USER MANUAL

BLUE NEBULA TAPE ECHO AND GUITAR FX PEDAL


USB
MIDI IN
NAVIGATION BUTTONS
OK = SELECT/MANUAL
Edit
Store
OK
12V DC JACK
PARAMETER
ADJUST: P1, P2, P3
P1
P2
P3
Gain
Clip
Pre
Master
PREAMP GAIN, CLIP LED,
PREAMP LEVEL, EFFECT
OUTPUT LEVEL
OUTPUT JACK
OUTPUT
BLUE NEBULA
INPUT
INPUT JACK
Down
Bypass
Up
'PREVIOUS PATCH'
FOOTSWITCH
TRUE BYPASS
FOOTSWITCH +
EFFECT ON LED
'NEXT PATCH'
FOOTSWITCH

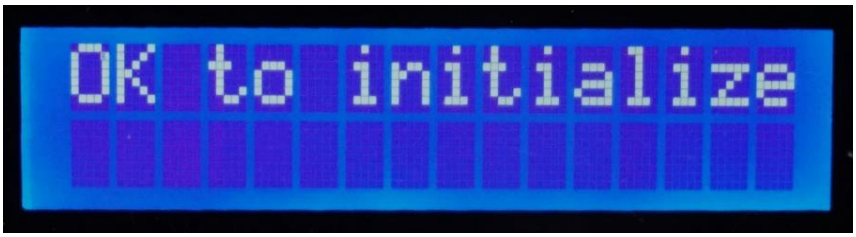
GETTING STARTED

Connect the **DC IN** jack on the right-hand side of the pedal to a suitable **12V DC CENTRE POSITIVE** power supply with a 2.1mm DC jack and **capable of supplying at least 200mA**. Within a couple of seconds, the Blue Nebula will display a Welcome message which gives the Firmware version currently installed. Firmware updates can be made via the USB port using the Firmware Updater App.

When you power up your Blue Nebula there are several options you can use to adjust how the pedal works. While the Welcome message, shown above, is displayed on the LCD you can press one of the Navigation buttons as follows:

Store: Initializes the memory so it is ready to accept your User Patches. It clears the User Patch memory and copies the 50 factory pre-sets into the first 50 User Patches (0-49). **WARNING** – this erases/overwrites *all 128* User Patches so if you have already created some patches that you wish to keep make sure you have backed them up onto your computer using the Librarian app.

To prevent accidentally wiping your patches, the Blue Nebula will prompt you with "OK to initialize"



If you really **do** wish to initialize the User patch memory press the **OK** button, otherwise press any other button to abort the operation.

Edit: This allows you to calibrate the P2 knob, so it displays the correct 'Heads' settings for some of the vintage echo machines that the Blue Nebula emulates. Just follow the prompts on the LCD.

OK: This allows you to set the MIDI channel (1-16) that the Blue Nebula uses to receive MIDI messages on its **MIDI IN** connector. Use the **UP** and **DOWN** navigation buttons to select the required MIDI channel and press **Store** to set it.

UP: This allows you to set the repeat rate of the **UP** and **DOWN** patch change switches. The factory default is 120ms which provides a reasonable scroll speed but allows single clicks of the patch change footswitches to change one patch at a time without accidentally skipping over a patch. Use **UP** and **DOWN** to alter the time in increments of 10ms (a longer time gives a slower repeat rate) and press **Store** when you are done.

PATCH MODE

When you are using the Blue Nebula to provide effects as you play your guitar, you will be using 'Patch' or 'normal' mode and the **UP** and **DOWN** footswitches and the **UP** and **DOWN** navigation buttons will scroll through the pre-sets and User patches. One press on a footswitch or button will move forward or backward one pre-set or patch. Holding down a switch will scroll through the patches at a speed set by the start-up option accessed by pressing **UP** when the Welcome screen is displayed – see the preceding section.

