INTRODUCTION

The new OS 2.0 operating system for the Supernova II series represents a significant software upgrade. The new OS offers many new sound-creating features and operational improvements as well as fixing all known 'bugs' present in previous versions.

Supplied along with the OS is an impressive sound set, making full use of the Supernova's 8 Program banks - well over a 1000 sound memories. To showcase some of these new sounds and features, the new OS also includes a new range of demos.

Please note that this OS is suitable for the Supernova II series only. Please ensure that you have downloaded the correct version of OS – Supernova II Keyboard or Supernova II Rack before continuing.

The suggested steps to fully install the new operating system and sounds are:

1) Back up the existing data
2) Verify the back-up
3) Install the new OS
4) Install the new program banks, drum banks and performance banks

BACK UP EXISTING DATA

It is recommended that you perform a sysex data (system exclusive) backup of your Supernova's memory contents before upgrading the OS. The process of upgrading the OS should not over-write or destroy the Supernova's memories, but it is possible that this data could get corrupted if for example there was a power cut during the updating procedure. It is always better to be safe than sorry!

1) Connect the midi output of the Supernova II to the MIDI input of a sequencer and set the sequencer tempo to 150 bpm. Open a new arrangement or song and create a new midi track as you would for normal MIDI recording.

2) Ensure that your sequencer does *not* have it's record sysex midi filter checked – This can be found in Cubase under <options> <MIDI filter> or in Logic under <options><settings><MIDI options>.

3) From the Supernova II's global menu, find the sysex transmission page. Select total data as the option to be transmitted. Put the sequencer into record mode and press the MIDI button in the part edit section of the Supernova II to initiate the data transfer.

Please note that there is a large amount of data which will be generated, expect the total data dump to last for10 minutes or so.

4) When the Supernova II has stopped transmitting data and the screen has reverted to normal, stop the sequencer from recording and save the song or arrangement in a safe place.

VERIFYING THE BACK UP OF EXISTING DATA

1) To verify the back up, change the name of the first program and write the change to the Supernova II memory.

2) Connect the MIDI out of the sequencer to the MIDI input of the Supernova II.

3) Ensure that the memory protect of the Supernova is turned off (from the global menu) and play the recorded total data file back into the Supernova II at 080 bpm. The screen on the Supernova II will show that data is being received.

4) When all data has been received, double check that the name of the first program has been restored. If this has happened **and** the Supernova II did not display a packet error warning while it was receiving data, it is safe to assume that the back up is good.

INSTALLATION OF OS2

1) Install the OS file into a sequencer. (This should be loaded into a sequencer capable of loading SMF files, most do). Adjust the tempo of the sequencer to a low value, eg 080 bpm and make sure it is not set up to transmit MIDI clock or timecode (MTC). Consult your sequencer manual for details. As the file is an SMF, no details of MIDI port outputs are included for computer sequencers, so manually ensure that the track the file opens to is set to play on the appropriate MIDI output port.

2) Power-up the Supernova while holding down the Part 8 button in the Part Edit Section. The display will now show:

Waiting for midi O/S.

Note: This screen *MUST* be displayed or the Supernova II will *NOT* accept the new OS.

3) Ensure that the MIDI out of the sequencer is connected to the MIDI input of the Supernova II.

4) Play the OS file from your sequencer at 080 bpm. As the file is played, the Supernova II should indicate progress by displaying a percentage of the OS received so far.

Once OS 2.0 has been successfully installed, the Supernova II will immediately boot up as normal and display the new OS version number on its start-up screen.

If the Supernova should display an error message while updating the OS, switch off and try updating again. Lowering the sequencer playback tempo may help.

It is strongly recommended that OS 2.0 is installed before loading in the new OS 2.0 sounds.

THE OS 2.0 SOUNDSET

Included with OS 2.0 is a complete range of 8 Program banks. Loading in these banks of sounds is optional, but be aware that some of the new OS 2.0 demos will not play properly if these sounds are not installed.

