowToms

Single Bank C

Number	Name	Number	Name
001	Desert	046	Play me
002	Sulphuric	047	Phase syn
003	Styptic	048	Tek hed
004	Terror	049	SpiritArp
005	Volcano	050	Arp bass
006	Universe	051	BrightArp
007	Bottling	052	Dance2me
008	Abandon	053	JitterArp
009	AlmostDef	054	RippleArp
010	B Runner	055	TeeBee?
011	Clock	056	Jilted G
012	Poe	057	Heavy sbs
013	NoiseAge	058	Wow morph
014	NoiseWah	059	Stefs gig
015	WundrPad2	060	KaoS Bass
016	Carintian	061	SubGarage
017	Screech	062	Corpuscle
018	Insane	063	Visitant
019	Surface	064	Sweepa
020	Atmozfear	065	PodLead
021	Aquaria	066	HeavyBass
022	Resine	067	Hyper PPG
023	Mars	068	RM Dream
024	Voodoo	069	MagicTree
025	Doorknob	070	Muted
026	Engine	071	Go Synth
027	Fretsaw	072	RojoBass
028	SomaPad	073	ClockLife
029	Phaedra	074	Organik
030	ModuLead	075	On Wood
031	SeaScape	076	AtackOrgn
032	RingView	077	PearlOrgn
033	Ganymed	078	Future le
034	VenuStorm	079	Perc Org
035	Emptyness	080	Organo
036	SilkPad	081	ChiFlute
037	Raezohr	082	eClarinet
038	Mistrust	083	Elektric
039	MadDrivin	084	E Piano2
040	Reverse	085	E Piano3
041	Syntha	086	E piano4
042	HiSweep	087	Tine EP
043	Asteroid	088	Harpsichd
044	PPG keys	089	Clavinet
045	Return to	090	DubKeys

Number	Name
091	Electro
092	D Whistle
093	DanceArp
094	Metallix
095	SpringArp
096	T Bass
097	Hard step
098	Monobeast
099	Monoblast
100	Syncing
101	Speak 2me
102	Speak 4me
103	Stomach
104	Undergrnd
105	AC/DC
106	Lunatic
107	Science
108	Computer
109	Kit BD

Number	Name
110	Bill's BD
111	Tight BD
112	Temple BD
113	Ana BD
114	Rascal BD
115	Kicker
116	AnaSnare
117	SnareHit
118	Light SN
119	MoSnare
120	Sandy SN
121	PingSnare
122	Loose Hat
123	ClHiHat
124	Spline
125	Tik hat
126	FlagerHat
127	PhaseHat
128	Tss Hat

Multi Bank

Number	Name	Number	Name
001	Sequencer	009	DeeperKit
002	Technoid	010	Mini Kit
003	Transient	011	Earth Pad
004	Acme	012	MonstaLD
005	Thinness	013	SputnikLD
006	TecboyKit	014	OddesaARP
007	Fatty Kit	015	WaveKEYS
008	Dark Kit	016	Vibe KEYS

Chameleon GUI

This appendix describes how to use the Soundart Chameleon Graphical User Interface (GUI) in conjunction with the Australis Polyphonic synth skin. Each skin runs it's own module within the cross-platform GUI framework that allows you to use your PC or Mac for on-screen editing, saving of Patches and managing your banks of Presets. The GUI can also handle the loading of soundskins directly, as you will need to load the latest version (supplied) to work with the GUI.

Here we discuss the Australis GUI module and how to use it.