*Note that the P1, P2 and P3 controls are 'locked' when in patch mode to prevent accidental changes. If you want to make changes you need to hit the **Edit** button and follow the instructions in Editing a User Patch*

MANUAL MODE

If you hit the **OK** button the Blue Nebula will go into **MANUAL MODE**. This allows you to use the Blue Nebula as a manual stomp box effect and you can select any of the 16 effects by using the **UP** and **DOWN** buttons with the current effect name shown on the top line of the LCD. You can adjust the effect parameters in real-time by using the P1, P2 and P3 knobs. The function of each parameter knob varies depending on the effect you have selected and will be shown on the bottom line of the LCD:

Figure 1: Manual Mode with the Vox Long Tom selected

To exit **MANUAL MODE,** press the **Edit** button.

TWEAKING THE MIX

Depending on the acoustic properties of the venue in which you are playing, there may be times when you wish to fine-tune the relative levels of the echo with the dry signal – in a large room with reflective surfaces the natural reverberation of the room may require a lower amount of echo. Rather than having to go in and edit each patch to adjust the 'Mix' you can simply press the **Store** button. This will display an asterisk (*) at the right-hand end of the bottom line on the LCD:

Figure 2: 'Tweak' Mode is ON (*)

The P1 knob will now be 'live' allowing you to tweak the dry/echo mix. When in this mode the setting of the P1 knob temporarily overrides the value stored in the patch. **NB: YOU CANNOT CHANGE PATCHES WHILE IN THIS MODE.**

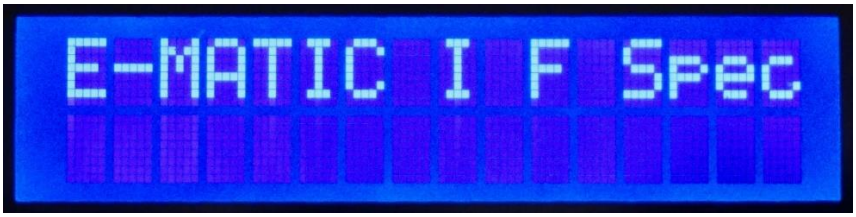
To exit back to normal patch mode, press the **Edit** button and the P1 value in the patch will be restored.

***Tip**: In the Echomatic II Classic emulation P1 controls the combined echo level of Heads 1, 2 and 3, not the overall Dry/Wet mix. This means you can adjust the H123 level but the H4 level will still be taken from the value stored in the patch.*

EDITING A USER PATCH

Blue Nebula can store a total of 128 User Patches, numbered from 0 to 127. Each patch can be given a name (up to 16 characters) and can use any of the 16 available effects. Each effect has three parameters which can be set using the parameter knobs P1, P2 and P3 and these settings are stored in the patch.

To edit a User Patch hit the **Edit** button and the LCD will show the effect currently being used by the patch:

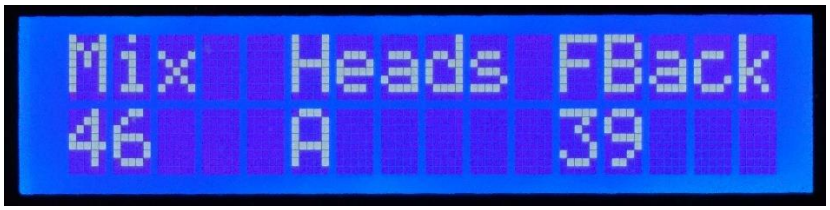


You can change this if you wish by this using the **UP** and **DOWN** buttons to select any of the 16 effects available in the Blue Nebula. With the required effect displayed hit the **OK** button to select it and the top line of the display will now show the names of the effect's parameters with the current values of the three parameter adjust knobs P1, P2 and P3 on the bottom line:

The ^ and ∨ characters that you may see beside each number indicates if the parameter knob value is currently lower (^) or higher (∨) than the value currently stored with the patch. Think of the arrow as an indicator telling you to increase (^) or decrease (∨) the control setting to match. You can ignore these

indications and just 'tweak' the knobs until you hear the sound you are after or you can use them to set the controls to match the stored patch and then make small adjustments by ear.