If is strongly recommended that OS 2.0 is installed before loading in the sounds, otherwise certain Programs will not play as they were designed to.

There are eight banks of Programs supplied, named **PBANKA.MID** to **PBANKH.MID**. These must be loaded into and played from a sequencer as Standard MIDI Files as before. Note that to load in these files, the Supernova does not need to be placed in any special mode first. You will simply need to ensure that the memory protect is turned off (from the global menu).

There are 4 banks named **DRUMA.MID** to **DRUMD.MID** in which many programs have been made “one shot” so they will sound improved when played from a sequencer – see below for more details on this feature.

Once these have been loaded, the Performance banks **PERFA.MID** and **PERFB.MID** will need to be loaded because the existing Performances will not reference the correct programs.

To avoid overwriting sound banks which are to be kept, it is possible to load each individual bank into the bank of your choice. Setting the **Sysex reception** parameter in the Global Menu before loading in a bank, allows a destination bank to be specified, regardless of where the bank was originally saved from.

For example, if you wished to load in the **PBANKA.MID** file into Program Bank H, set the **Sysex reception** parameter to “**All progs to bank H**” before loading in the file.

Bear in mind that it is possible to over-write every single one of the Supernova memories.

PLAYING THE NEW DEMOS

For the demos to play properly, it is required that the entire OS 2.0 sound set is loaded, otherwise the sounds used in the demos will not be those intended! An exception is Demo number 2 which will always play correctly regardless of which sounds are currently loaded.

To access the Demos, press the Global and Find buttons simultaneously or press the Find button from within the Global Menu. The display will now show:

DEMO MODE : Press Part buttons to play

Several Part select buttons will now flash, indicating which Demos are available. Press a flashing button to start the Demo of your choice. As soon as a Demo has finished playing, the next Demo in sequence will start. The playing Demos will cycle round indefinitely.

To exit Demo Mode, press the Program or Performance Buttons. Pressing the Find button will also stop the Demos playing, and pressing it again will re-start the Demos playing, starting from Demo 1 onwards.

While the Demos are playing, it is possible to immediately jump to a different Demo by pressing the appropriate Part select button or by using the upper data knob.

NEW FEATURES

Many new parameters have been added to OS 2.0. In some cases, this has meant that new menu pages have been added, while other menu parameters have been moved to different pages to those described in the existing Supernova II manuals. Each of the new parameters and features will now be discussed in detail.

GENERAL IMPROVEMENTS

Certain features and parameters such as Arpeggiator tempo, Part muting and most Global settings always use the Global MIDI channel when transmitting MIDI information. With previous OS versions, this information was only accepted when it was received on the Global MIDI channel. This meant that if **Local Control** was set to "**Off**" when using the Supernova in Performance Mode, a sequencer track corresponding to the Global MIDI channel had to be selected before this MIDI information would be accepted.

With OS 2.0, although this MIDI information is still transmitted from the Supernova II using the Global MIDI channel, in Performance Mode, it can now also be accepted on any Part's MIDI channel as well, providing the Part is active (ie its **Polyphony** is not set to "**Off**").

Part level and **Program level** knobs now display an additional line of text on screen when altered.

Program level (pre effects)	**025**

Part level (post effects)	**099**

This helps to make clearer where in the audio path these level controls are situated. Download the pdf "Understanding and overcoming distortion with the Supernova & Supernova II" for a clear, detailed explanation of the importance of these two parameters. This can be found on our website in the FAQ section.

In Program Mode, a footswitch connected to the Sw3 socket will now freeze the Vocoder's sound spectrum when the footswitch is pressed. Great for sustained vocoded vowel sounds. Releasing the footswitch makes the Vocoder resume normal operation. Experiment! In Previous OS versions, a footswitch connected to this socket did nothing in Program Mode.

ARPEGGIATOR SECTION

The **Arp gate time** parameter now has a higher resolution of "**01%**" to "**99%**".

