User's Manual

Version 2.0, November 2018

I. Welcome

Welcome to the community of users of The River and thank you for your vote of confidence.

The River is the result of 4 years of work. This project would not have been possible without the unconditional support and the unwavering patience of my family who have all my gratitude. I would also like to thank our online community, especially the members of Anafrog and Audiofanzine, for their precious encouragements and their relevant suggestions.

I hope you will enjoy The River as much as I did while creating it and now using it.

Baloran SAS is a small and young enterprise. I have started a forum and a wiki to bring together a FAQ, support, discussions and news about The River.

http://forum.baloran.com
http://wiki.baloran.com

All this could greatly benefit from your collaboration. 😉

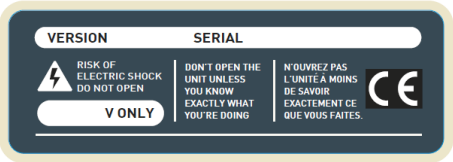
Kind regards,

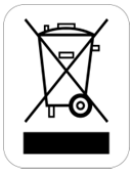
--
Laurent Lecatelier
Baloran SAS

Hardware, software, design :	Laurent Lecatelier
Sound design :	Laurent Lecatelier, Stéphane Garganigo, Laurent Pelletier
User's Manual :	Eric Inglebert, Laurent Lecatelier

II. Safety Warning

PLEASE READ CAREFULLY ALL INSTRUCTIONS BEFORE USING THIS APPLIANCE. KEEP THIS INSTRUCTION MANUAL FOR FURTHER REFERENCE. THE SAFETY INSTRUCTIONS MENTIONED IN THIS USER'S GUIDE CAN'T COVER ALL POSSIBLE CONDITIONS AND SITUATIONS. USERS SHOULD BE VERY CAREFUL WHEN USING THIS APPLIANCE.





The above symbols warn the users of potential danger in case of misuse of electrical appliances. The symbol of a thunderbolt in a triangle shows that there is danger of electrocution.
Do not open the appliance under any circumstances. Do not try to repair or to make any modifications (except when your users' manual gives you specific instructions to do so). Contact the manufacturer or your nearest reseller for all repairs or alterations. When disposing of the appliance at the end of its usable life, The River should be recycled through an electronic recycling scheme.

INSTALLATION INSTRUCTIONS
THIS APPLIANCE MUST BE EARTHED.

Do not remove the protection offered by the earthed or polarised connectors. A polarised power plug has one pin bigger than the other. An earthed power plug has a receptacle for an equipotential link. If the connector you received does not fit your power point in the wall, have one installed by a qualified electrician according to the local regulations.
Use only the power cable received with The River and do not use that cable with any other appliance.
Take good care of the power cord. Do not let it become twisted, do not walk on it and do not put other things on it. A damaged cord could easily cause electrocution or a fire!
Before using the appliance overseas, check with your reseller, an approved repair centre or the manufacturer for compatibility with the local standards.
Do not use or store the appliance in extreme temperatures (in direct sunlight, near heating devices) or humid conditions (bathrooms, floodable cellars etc.). Do not expose the appliance to rain, dust or strong vibrations.
Take care to always put the appliance on a flat and stable surface. Do not ever install it in unstable positions.
Do not ever install the appliance on feet, supports or racks other than those indicated by the manufacturer. If using in a rack, avoid rocking it while moving it. Do not obstruct the ventilation holes.
Do not let any foreign objects (flammables, paper clips, pins etc.) or liquids (water, soda, alcohol, cleaning products) get inside the appliance.
If there is a risk of thunderstorms or if not using the product for a longer period of time, unplug the appliance from the wall.
This appliance, used alone, with an amplifier or with earphones, can produce sound levels which could provoke terminal loss of hearing. Never use it at high levels for long periods of time or in any circumstance where the listening could become uncomfortable. In case of loss of hearing, consult a specialist immediately.
Only use the accessories advised by the manufacturer.

IMPORTANT
Unplug immediately the appliance and contact your reseller, an authorised repair centre or the manufacturer in the following situations:
The power cable or its plug have been damaged;
Smoke or unusual odours come out of the appliance;
Foreign objects or liquids have accidentally come in contact with the appliance;
The appliance has been exposed to rain or excessive humidity;
The appliance seems to not function properly or its performance is diminished.

The manufacturer's legal warranty does not cover the costs of repairs or replacement in case of improper or incorrect use. These costs are not covered by the manufacturer warranty and therefore will be supported by the owner of the appliance.

III. SUMMARY

IV. Discovering The River

The River brings together several interactive elements:

- A polyphonic analog synthesizer with 8 voices, multitimbral with 8 channels (see the general diagram in the appendix).
- An effects module formed by an analog triple chorus / flanger and a two channels digital module for echo / reverberation. The analog path of the signal is preserved throughout. The resulting space and richness are unanimously appreciated (see the general diagram in the appendix).
- An Inputs / Outputs management tool called in this document The Riverkey. Four independent layers (called Layer in this document) allow each one to define the input (integrated keyboard, MIDI and/or USB, pedals), the output (The River, MIDI and/or USB, CV + Gates) and the transformation of events (sequence/arpeggio, transposition, filtering, channels, type of CV/Gates, etc.).