Setting Up

About the GUI Files

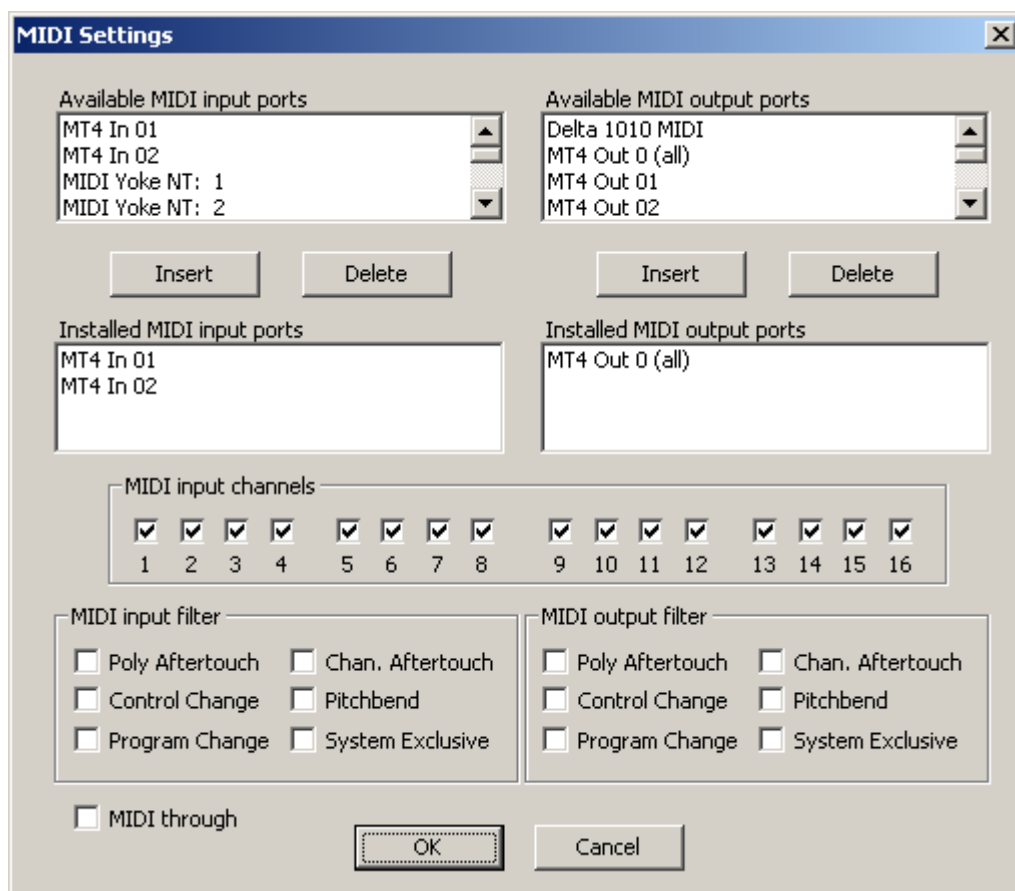
The Windows and Mac versions give you a folder with everything you need. In the folder you will find:

1. The GUI application.
2. The Australis Multi editor as a dynamic library
3. The Australis factory sound banks

How to Configure the GUI

To configure the GUI to work, you simply need to set up the correct MIDI ports inside the program, and that is it. There is no audio to configure, as the GUI only changes the synth's parameters by sending and receiving MIDI commands (CC, CPRESS and SYSEX etc).

1. Open the midi settings window under the system menu
2. Then select and insert the appropriate in and out ports. (E.g. input from your keyboard, output to your Chameleon)



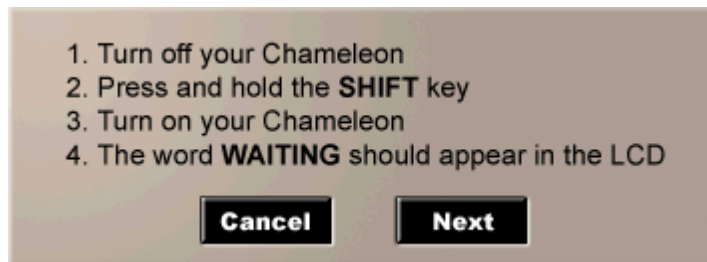
Loading the Skin

Firstly, you should load the latest Australis soundskin onto the Chameleon directly from the GUI.

1. Press Soundskin in the save menu on the right. You will then see this box:



2. Once you hit yes it will lead you through the steps like this:



3. Once you hit next, a progress bar will show you how long it will take to transmit the skin:



Your presets stored in the Chameleon will be overwritten, so you should save them before updating the soundskin.

Using the Australis GUI

Firstly, a working knowledge of the Australis synth and its parameters is assumed in the following descriptions. If you need more detailed explanations on the workings of the Australis synth and how to program it, see the relevant sections in this Australis manual.

Version 1.0 of the GUI is for editing the Multi sets and all their parts only. Single mode is not supported. Full implementation of a separate Single editor with all the relevant parameters covered (notably the Single delay FX) will be added in the next version of the Australis GUI. However, remember that you can, of course, already edit nearly every aspect of the Singles using this version of the GUI.

For understanding how it works, we can split the GUI into two parts:

- **THE UPPER SECTION:** this is permanently visible, and shows the main readout window and all the main saving, storing and resetting functions. You can also switch between the three main editing areas that are displayed in the lower section – the Preset libraries (LIBRARY), all the different pages of editable parameters (EDIT) and the global settings (GLOBAL).
- **THE LOWER SECTION:** what you see in this section will change, according to what options you have selected in the upper section. Different sets of parameters will show in the lower section, ranging from the libraries of Preset banks to all the synth's parameters for each part.

The UPPER Section in Detail

The buttons on the right hand side are used for storing, loading and resetting patches, as well as co-ordinating the GUI with the Chameleon's own internal settings (or vice versa).