This now uses a new dedicated NRPN for MIDI transmission, but still also transmits the older 25%, 50%, 75% & 99% NRPN data as used by earlier Supernova series models when the appropriate resolution is reached. Similarly, this older format NRPN data is still recognised when received via MIDI.

If a Program sysex dump is sent, older machines / previous OS versions will round the percentage value up to the nearest 25% gate setting.

EFFECTS SECTION

In the Delay Menu, two new options have been added to the **Delay Ratio** parameter. These are "**1:Off**" and "**Off:1**". When selected, these allow the Delay effect to be heard on only one side of the stereo field.

A new parameter in the Panning Menu - **Pan effects**, when set to "**Yes**" enables the stereo effects (Chorus, Delay & Reverb) to now be used in a monaural mode. This enables the Pan knob to move these effects completely across the stereo field. Panning hard left or hard right therefore enables sounds to be sent from a single output jack. Previously, sounds using these stereo effects had to always be sent from output jack *pairs*.

It is now possible to synchronise the **Pan speed** rate to the internal or external MIDI clock. A new parameter in the Panning Menu - **Sync**, allows the panning rate to be set from "**Off**" (**Pan speed** value is used instead) or the standard MIDI sync rates up to "**8 bar dotted**" (**Pan speed** value has no effect).

It is now possible to synchronise the **Chorus speed 1** rate to the internal or external MIDI clock. A new parameter in the Chorus Menu - **Sync**, allows the rate to be set from "**Off**" (**Chorus speed 1** value is used instead) or the standard MIDI sync rates up to "**8 bar dotted**" (**Chorus speed 1** value has no effect).

It is now possible to synchronise the **Comb filter** rate to the internal or external MIDI clock. A new parameter in the Effect Special Menu - **Sync**, allows the rate to be set from "**Off**" (**Comb filter speed** value is used instead) or the standard MIDI sync rates up to "**8 bar dotted**".

LFO SECTION

It is now possible to synchronise the **LFO delay** time to the internal or external MIDI clock. A new parameter in the LFO Menu - **LFO delay sync** allows the delay sync rate to be set from "**Off**" (**LFO delay** value is used instead) or the standard MIDI sync rates up to "**8 bar dotted**" (**LFO delay** value has no effect). Each LFO can be set individually.

A new parameter in the LFO Menu - **LFO delay mode** determines whether the **LFO delay** time introduces the LFO modulation gradually over the delay time period ("**Fade**") or abruptly after the delay time period expires ("**Gate**"). Earlier OS versions always behaved as if this parameter was set to "**Fade**". Each LFO can be set individually.

VOICE CONTROL SECTION

A new menu parameter - **Drum one-shot** enables MIDI Note Off messages to be ignored once a sound has been triggered. This parameter is particularly applicable to some drum sounds which have been programmed with an **Env 1 sustain** value of zero.

Setting this parameter to "**On**" makes sure that a sound cannot be inadvertently cut short if a Note Off message is received prematurely. Some sequencers are known not to pay strict attention to the correct ordering of Note On & Note Off messages if they are to be sent from the sequencer at exactly the same internal timebase reference.

If Drum Map sounds sometimes appear to cut-out or not trigger when sequenced, try setting this parameter to "**On**" for each appropriate drum sound used.

Earlier OS versions always behaved as if this parameter was set to "**Off**".

ENVELOPES SECTION

For Envelopes 2 & 3, it is now possible to synchronise the **Env delay** time to the internal or external MIDI clock. A new parameter in the Envelopes Menu - **Env delay sync** allows the delay sync rate to be set from "**Off**" (**Env delay** value is used instead) or the standard MIDI sync rates up to "**8 bar dotted**" (**Env delay** value has no effect). Envelopes 2 & 3 can be set individually.

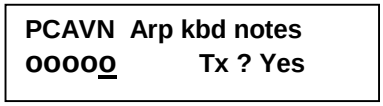
GLOBAL PARAMETER SECTION

A new option - "**Auto**" has been added to the Global Menu **MIDI clock** parameter. When **MIDI clock** is set to "**Auto**", the Arpeggiator and other MIDI synchronised features will run on the Supernova's internal clock unless a connected external sequencer has started and is transmitting MIDI clock messages, in which case the external sequencer will now control the tempo. As soon as the external sequencer stops, the internal clock is used once more.