All the parameters can be saved in The River. A **Single** contains the information of a sound and of effects, a **Profile** contains the configuration of The Riverkey, a **Multi** contains the complete configuration of the machine (sounds of each channel/voice, tuning of multitimbrality, effects and all the adjustments of The Riverkey).

An optional function **Autosave** saves continuously the state of your instrument. This way, when you plug it in, you find your environment as you left it at the last switch off.

1. The control panel set up

a. The Shift button

Une commande (bouton, pote A command (button, potentiometer, encoder) can have several functions, the secondary function is written in "yellow-orange" under the command, preceded by the symbol **S+** . To get access to this function, press the button **S** , on the right hand side of the most central screen (Panel Screen).

As long as the button **S** blinks, it is active. Therefore you don't need to keep this button pressed continuously to get access to the secondary function.

Double click on the S button allows to lock the **S** function while a new click unlocks it.

From now on in this document, **S** LOAD SINGLE means either:

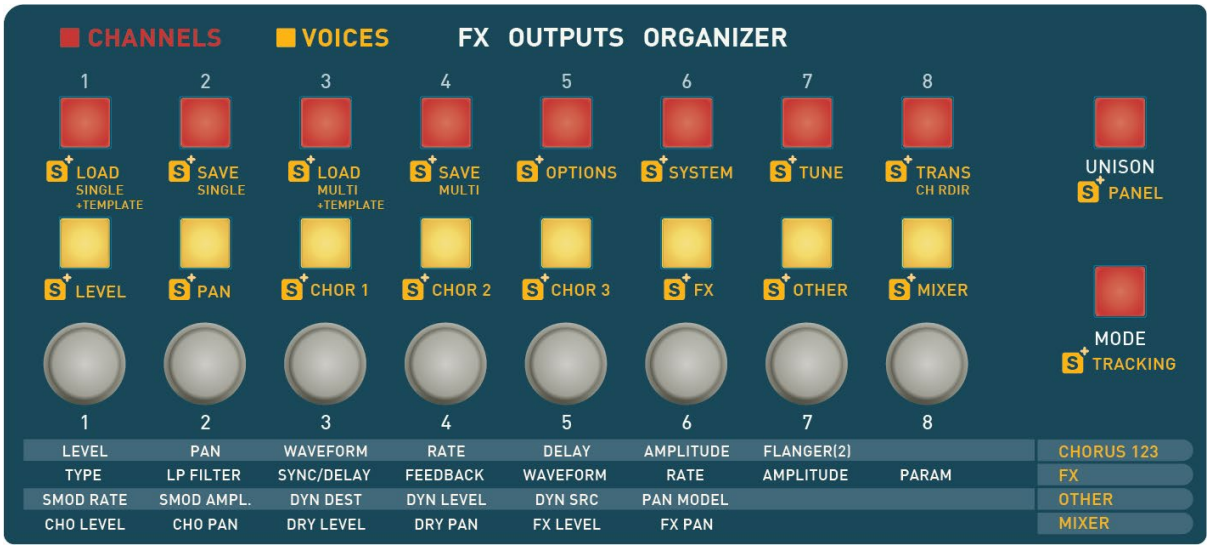
Press the **S** *button then, while holding it, press the button LOAD SINGLE, then release the* **S** *button*

or

Press the **S** *button then release it and press the LOAD SINGLE button before* **S** *stops blinking.*

b. Channels, voices, outputs and FX organiser

This section of the panel allows to manage the allocation of voices to channels as well as the access to the main menus of The River and the adjustment of outputs and the effects.



The first row of 8 buttons (red) allows to choose the active channel. The secondary function of these buttons allows you to access the main menus of The River.

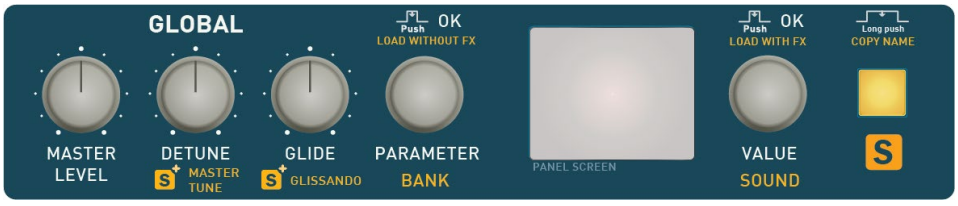
The second row of 8 buttons (yellow) allows to select the voices allocated to the channel. The secondary function of these buttons (as well as the last button, channel 8) is to select the **page** in which the 8 encoders are active: level, panoramic, chorus, effects and mixing, transposition of voice and channels redirection.

Under the lit buttons there are 8 encoders (1 to 8) which allow to modify the parameters of the **page selected**. Each encoder's role is mentioned under each encoder at the bottom of the panel. For example: on the **FX page**, **encoder 1** allows to change the **type** of **effect**. To select the **FX page**, you press the S button and the **sixth voice button** (yellow). To go into the System menu, press the S button and the **sixth channel button** (red).

When you record a Multi, all the settings of this section of the panel are included in the Multi.

c. General commands

This section of the panel assigns the volume settings, the Detune of voices and the global tuning, as well as Glide / Glissando which is a parameter connected to the sound.



Two encoders on each side of the screen allow to select either the **bank** (left encoder) and the sound **index** (right encoder) in this **bank**, or the **parameter** to be modified (left encoder) and its **value** (right encoder). These two encoders can be pressed. The corresponding function is written above each.

d. Synthesis commands.