***Tip**: When the control setting is the same as or very close to, the stored value, neither ^ or ˇ is displayed. You then know you have matched the control to the stored patch setting.*



When you have the effect sounding how you like, press the **Store** button to store the effect with these parameter settings.

Tip**: If you want to leave the patch settings as they were originally press **OK** instead of **Store

You will now be prompted to enter a name for your patch:

A flashing cursor will show where the next character will be entered. If the patch already had a name, this will be displayed, and you may edit it if you wish. If you do not wish to change the name, simply press **Store** to move on to the next step.

When editing the name, use the **UP** and **DOWN** buttons to scroll through the letters A → B → C etc. Space is the character preceding A followed by the digits 9 – 0 so, for example, repeatedly pressing **DOWN** will give the sequence C → B → A → space → 9 → 8→7 etc.

When the desired character is showing press **OK.** This will enter that character and step the cursor on to the next character in your patch name. If you make a mistake and want to go back to a previous character press **Edit** until the cursor is flashing over the character you want to change then edit it as before using the **UP** and **DOWN** buttons.

When you have finished entering the name press the **Store** button again to complete the naming process and select where you wish to store your patch:

The number shown is the current bank (memory location) from which you started the editing process. You can simply store your patch back in this same bank by pressing the **Store** key again. **NB: THIS WILL OVERWRITE ANY PREVIOUS PATCH STORED THERE.**

If you want to store the edited patch in a different bank, use the **UP** and **DOWN** buttons to select a different bank number, then press **Store** to store the patch in that bank. Here we are going to store the patch in bank 35:

NB: THIS WILL OVERWRITE ANY PREVIOUS PATCH STORED THERE.

THE PREAMP AND OUTPUT LEVEL CONTROLS

The three knobs to the right of the pedal: **GAIN**, **PRE** and **MASTER** operate in a similar way to the corresponding controls on a guitar amplifier.

Gain & Pre Controls

Rotating the **GAIN** control clockwise increases the signal level from the 1st input pair of JFET transistors and will increase the harmonic content in the following 2nd pair of JFET transistors by driving them harder and into asymmetric distortion – just as a valve triode does in a vintage tape echo. This control needs to be used carefully in conjunction with the **PRE** control to ensure that the Blue Nebula's digital signal processor (DSP) is not driven into clipping which is indicated by the **CLIP LED** - located in the panel between the **GAIN** & **PRE** controls - flashing momentarily. The **GAIN** control should be set for the most agreeable harmonically rich sound and the **PRE** control used as described above to prevent the DSP from being overdriven.

Master Control

This control should be used in conjunction with the **BYPASS** switch to ensure that the effects output level is similar to the **BYPASSED** one. This ensures that you do not have to change your guitar amplifier settings as the unit is switched in or out of circuit.

USING MIDI

Here you will find the information on controlling the Blue Nebula using MIDI messages sent from another device such as a MIDI foot controller or a MIDI sequencer running on a computer or laptop.

By connecting the MIDI Out from your computer, MIDI keyboard or foot controller to the **MIDI IN** on the Blue Nebula using a standard MIDI cable, you will be able to send *program change* (PC) messages to select different user patches.

MIDI PROGRAM NUMBER	BLUE NEBULA PATCH
0 – 127	User Patch 0-127

Table 1: MIDI Implementation

Note that some MIDI sequencers use MIDI program numbers from 1-128 whereas the MIDI standard specifies values of 0-127. Blue Nebula uses program change values from 0-127 which matches the User Patch numbering. Many sequencer programs have an option to use 1-128 or 0-127 values so you may be able to set it up to match the Blue Nebula. If not, to select a specific preset you would need to send a program change (PC) value one higher than the required preset. For example, to select User Patch 16 you would send a PC 17 command.

Just experiment and you will find out the way your sequencer works!

FACTORY PRESETS

The 50 factory presets cannot be edited but they can be copied to the user bank for editing, for example by pressing **Store** when the Welcome message is displayed on the LCD after powering up the Blue Nebula. This copies all the factory presets into the start of the user bank where you may edit them if desired.