Note that when this option is used, if Arpeggiator(s) are *already running* when the external sequencer starts, the Arpeggiator(s) will immediately reset to the first step of their patterns and continue running at the new tempo from there. This is essential in order to ensure that the Arpeggiator **Quantize mode** options function correctly. **Quantize mode** normally behaves slightly differently depending on whether an internal or external clock is used.

A new Global Menu parameter - **Button clicks** allows the clicks generated by the Supernova II buttons to be turned on or off. ***Note that this parameter is only available on the Supernova II Rack.***

On the Supernova II Keyboard, the Global Menu parameters **Prog change Tx**, **Controllers Tx** & **Aftertouch Tx** have all been redesigned on a single menu page along with additional options controlling transmission of keyboard velocity and Arpeggiator keyboard notes. The menu page looks like:



P = Program Change Tx
C= Controller Tx
A = Aftertouch Tx
V = Key Velocity Tx
N = Arp Keyboard Notes Tx

Use the higher data knob to select the parameter to be edited. Use the lower data knob to determine if the currently selected parameter is set to "**Yes**" or "**No**".

A Tx option now has "**o**" displayed if it activated (**Tx ? Yes**), and "**.**" displayed if not activated (**Tx ? No**). Other similarly edited parameters elsewhere have adopted the same display convention.

If **Key velocity Tx** is set to "**Yes**", the Supernova II's keyboard will supply the velocity information of all keyboard notes transmitted via MIDI. If set to "**No**", all notes transmitted by the Supernova II's keyboard will contain a full velocity value of 127.

If **Arp kbd notes** is set to "**Yes**", notes that are played on the keyboard to generate an Arpeggio will be transmitted via MIDI (unless the Arpeggiator is set to transmit it's notes out via MIDI using the same MIDI channel).
If set to "**No**", notes played on the keyboard to generate an Arpeggio will never be transmitted. This setting will make recording generated Arpeggiator notes into sequencers a lot easier if the sequencer does not have the ability to filter out notes on specific MIDI channels.

It is now possible to send any kind of sysex dump which will be accepted by any Supernova II, regardless of its **Global MIDI channel** setting. Normally, sysex dumps will only be accepted if the channel of the sysex message matches the **Global MIDI ch** value. This is useful when preparing a bulk library dump for immediate acceptance on any Supernova with any **Global MIDI ch** number.

To send a universally accepted sysex dump, select the message type to transmit as usual by selecting the **Sysex transmission** parameter in the Global Menu, but press and hold the Compare button before pressing the Midi button to initiate the dump (normal Program Compare Mode is immediately cancelled). While the dump is being sent the display will show:

System exclusive [G]
transmitting…

The **[G]** indicates that the dump will always be accepted on any Global MIDI channel

PART EDIT SECTION

In the Midi Menu, the **Sus/sw2**, **Sw1** & **Sw3** footswitch parameters have additional options added. These are: "**Program + 1**", "**Program - 1**", "**Pattern + 1**", "**Pattern - 1**" & "**Voc freeze**".

The first four of these new options allow the Part's Program / Arpeggiator pattern to increment or decrement when the appropriate footswitch is pressed.

"**Voc freeze**" freezes the Vocoder's sound spectrum when the footswitch is pressed. Great for sustained vocoded vowel sounds. Releasing the footswitch makes the Vocoder resume normal operation. Experiment!

In the Tune Menu, it is now possible to define the "**Drum played as**" parameter (used for Drum Maps) in Performance Mode. In previous OS versions, this could only be achieved from within Program Mode.