This section of the panel brings together all the commands allocated to the **sound synthesis**. These commands are active for the selected channel (see above) or optionally for all the channels if the **ALL mode** is selected or if a redirection channel is defined (*see Propagating the commands in All and Redirection*).

When you modify a parameter, the screen shows the new value and the original value. This allows you to go back to the old setting easily.

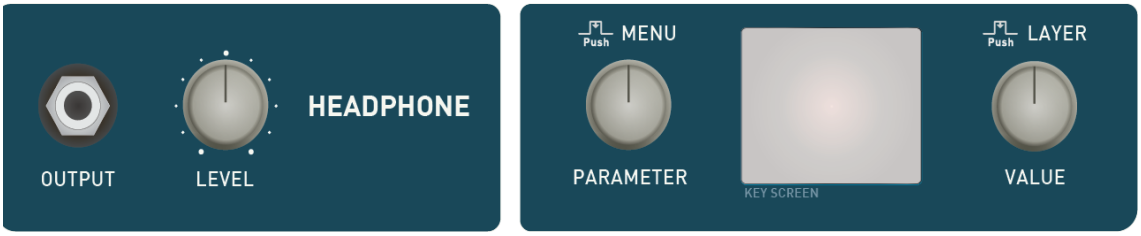
Some commands allow to set two parameters (Example: EMPHASIS and Modulation of EMPHASIS through DLFO). In this case, the second function is indicated under the command after **S** . To access the secondary function, use the **S** button (*see Shift button*). If the command is active, the Shift mode is extended as long as needed.

For the oscillators row and the wave forms, the buttons are single-use: it is pointless to try to have two wave forms at the output of an oscillator 😉.

To access Row 4' of the oscillators, press twice row 8'. In this case, the buttons of rows 16' and 8' light up, showing the choice of row 4' 😉.

e. The Riverkey, manager of play inputs/outputs

The left side of The River is reserved to the earphone socket and its control level . On the right, the screen of The Riverkey is flanked by its two encoders.



Practically all the settings can be done with these two encoders.

But for all the playing functions there is a simpler and quicker way. Above the knobs, the **Key Shift** button allows to use the keyboard as a controller.

When you press this button, the notes are not played. They are interpreted as setting commands of The River key. From this point on, this button will be called **S KEY**.

A **magnetic reminder** has been placed on your instrument. The word **OCTAVE** must be centred above the first black **C#3**, **Off/On** and **Tap Tempo** respectively above **C3** and **D3**.

LAYER/GLOBAL	Play|Stop	Tap Tempo	Tempo-	Tempo+	Octave-	Octave+	Trans
ARPEGGIO	Play|Stop	Tap Tempo	Divide-	Divide+	Motif-	Motif+	Octav
SEQUENCER	Play|Stop	Tap Tempo	Divide-	Divide+			Reco
CV LFO	Off|On	Tap Tempo	Rate-	Rate+	Wave-	Wave+	Leve
		OCTAVE -	OCTAVE +		LAYER/GLO.	ARPEGGIO	SEQUENCER

Example: to access **Tap Tempo**, push down the **S KEY** button and without releasing it press several times on D3 to give the tempo. Then release the **S KEY** button.

Functionally it could be said that The Riverkey is the internal and external traffic controller of the performance data. In order to achieve this, it has a clock which gives you a **common tempo** to all the controls of The River, as well as a management system of the inputs and outputs of **four layers**. Each defines an input (integrated keyboard, MIDI and/or USB socket, pedals, etc.), an output (TheRiver, MIDI and/or USB socket, CV + Gates) and one or more processing between the two.

Examples of layer definitions:

As source the integrated keyboard, as destination the Channel 1 of The River, a range from A0 to C8, no transposition.

As source the MIDI socket in, as destination a monophonic high priority CV + Gate, a range from C3 to B5, transposition of -12 semitons and arpeggio motif 5 on 2 octaves.

To create a Split, all you have to do is to create two layers which juxtapose (see Split). But the layers range can also be superimposed.

The destination of each of these layers can be different so that two different sounds can be driven by areas of the keyboard but can also be identical having as objective, for example, to be able to sequence a section of the keyboard and to allow a normal play on another section.

A set of controls for playing using The Riverkey is called a profile: it is completely defining the four layers. The Profile Editor software allows to configure up to 10 profiles which can be stored permanently on The River and recalled with a simple **S KEY** shortcut.

The Riverkey has also an **Autosave** function. All your settings are automatically recorded in order to be available at the next power up of your instrument.

When you record a Multi, all the settings of The Riverkey are included.

1. Discovering the Sounds banks

The time has come to hear The River in action. We will start by reconfiguring The River in its simplest mode by loading the template **1L RIVER**: 1 layer, 1 channel of 8 voices.

Press **S** LOAD MULTI then immediately press the button Voice 1 before the blinking stops.
Menu LOAD SINGLE is automatically selected. If not (old firmwares), press **S** LOAD SINGLE to activate it.
Check that channel 1 is active (channel 1 button is lit).
Select the **bank** (1 to 8) by turning the **left encoder**.
Select the **sound** (1 to 20) by turning the **right encoder**.
Push the **right encoder** to load the sound **with its effects** or the **left encoder** to load the sound **without effects**.