PRESET #	NAME	PRESET #	NAME
0	APACHE	25	DANCE ON
1	F.B.I.	26	GERONIMO/RUMBLE
2	MUSTANG	27	THE BREEZE AND I
3	MAN OF MYSTERY	28	PARISIENNE WWAYS
4	FRIGHTENED CITY	29	SPRING IS NEARLY
5	MIDNIGHT	30	BIG BOY
6	Q MASTERS STORES	31	STARS ON STOCK'N
7	THE STRANGER	32	THE LOST CITY
8	SHADOOGIE	33	BLUE STAR
9	WONDERFUL LAND	34	PERFIDIA
10	KON TIKI	35	GONZALES
11	THE SAVAGE	36	BLUE SKY SEA ME
12	ATLANTIS/FANDANGO	37	ROUND AND ROUND
13	PEACE PIPE	38	PIPELINE/SACHA
14	COSY	39	DUCK POND
15	FLINGEL BUNT	40	THE YOUNG ONES
16	SHINDIG/BLUE DAY	41	MY RESISTANCE
17	FOOT TAPPER	42	RAINING IN MY
18	SLEEPWALK	43	ZAMBESI
19	RIDER IN THE SKY	44	THE FLYDER AND
20	CAVATINA/ARGENTINA	45	JESSICA
21	THEME FOR Y LOVERS	46	CHI MAI
22	1861	47	THEME FRM MISSIN
23	ADIOS MUCHACHOS	48	SHAKIN' ALL OVER
24	36-24-36	49	PREAMP ONLY

Table 2: Factory Presets

ECHO MACHINE EMULATION	SHOWN ON LCD AS	MEMORY BANK #
MEAZZI ECHOMATIC-I MODEL 'J' CLASSIC	E-MATIC I J CLAS	1
MEAZZI ECHOMATIC-I MODEL 'F' SPECIAL	E-MATIC I F SPEC	1
COPICAT VALVE 3 HEADS	Copicat Valve 3H	1
COPICAT IC300 3 HEADS	Copicat IC300 3H	1
VOX LONG TOM CLASSIC 6 HEADS	Vox Long Tom	1
MEAZZI ECHOMATIC-II CLASSIC	E-MATIC II CLASS	1
ROLAND MODEL 301 MODE 5	Roland R301 Vari	1
MEAZZI PA306 5 HEAD	Meazzi PA306	1
BINSON MODEL B2 MODES 1-5	BINSON-B2-1-5	2
BINSON MODEL B2 MODES 6-10	BINSON-B2-6-10	2
BINSON MODEL B2 MODES 11-15	BINSON-B2-11-15	2
ECHOPLEX-STYLE SINGLE HEAD DELAY	ECHOPLEX	2
MEAZZI ECHOMATIC-I MODEL 'F' CLASSIC	E-MATIC 1 F CLAS	2
REVERB + TREMOLO	Reverb / Tremolo	2
DEEP CHORUS	Deep Chorus	2
GUITAR 'ABBEY' REVERB	Guitar Abbey Rev	2

Table 3: Echo Machines Emulated by the Blue Nebula (Factory Installed)

UPLOADING EFFECTS TO THE BLUE NEBULA

The DSP code that emulates the vintage echo machine effects listed in Table 3 are stored in the Blue Nebula's two DSP memory banks known as **MEM 1** and **MEM 2**. The second DSP memory bank, **MEM 2**, can be uploaded with a different set of 8 effects using the **BLUE NEBULA EDITOR AND LIBRARIAN APP** to upload the code. This is beyond the scope of this User Manual but is described in detail in the Blue Nebula Librarian User Guide which you can download from our website.

Some of the other effects that it is possible to upload to **MEM 2** include phaser, flanger, chorus, tremolo, vibrato, wah, reverb, delay etc.