EXTERNAL PART EDIT SECTION (Supernova Keyboard only)

In the External Part Midi Menu, the old "**PBMWAVS Tx**" parameter was used to determine which MIDI messages the currently selected External Part would transmit. This has been changed so that the display now looks like:

PBMWAVSN Kbd notes
. . . . . .o Tx ? Yes

A new option "**N**" (**Kbd notes**) has been added. When set to "**Yes**", MIDI notes played on the keyboard (within the External Part's note range) will be transmitted.

Setting this option to "**No**" still allows an External Part to be used to send the other types of MIDI information available. In a live performance situation, this feature can be useful if it is desired to send initial settings (Program Change etc.) for MIDI equipment which is to be controlled by a sequencer, but not played directly by the Supernova's keyboard.

A Tx option now has "**o**" displayed if it activated (**Tx ? Yes**), and "**.**" displayed if not activated (**Tx ? No**). Other similarly edited parameters elsewhere have adopted the same display convention.

EXTERNAL PART EDIT SECTION (Supernova Keyboard only) Continued

It is now possible to define a customised stream of MIDI data for each External Part. This will be transmitted as soon as the Part's Performance is initially selected. A new page has been added in the External Part Midi Menu to allow this.

Send MIDI stream	
No of bytes	**00**

The number of bytes which can be transmitted on each External Part is from 0 to 12 bytes. When set to zero, no customised MIDI data stream will be transmitted. The editing of each byte in the data stream is achieved on the next Menu page:

MIDI Stream byte	**01**
[Data]	**00**

Use the higher data knob to specify which byte in the data stream is to be edited. Use the lower data knob to alter the position's byte value.
The byte's value is shown in a hexadecimal format (00 to FF). As the data value is altered, the display will also update to show the type of MIDI message represented by the data value. For example:

MIDI Stream byte	**01**
[Note On]	**9F**

If the Page Up button is held, the display will now show the byte's value in a standard decimal format and also indicate the value's MIDI channel (or else "Data" or "System"). For example:

MIDI Stream byte	**01**
[MIDI ch 11]	**138**

While the Page Up button is held, the byte's data value can still be altered with the lower data knob and the display will update accordingly.

Any stream of up to 12 bytes long can be defined in this way, but it is up to the user to ensure that what has been defined comprises of legitimate and sensible MIDI data and not nonsense! Any MIDI channels defined in the bytes will be sent exactly as defined. *They will **no**t be converted to the External Part's MIDI channel.*

When a Performance is selected, the MIDI data stream for each External Part will only be transmitted provided the **No of bytes** parameter is greater than zero *and* the External Part has not been disabled by having its **Ext part MIDI ch** parameter set to "**Off**". The data stream will be sent immediately following any Song Select, Bank Select, Program Change or initial Volume levels already defined for the External Part elsewhere in the External Part Midi Menu.

Using this feature to send MIDI data streams is especially useful in live performance situations where the Supernova is being used as a Master keyboard and it is desired to set external MIDI devices in a certain way between 'songs'.

In the External Part Velocity Menu, there are new parameters which enable External Parts to always transmit notes at a certain fixed velocity value. This feature is particularly useful when External Parts are controlling drums or samples where the velocity value can be critical.

These new parameters are located on a new, second page in the External Part Velocity Menu. The first page in the External Part Velocity Menu is:

Ext velocity max	**127**
Ext velocity min	**1**

On this page, the Page Up & Page Down buttons are used to enter parameter values directly by playing keyboard notes while the buttons are held. So to access the second menu page containing the new parameters, press and hold the Page Up button and press the Velocity button again. The display will now show the second menu page:

Tx ext velocity	**Yes**
Default velocity	**127**

The **Tx ext velocity** parameter determines whether the velocity values of notes played on the keyboard will be supplied by the keyboard velocity (when set to "**Yes**"), or whether the note velocity will always be a set value (when **Tx ext velocity** is set to "**No"**).

When **Tx ext velocity** is set to "**No**", the **Default velocity** parameter specifies the velocity value to be used when transmitting all keyboard notes played by this External Part. **Default velocity** can be set to any value between 001 and 127.