You can now play on the keyboard and manipulate the synthesis commands to discover the musicality of The River.

The two last banks (**FX01** and **FX02**) contain only the settings for the effects (chorus, echo/reverberation, mixing).

2. Discovering the Multis

Press **S** LOAD MULTI to activate the menu *Loading Multi.*
Turn the encoder on the left of the Panel screen to select the **BANK** (1 to 2).
Turn the encoder on the right of the Panel screen to select the **MULTI** (1 to 20). The **ALLINIT** multis are virgin.
Press on the **right or left encoder** to load the MULTI.
Once the loading is finished, press **S KEY** C3 to start the arpeggios and sequences of all the layers and ... happy discovery 😉

3. MULTIs and Sounds Models

To make using The River more efficiently, we have set up easily accessible models for sounds and for the multis. From now on we will call **template** a model of multi.

A multi is a complete "image" of the machine, including the management of channels and voices, the edited sounds of each channel, the settings of The Riverkey including the sequences and arpeggios, the settings of levels/panoramics as well as the tunings of the effects. When you select a multi or a multi model, this action reconfigures completely your machine.

a. Les modèles de Multis, Templates

Press **S** LOAD MULTI. All voice buttons should be blinking. Press the voice button of your choice before the blinking stops. For the template *2L SPLIT* for example, it is the yellow key above encoder 5.

1	1L RIVER	1 layer, 1 channel 8 voices, the basis for exploring the sound banks, for example
2	2L RIVER	2 layers, 1 splits, 2 channel of 4 voices
3	3L RIVER	3 layers, 2 splits
4	4L RIVER	4 layers, 2 splits, layers 3 and 4 have the same keyboard range
5	2L SPLIT	2 layers, 1 channel 8 voices
6	2L UNISS	2 layers, 1 channel 3 voices in unison + Detune, 1 channel 5 "normal" voices
7	1L ALL	1 layer, 2 channels of 4 voices, mode ALL
8	1L MPE	1 layer MPE, 1 channel MPE 8 voices

b. Sounds models

Press **S** LOAD SINGLE. All voice buttons blink. Press the voice button of your choice before the blinking stops. For the sound type EKEY for example, it is the button voice 3. The sound model is allocated to the voices of the selected channel.

1	INIT	Basic Init sound
2	LEAD	"Moog" type sound with cover on the filter
3	EKEY	"Electric Piano" sound type
4	BRASS	"Brass" type sound, Wheel very active
5	STRING	"String" type sound
6	VOX	"Voice" type sound
7	FM	"FM Bell" type sound + echo
8	MPE	MPE sound with Osc 2 in Y and Cutoff on Z

V. More Advanced Tutorials

1. Split, Mode, Level and Pan

Load template 2. You will notice on the Riverkey screen two layers which correspond respectively to channels 1 and 2, and 4 voices allocated to each channel. The sound *LEAD* is on the left side of the keyboard up to B4, channel 1. The *EKEY* sound from C5 to C8, channel 2. The mode of the template is **MIDI** (second icon on the right hand side of the central screen), which means that the addressing of channels is respected: each layer drives the designated channel.

Push the **Mode** button. The mode changes to **Select**. Play to the left and to the right of the keyboard. You will notice that, independent of the defined areas in the two layers, the sound is the same on the whole range of the keyboard. In this mode, you play the sound of the selected channel. If you push the channel 2 button, you will hear *EKEY* everywhere on the keyboard, if you push channel 1, you will hear *LEAD* everywhere on the keyboard.

Push once more on the **Mode** button. The mode changes to All, the indicator becomes red. Play to the left and to the right of the keyboard. You will notice that independent of the defined areas in the two layers the sound is the same on the whole range of the keyboard: you are playing the two sounds (*Channel 1 and 2*) simultaneously 😉.

The level of channel 1 (LEAD) is too high compared to the level of channel 2 (EKEY) and the sum of the two channels saturates the circuits, you will certainly hear a little bit of static. We will change that. Press **S** LEVEL. The orange rectangle on the screen indicates **LEV**. The 8 encoders allow to adjust the level of each voice. You can for example lower to -14dB the first four voices and to -2dB the following four. The balance will be better and the resulting level adjusted. A shortcut allows to modify simultaneously the level of all the voices of a channel: check that the orange square still indicates **LEV** and press **S** while turning the **encoder number 1**. "Channel 1 level" indicates that you modify all the voices of channel 1 (LEAD), select -20dB for example. Press **S** while turning the **encoder number 2**. "Channel 2 level" indicates that you modify all the voices of channel 2 (EKEY), select -4dB for example.