APPENDIX 1: DETAILS OF THE HEAD SETTINGS IN THE EMULATIONS IN MEM 1

EMULATION	HEAD SETTING	HEADS USED	FEEDBACK HEAD(S)
Echomatic-1J	A	1, 2, 3, 4, 5, 6	6
6 Heads	B	1, 4, 6	2
121, 238, 331,	C	1, 3, 4, 6	4
424, 510, 595ms	E	6	6
	F	1, 2, 3, 4, 5, 6	5
Echomatic-1F Special	A	1, 4, 5	4
Modified Meazzi 1F	B	2, 3, 4, 5	4 (delays ×1.4 speed)
5 Heads	C	1, 2, 5	5
122, 280, 360,	E	1, 2, 3, 4, 5	4
428, 603ms	F	4, 5	4
Copicat Valve	A	1	1
3 Heads serial	B	1, 2	1,2
connected	C	1, 3	1,3
157, 297, 424ms	E	2, 3	2,3
	F	1, 2, 3	1,2,3
Copicat IC300	A	1	1
3 Heads parallel	B	1, 2	1,2
Connected	C	1, 3	1,3
125, 234, 338ms	E	2, 3	2,3
	F	1, 2, 3	1,2,3
Vox Long Tom	A	6	6
6 Heads	B	5, 6	5
86, 160, 234, 308,	C	3, 4, 5, 6	5
382, 456ms	E	1, 2, 3, 4, 6	6
B. Andersson-->	F	2, 3, 4, 5	5
Meazzi PA306	A	1, 2, 3, 4, 5, 6	5
5 Heads as TVS	B	1, 3, 5	5
121, 194, 263,	C	1, 4, 5	4
335, 405ms	E	1, 2, 5	5
	F	4, 5	3

APPENDIX 2: ECHOMATIC II CLASSIC AND ROLAND RE301 EMULATION DETAILS

These two emulations do not use the P2 control as a 'switch' to select a 'Heads Program' as is the case for the other emulations detailed in Appendix 1. Instead, P2 is used as a 0-100 variable control.

In the Echomatic II Classic, which had four heads, P2 controls the echo level from Head 4 (H4) with P1 controlling the echo level of Heads 1, 2 and 3 together (H123). P3 controls the feedback, which is taken from Head 4.

In the Roland RE301, which had three heads, for this emulation P2 (Vari) controls the speed of the virtual motor and hence the delay times of the emulated heads. The RE301 had a number of 'modes' with various head combinations selected by a six-way MODE switch. This emulation simulates Mode 5 (Heads 2 and 3 selected) with feedback from both heads.

APPENDIX 3: DETAILS OF THE HEAD SETTINGS IN THE EMULATIONS IN MEM 2

EMULATION	HEAD SETTING	HEADS USED	FEEDBACK HEAD(S)
Binson-B2-1-5 4 Heads 77, 153, 230, 306ms	A	1	1
	B	2	2
	C	3	3
	E	4	4
	F	1, 2	1, 2
Binson-B2-6-10	A	2, 3	2, 3
	B	3, 4	3, 4
	C	1, 3	1, 3
	E	2, 4	2, 4
	F	1, 2, 3	1, 2, 3
Binson-B2-11-15	A	2, 3, 4	2, 3, 4
	B	1, 2, 3, 4	1, 2, 3, 4
	C	1, 4	1, 4
	E	1, 2, 4	1, 2, 4
	F	1, 3, 4	1, 3, 4
Echomatic 1F Classic A 'standard' Meazzi Model Echomatic 1F 5 Heads: 122, 280, 360, 428, 603ms	A	1, 2, 4, 5	3
	B	2, 3, 4, 5	4
	C	1, 4, 5	5
	E	1, 2, 5	5
	F	4, 5	3

EFFECT	P1	P2	P3
Echoplex	Mix	Delay	Repeats
Single head tape delay with a minimum delay time of 80ms and a maximum of 920ms			
Reverb / Tremolo	Reverb Level	Tremolo Rate	Tremolo Depth
Combined Reverb and Tremolo effect			
Deep Chorus	Level	Modulation Rate 1	Modulation Rate 2
A Chorus effect with two modulating low frequency oscillators (LFO)			
Guitar Abbey Rev	Level	Decay	Damping
Simulates a famous studio reverb room including a 120ms pre-delay			