Saving your work with the GUI is more complex than a standard soft synth, as you can save records of your Patches locally on your computer as well as to the memory of the Chameleon itself. So there are a variety of options found here.

Dialog boxes will appear to help you, or to warn you if you are about to do something major like initialise everything. Progress bars will also let you know how any large data transfers are getting on.

Lets look at it a line at a time:

The top two lines are for storing to the Chameleon memory and resetting patches:

- **STORE:** This saves the current part that you are editing to the Chameleon's memory, overwriting the previous stored Preset at the same location. This is equivalent to saving the Preset over itself on the Chameleon.
- **RESET:** This initialises (i.e. wipes blank) the current Preset to default values - a basic sine wave Patch. In the case of resetting a Multi it will initialise ALL the parts in that Multi. Use these resetting options to start a Patch from a clean slate.

Note that even if you reset a preset, on the Chameleon nothing is saved until you explicitly commit it to memory using STORE. Until then the changes reside in the volatile buffer memory. If you turn the Chameleon off and on again, or even just switch to another Preset and back, your temporary changes are lost. This is just like when editing directly on the Chameleon itself.

- **STORE ALL:** This saves to the Chameleon's memory all the changes made to all parts. Again, it saves to their current positions.
- **RESET ALL:** This initialises ALL PRESETS AND MULTIS THROUGHOUT THE CHAMELEON. Watch out!

The middle line of buttons is for co-ordinating the GUI with the Chameleon's data or vice versa.

- **REQUEST ALL:** This asks the Chameleon to send all settings for all banks (Multi and Single), as well as all global settings. This is for making sure all GUI parameters are the same as those in the Chameleon. When you start this option, it can take some time for the Chameleon to send everything. However, You will not see a progress bar on your computer screen, as the GUI and the Chameleon are not linked together in a way that makes this possible. You are simply sending a request for a SYSEX dump that the Chameleon will then carry out.
- **DUMP ALL:** This is the opposite of request all - this sends all parameters from the GUI and sets the Chameleon so it is exactly the same as the current GUI set up. In this case you will see a progress bar.

The second from the bottom line of buttons are for loading and saving your set-ups to your computer for back-up purposes and archiving of all your work. Every time you switch skin you should save your Australis patches to your computer so that you can return to them when you load it onto the Chameleon again.

- **LOAD:** This is for loading into the GUI editor a .syx file previously saved on your computer. You can then dump the info over to the Chameleon.
- **SAVE:** This is for saving a .syx file to your computer for backup, which contains the complete state of the GUI editor. Using request all and then saving a .syx like this, you can quickly save all your patches to your computer before you switch to a new skin.

The last lines of buttons are:

- **SOUNDSKIN:** for loading the latest version of the Australis soundskin onto the Chameleon, as outlined above.
- **MIDI CC:** This option allows you to use SYSEX to send all parameter controls from the GUI. This is to get around some limitations inherent in the MIDI standard. Normally Australis uses CC and P-pressure MIDI messages to control many of its parameters, as this allows for a wide variety of easy data manipulation techniques in modern sequencers. But it also means that in certain situations there is a conflict. For example - if you create a Multi with all Singles responding to the same MIDI channel, all Singles will respond to the same filter control CC message at the same time. Examples of this type of Multi are the variety of 'kits' that come with the Australis Multi library such as 'tek boy kit' and so on. If you deselect MIDI CC then SYSEX control will be used, and this will no longer be a problem.

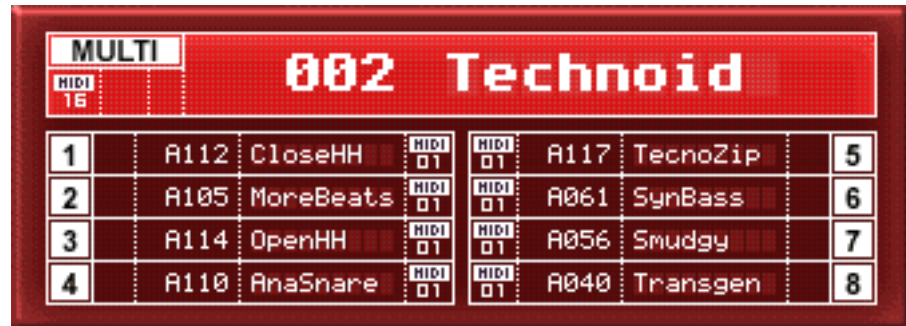
SOLO, COMPARE and PANIC

- **SOLO** allows you to mute all other Single Parts and just listen to individual Parts.
- **COMPARE** allows you to toggle between the Preset saved in the memory and the edits you have been making for comparison. This is possible because your edits are being temporarily saved in a volatile buffer memory.
- **PANIC** will send an 'all notes off' MIDI message to clear any stuck notes.