The same logic applies to the voices panoramic. Press **S** PAN. The orange rectangle of the screen indicates **PAN**. The 8 encoders allow to set the position of each voice. Test the action of each one, while playing on the keyboard. A short cut allows to modify simultaneously the panoramic of all the voices of a channel: check that the orange square still indicates PAN and press **S** while turning the **encoder 1**. "Channel 1 pan" indicates that you modify the panoramic of all the voices of channel 1 (LEAD), put for example all the voices of LEAD a little to the left. Press **S** while turning **encoder 2**. "Channel 2 pan" shows that you modify the level of all the voices of channel 2 (EKEY), move a little the voices on the right. ;)

2. Layers and connecting with a sequencer software

Load template 4. You should see on the screen Riverkey four layers, each going to a channel of The River. The ranges of layers 3 and 4 are overlapping. So if you play on the keyboard a C5, it will go to channel 3 and channel 4. A single voice is allocated to channel 1 and another to channel 2. Channels 3 and 4 receive three voices each. Play on the keyboard to test this template and each area. The first two areas are monodic and will happily receive an arpeggio and/or a sequence. The third is bi-timbral polyphonic 6 voices but a maximum of three notes can be played simultaneously ;)
Layer 4 is transposed by -1 octave compared with the others to lower the note of the FM bell. To modify the transposition of layer 4, press **S KEY** C5 "Layer 4" to select it then **S KEY** D#3 "Octave+" or **S KEY** C#3 "Octave-". To transpose by a semitone, use **S KEY** B3 "Trans-" and **S KEY** C4 "Transp-".

To continue the exercise, we are going to deactivate layer 4. If it is not selected, press **S KEY** C5 "Layer 4". With the left encoder of Riverkey, select the option **Active** and with the right encoder the option **No**. Now layer 4 is not active anymore. Next we are going to recover its voices for layer 3. On the panel, press channel 3 button then turn on the voices 6, 7, and 8.

Let's connect The River to your computer with a USB cable.

Choose the **PANEL** socket. It is the best suited to give you complete control when using a software program. Start you favourite software program. Check that PANEL@THERIVER is available in MIDI source and destination. On The River, you have to check also that **USB mirroring** is active. Press **S** System, select the option **Dump to USB** using the left encoder and, if necessary, choose **YES** using the right encoder.

Put your software program in recording mode and play on the keyboard. Your sequencer will receive the MIDI events. Stop the recording. If you look in list mode at the events recorded in your software program, you will notice that the MIDI channel transmitted is the one selected in The River independently of your definitions in The Riverkey. Why? The panel is always active on the channel selected and this allows you to record in your software program all the actions on the panel ;) It is therefore more logical to select the mode **Select** when you work with your computer using a profile. Press once the **Mode** button to switch to **Select** mode.

Delete the previous recording, select channel 1 on the panel; while playing you hear the sound 1 (LEAD). Put your sequencer in recording and play a bass line fiddling with the CUTOFF, EMPHASIS and the knob. Stop the recording. If you listen to the recording and if you look at the recorded events in list mode in your software program, you notice that not only the notes but all the events of the panel have been transmitted.

Add a MIDI track in your software program, set it for recording. On The River, select channel 2 (its MPE) and record.

Add a MIDI track in your software program, set it for recording. On The River, select channel 3 (its STRING) and record.

All you have to do now is listen to the aggregate result. 😉

3. Split, arpeggios and sequences

Load template 5. You see on the Riverkey screen two layers going to the same channel 1, to which are allocated the eight voices. What is the advantage of having two layers going to the same channel rather than a simple layer?
Let's not forget that the Layers can be configurable: transposition, arpeggio/sequence etc. We define a SPLIT: A0 -> B4 and C5 -> C8.
So all the keyboard from A0 -> C8 goes to channel 1. Also, thanks to the two layers, we will be able to define an arpeggio or a sequence on the bass part of the keyboard and leave the high part free or put there another arpeggio / sequence.

Select layer 1: **S KEY** F#4 “Layer 1”.
Select/start arpeggiator: **S KEY** G#3 “Arpeggio” and play a chord. The arpeggio is started. You will notice that the keys from C0 to B4 allow to transpose (if you only play one note) or to redefine the arpeggio (if you play several notes).
The keys from C5 to C8 do not affect the arpeggio because they are in layer 2. You can therefore play freely on the keyboard (for more information on the arpeggios, see "The arpeggios").

But you can also define an arpeggio or a sequence on this layer. For a sequence:

Select layer 1: **S KEY** G#4 “Layer 2”.[2]
Select the sequencer: **S KEY** A#3 “Sequencer”.
Activate the recording step by step: **S KEY** B3 "Record". Enter the steps of the sequence. To end the recording, you can either start the sequence: **S KEY** C3 "Play|Stop" or go again **S KEY** A#3 "Sequencer" (for more information on the sequences, see "The sequences").

Ainsi, vous obtenez simultanément un arpège et une séquence sur un canal de 8 voix.

4. Detune and Unison

Load template 6. You notice on the Riverkey screen two layers, each allocated to a channel. Channel 1 receives three voices in Unison mode with a marked Detune. It is therefore monodic, but the sound is pretty heavy. The second channel is a 5 voices polyphonic classic.
Check that channel 1 is selected and press the **UNISON** button. This switches the channel to polyphonic mode but if you play you will notice that it is not quite in tune. The Detune of the Unison is always active. Bring the Detune to zero, this would sound much better.

5. Propagating the commands in All and Redirection

Load template 7. You notice on the Riverkey screen one layer sent to channel 1, VOX sound, which has four voices allocated. Channel 2, FM sound, receives also four voices. The **MODE** button is red, you are on **All** mode. You are reminded of this in the second small square to the right of the screen. The **All** mode assures that all the commands received by the keyboard are sent to all the channels simultaneously. Therefore when you play a note, you hear VOX and FM simultaneously. Even if channel 2 does not have a dedicated layer, in **All** mode it receives the commands.

Press **S** SYSTEM and select the parameter **Propagate Cross All/RDir** using the left encoder, then select **Yes** using the right encoder then play with the potentiometer CUTOFF and/or EMPHASIS. You will notice that the two sounds VOX and FM are modified simultaneously.

Now select **No** from the right encoder then play with the potentiometers. You can select in turns channel 1 and 2. You will notice that only the sound from the channel you selected is modified. The commands do not propagate to all channels anymore.

Instead of using the mode **All** to play all the channels simultaneously, you can redirect channel 2 to channel 1. This way, even in **Midi** or **Select** mode, all messages intended to channel 1 will be received by channel 2 as well. Choose **S** TRANS and again TRANS without releasing **S** . The orange square shows **RDIR**. The 8 encoders will allow you to set the channels redirection. Use encoder 2 to redirect channel 2 to channel 1 **Channel 2 to ... 1** and play a few notes on the keyboard. You can see that regardless of the channel you choose, channel 2 plays the same thing as channel 1. As was the case in **All**, if the option System **Propagate Cross All.RDir** is set to **Yes**, and if channel 1 is selected on the panel, the actions of this channel will be propagated to channel 2. CUTOFF for example will be implemented on both sounds. There is a small difference compared to **All** setting: if channel 2 is selected, the actions on the panel will not be propagated to 1 because 2 receives the commands from channel 1 but not vice versa... Are you with me ? 😊

6. MPE

There are not many MPE compatible peripherals but we consider this standard so important we decided The River should implement them. Load template 8. At first glance it seems there is only a single standard layer. But in the Global menu of The Riverkey the MPE option is activated. Because this mode gives a totally different role

to the MIDI channels, each note has its channel and, as a result, The Riverkey in MPE mode functions differently. You can use the other layers just for external communications MIDI, USB and/or CV + Gate.

The River has one channel with 8 voices. This is a simple configuration. With the ROLI keyboard, the user must choose to limit the polyphony to 8 voices as by default it goes up to 16. On the Linnstrument, the user can simply choose in PerNOteCha channels 2 to 9 to limit the polyphony to 8 voices.

Connect your MIDI MPE keyboard to The River would be through the MIDI socket, The simplest solution. You could also connect to the USB port through an external USB Host (like *iConnectivity*) or using your computer as a bridge. The configuration of the MPE sound is like this: the **Y dimension** sets the *level of Oscillator 2* which functions like a Sub, and the **Z dimension** plays on the *CUTOFF*. By default the Y dimension controls the resonance and the Z dimension the CUTOFF. We will leave you the pleasure to discover in the **S** OPTION the possible choices for **MPE Z** and **MPE Y** ;)

MPE supporte la MPE supports two-voice multitimbrality. If you define two channels of four voices and your MPE keyboard supports it (like the Linnstrument), you have to define on the a "Left" with the control channel 1 and for voice channels 2,3,4,5 and a "Right" with the control channel 16 and the voice 6,7,8,9. It's not easy, it's MPE, but it works so well ;)

7. External Clock

The River is capable of receiving external commands and marching in step 😉
Connect a peripheral which generates a clock on the **MIDI In** or **USB KEY** sockets and make sure that it is configured to send the MIDI clock messages.

Press the sur **S KEY** and the last G **G7** on the right side of the keyboard. On the screen of The Riverkey appears the option **Ext**. **Clock**. If option **On** is not selected, press once more on **G7** and choose again the TUTO Template 5, Split, Arpeggios and Sequences. The River recognises the commands MIDI Start, Stop and Continue. Execute the commands Play, Stop and Pause on your external equipment and modify its Tempo to test the behaviour of the synchro on the arpeggios and sequences of The River.

If another MIDI instrument is connected to The River through the MIDI socket or USB KEY, it can also receive clock data. Check that The River screen displays **GLOBAL setup** or **LAYER setup**. If not, go S KEY F#3 "LAYER/GLO". If necessary press several times the S KEY B4 "Clock" in order to select Clock = MID, USB or M/U. Now your external equipment should receive The River clock which should be itself in sync with the external equipment.

If another MIDI instrument is connected to The River through the MIDI socket or USB KEY, it can also receive clock data. Check that The River screen displays **GLOBAL setup** or **LAYER setup**. If not, go **S KEY** F#3 "LAYER/GLO". If necessary press several times the **S KEY** B4 "Clock" in order to select Clock = **MID**, **USB** or **M/U**. Now your external equipment should receive The River clock which should be itself in sync with the external equipment.

8. Synchronising the digital LFO (DLFO)

The River's DLFO can now be synchronised with The River's clock (and by extension with an external clock if this option is selected, see the previous tutorial).

For this demo, we will start with a simple configuration. Load template 1 (**S** LOAD MULTI+ button voice 1) then load a sound less "hard" than Init, like LEAD, for example (**S** LOAD SINGLE + button voice 2).

Select sequencer **S KEY** KEY G#3 "Arpeggio" and strike a chord. Using the Tap Tempo **S KEY** D3 set a slow Tempo. Using **S KEY** E3 "Divide-" set the tempo vision on 1/1.