The Main Window

This window allows you to see the currently selected Multi and all its parts. You can see the MIDI channels being used, the Single Part names, and so on. You will also see that any MIDI activity will flash the appropriate MIDI channel numbers, to help you keep track of what is happening. This is useful in trouble-shooting situations.

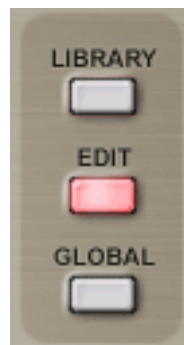


You can step up and down through the lists of Multi or Single Presets in your library using the PRESET UP and DOWN buttons on the left of the screen.

In the main window, if you double click a Preset or Multi name you can rename it.

LIBRARY, EDIT and LOCAL

Use these three buttons to the right of the main window to switch between the different areas of the GUI that are shown in the lower section of the GUI.



- **LIBRARY:** is for managing all your saved Presets.
- **EDIT:** is for adjusting individual parameters within the different sections of the synth (OSC, FILTERS, FX etc).
- **GLOBAL:** is for setting up the main system parameters for the synth (such as master tune, screen saver and so on).

Remember that what you will see in the lower section as you switch between the LIBRARY and EDIT sections will also depend on what you have selected in the main window – the Multi name or one of the individual Presets.

The LOWER Section in Detail

LIBRARY MODE

The buttons on the right hand side are used for storing, loading and resetting patches, as well as co-ordinating the GUI with the Chameleon's own internal settings (or vice versa).

These libraries are for getting an overview of all your different Patches. Here, you can rapidly select a Preset you want. You are also able to swap Presets around within the library, move them and reset them.

Remember that:

- If you have selected the Multi name in the main window you will enter the Multi library.
- If you have selected a Preset name in the main window, you will edit your Preset libraries instead.

For example, here is a Single bank library.



The buttons on the top right are for storing and saving.

The first three are for moving and saving your Presets and bank info:

- **STORE TO:** This allows you to move presets around. By selecting a preset, then pressing 'STORE TO' and then selecting a destination slot, you can copy the Preset to other slots in the library.
 - Remember that by default bank D is empty for user slots.
 - Note that the STORE TO button will flash until you select a destination.

- **SWAP WITH:** This allows you to swap presets around. By selecting a preset, then pressing 'SWAP WITH' and then selecting a destination slot, you can swap the preset with other slots in the library.

- Note that the SWAP WITH button will flash until you select a destination.
- **SAVE BANK:** press this to save the bank to your computer hard disk for back-up.

The next two buttons help to synchronise the banks of GUI and those of the Chameleon:

- **REQUEST BANK:** this will ask the Chameleon to send a particular bank's data so as to co-ordinate the GUI with the Chameleon's memory.
- **DUMP BANK:** this will send all bank data from the GUI to the Chameleon, to co-ordinate the Chameleon memory with the on-screen GUI.

EDIT MODE

The buttons on the right hand side are used for storing, loading and resetting patches, as well as co-ordinating the GUI with the Chameleon's own internal settings (or vice versa).

Editing all the many parameters in the lower section of the GUI is straightforward to use if you know your way around the synth already. We advise exploring the Skin directly from the Chameleon first, to get to the menus.

Drop-down menus are hierarchical, where relevant, and any parameter that should not be accessible is deactivated automatically - e.g. the chorus parameters are deactivated while the phaser is chosen.

Many of the parameters you find inside the Chameleon menus are represented with knob and numbers that represent the knob's position and value, and you can edit them in two ways:



1. Use the mouse to turn the knobs by clicking and dragging up or down. (double-click to reset a knob) or
2. Double-click the numerical value to enter it directly from your keypad.

For more details on what each parameter means, see the relevant chapter of this manual.

MULTI EDITING

If you have selected the Multi name in the top section's main window you will be able to edit all the Multi's parameters such as balancing the level and panning of all the parts, adjusting the MIDI channels and the global delay FX and so on.



SINGLE EDITING

If you select one of the Single parts on the top section's main screen, you can edit all that single's parameters such as the filters, oscillators and so on. You can choose what group of parameters you wish to edit by picking the parameter group (LFO, MIXER etc) using the middle row of buttons.

Note that there is a Quick Access group that also groups together many of the most commonly used parameters for ease of use.

Here, for example, is the Quickedit window a single part.



GLOBAL MODE

The global settings are the main system configuration parameters for the Australis synth. Generally you will set these up and then leave them as they are.

See the relevant chapter for more details.