On the panel, in **DLFO**, choose the wave form **g** with WAVEFORM and turn to maximum the DLFO of OSCILLATOR 1 and 2. The **RATE** potentiometer of the DLFO allows finer tuning of the speed of the **S&H**. Press **S** and turn the **RATE** button. The screen displays **Tempo Sync**. Select **1/1**.
The DLFO is now in sync on the clock of The River and therefore on the arpeggio.

Press **S** and turn the **RATE** button. The screen displays **Tempo Sync**. Select **1/2**. Now the DLFO goes at twice the speed of the arpeggio, for each note there are two variations of the pitch.
Press **S** and turn the **RATE** button. The screen displays **Tempo Sync**. Select **1/4**. Now the DLFO goes at four times the speed of the arpeggio, for each note there are four variations of the pitch. To hear the last variation, it will be necessary to modify the RELEASE 😉

Press **S** and turn the **RATE** button. The screen displays **Tempo Sync**. Select again **1/1**. Choose now the wave form **Sin** from WAVEFORM. The DLFO is still in sync with the arpeggio but for this wave form the **RATE** command (without **S**) allows to play with the duration of the wave period of the modulation. You can now create complex wave forms. It is important though to understand that this is a **synchronisation process**. This means that the DLFO cycle restarts from *zero* at each sync.

Example: without sync the RATE of the DLFO is set at 1Hz and the WAVEFORM on Triangle: once every second the DLFO generates a complete triangle. If you sync it to a clock of 2Hz without changing the RATE, the DLFO will have time to design only half of the triangle then it will receive the command to restart. This will give you a saw tooth output signal.

9. Compare Function

The **Compare** function allows to alternate between listening to the sound being modified and the sound before the last modifications.

Press for at least 1 second the **UNISON** key. **COMPARE** appears on the screen and the UNISON button flashes. You can play on your keyboard but all the panel controls are inactive. To go back to the sound that you were modifying, press again for at least 1 second the **UNISON** button.

If after comparing them you prefer to go back to the initial version of the sound and abandon the modifications, press **S** **UNISON** while in **COMPARE** mode.

VI. References

1. Allocation of channels and voices, MODE and UNISON buttons

In the first stage of configuring The River we need to organise the **multitimbrality** and the **polyphony**. To keep it simple, we will say that 1 sound = 1 channel and 1 note = 1 voice. The River has 8 voices and 8 channels. Multitimbrality is the capacity to manage several sounds simultaneously. **Polyphony** is the capacity to play several notes of a sound simultaneously. We also need to take into account the nature of the sound when we set the polyphony. A sound which fades slowly after releasing the key (long release) needs more voice even for a monodic play. If not the new note replaces the old one very fast and the fading of the previous note stops too abruptly...

If you wish to play a single sound with maximum polyphony, meaning up to 8 notes simultaneously for each sound, select channel 1 and allocate to it all the voices (all yellow buttons lit).

If you wish to play two sounds with a shared polyphony, meaning up to 4 notes simultaneously for each sound, select channel 1 and allocate to it the first four voices, select channel 2 and allocate to it the last four voices.

Selecting a voice already allocated to another channel will remove it from the former channel.

When you add a voice to a channel, the sound loaded to the other voices of the channel will be copied on this new voice.

The index of the channel corresponds to the MIDI channel to communicate with it. If a layer is to send notes to channel 2, this layer must be set in output "The River, Channel 2". It is the same for communicating with a software program.

The **RDIR** function (*see RDIR page*) allows to modify the "driver" channel of a channel. You can for example say that channel 3 receives the commands of channel 2 (*see Propagating the commands in All and Redirection*)

The synthesis commands are active for the selected channel, except if the ALL mode is selected. In this case, the panel acts on all channels. The panel acts also on all channels redirected towards the selected channel (see Propagating the commands in All and Redirection).

MODE
This button allows to modify the way the channels work.

- In **MIDI** mode, the destination of the layers is respected. What goes to channel 1 arrives on channel 1, what goes on channel 2 arrives on channel 2 and so on.

- In **SELECT** mode, all the data arriving is sent to the selected channel. So even if you have defined two layers with two channels or only one layer on one channel, in this mode all the notes played will be sent to the selected channel. This mode is very useful when you wish to move from one sound to another. You load two different sounds on two channels and the choice of channel on the panel allows you to utilise in turns each sound without cutoff when moving from one channel to the other.

- In **ALL** mode, all data (one or several layers) are sent simultaneously to all the active channels (channels with at least one voice). This mode is very useful for working on complex multilayered sounds. The RDIR function allows to arrive at the same result but in a more precise manner, connecting for example only two channels.

S TRACKING (NORMAL, TRACKING)
Allows to switch the response mode of the potentiometers. In NORMAL mode, the values jump on the physical position of a potentiometer as soon as you touch them. In TRACKING mode, the values move when the potentiometer passes through the stored value.

UNISON
Allows to link together all the voices on a channel. The play becomes monodic. The **DETUNE** command allows to detune the voices and to raise the sound. This button allows also to access the **COMPARE** function (*see COMPARE function*).

⚠ *!!! Don't forget to return the Detune command to zero if you leave the UNISON mode because the DETUNE remains active and this will give you the impression that your River is completely out of tune.*

S PANEL
Load the current physical values of the potentiometers to start from the current state of the panel. To start from a basic sound, load one of the INIT programs (SINGLE or MULTI).

2. Loading SINGLEs and FXs

Make sure that you selected the channel that you want to modify and that at least one voice is allocated to this channel.
Press **S** LOAD SINGLE to access this menu.
Select the slot using the encoders **BANK** (01-08, FX01-FX02) and **SOUND** (10-20). The first 8 banks are reserved for **SINGLEs**, the last 2 to **FXs**.

⚠ Be careful, you will not be asked to confirm the reading of the sound. The channel's current settings will be replaced.

Press the **left encoder** to load the sound in the selected channel without modifying the effects settings or the **right encoder** to load the selected sound and apply its effects settings.
Please wait until the message WAIT goes away before continuing.

3. Saving a SINGLE

Press **S** SAVE SINGLE for access to this menu.
Select the destination slot using the encoders **BANK** (01-08, FX01-FX02) and **SOUND** (10-20). The first 8 banks are reserved to programs, the last 2 banks (FX) are reserved to effects and record only the effects settings.
Name the program using the row of 8 encoders (1 encoder per letter/digit).

Pressing and holding **S**, *the name of the selected slot will be copied in the editing area. If you modify the selection (bank, sound) to copy a name, consider re-selecting the target slot before confirming the backup of the sound.*

⚠ Be careful, you will not be asked to confirm the backup of a SINGLE. The program held in memory at this slot will be replaced definitively.

Confirm the backup by pushing one of the encoders.
Please wait until the message WAIT goes away before continuing.

4. Loading MULTIs

Press **S** LOAD MULTI to access this menu.
Select the destination slot using the encoders **BANK** (01-02) and **SOUND** (01-20).

⚠ Be careful, you will not be asked to confirm the backup of a MULTI. All current settings will be replaced.

Confirm the loading by pushing one of the encoders.
Please wait until the message WAIT goes away before continuing.

5. Saving a MULTI

Press **S** SAVE MULTI to access the backup of a MULTI.
Select the destination slot using the encoders **BANK** (01-02) and **SOUND** (01-20).
Name the multi using the row of 8 encoders (1 encoder per letter/digit).

Pressing and holding **S**, *the name of the selected slot will be copied in the editing area. If you modify the selection (bank, sound) to copy a name, consider re-selecting the target slot before confirming the backup of the multi.*

⚠ Be careful, you will not be asked to confirm the backup of a multi. The program held in memory at this slot will be replaced definitively.

Confirm the backup by pushing one of the encoders.
Please wait until the message WAIT goes away before continuing.

6. Sound Options

Press **S** OPTIONS to access the parameters linked to sound and backed up with it.

DLfo Mode (Channel, Last Key)
In **Channel** mode, the DLFO is applied to all the notes. In **Last Key** mode, the DLFO is applied exclusively on the last played note. This allows, amongst other things, to simulate a Polyphonic Aftertouch.

BEND RANGE (0…12)
Sets the range of action of the pitchbend in semitons. As this function is linked to the program, each channel can have a different pitchbend range. In MPE mode, it is important to select the same value on the MPE controller, 12 is recommended on both sides.

MPE Z
MPE Y
Allows to select the parameter which will be modulated by the action on the Z and Y dimensions of the MPE controller. For practically all parameters, two versions are offered: the second divides by two the depth of the modulation to "soften" the sensitivity of the play.

Cutoff, Cutoff/2	Frequency of the Filter
Emphasis, Emphasis/2	Resonance of the Filter
Lfo Filter, Lfo Filter/2	Amplitude of the modulation LFO of the Filter
Rate Lfo, Rate Lfo/2	Rate of the LFO
Mix Osc1, Mix Osc1/2	Level of the VCO 1
Mix Osc2, Mix Osc2/2	Level of the VCO 2

Mix Noise, Mix Noise/2	Level of The Noise
Pw Osc1, Pw Osc1/2	Duty-cycle of the VCO 1
Pw Osc2, Pw Osc2/2	duty-cycle of the VCO 2
Pwm Osc1, Pwm Osc1/2	Amplitude of the PWM modulation of the VCO 1
Pwm Osc2, Pwm Osc2/2	Amplitude of the PWM modulation of the VCO 2
Lfo Osc1, Lfo Osc1/2	Amplitude of the LFO modulation of the VCO1
Lfo Osc2, Lfo Osc2/2	Amplitude of the LFO modulation of the VCO2
FM Osc2, FM Osc2/2	Amplitude of the FM of the VCO 2 towards the Filter
Detune Osc2	Detune of the VCO2

7. System Settings

Press **S** SYSTEM to access this menu.

Mode Retrig (No, Yes)
Defines if the envelops are restarted when the voice is in flight.

Mode Poly (Oldest, Min Interval, Max Interval)
Sets the priority of the note according to the order in time or the size of the interval during the voice flight.
The **Oldest** mode gives priority to the notes held. You have struck a chord with the left hand while the right was busy with the melody, The River will choose to keep the chord notes.
The modes **Min** and **Max** give priority to "distance" between the notes. **Min** will keep the closest notes. **Max** will keep the most distant notes.

Left Shift (No, Yes)
When set on **Yes**, pressing **S KEY** is interpreted as **S** on the panel. The reverse is not true.

Mémo Shift (0..50)
Sets to tens of seconds the duration of the hold of Shift, active when **S** is released. During this interval of time, the button flashes. The value 0 deactivates this function. You have to press and hold **S** to access the secondary functions.

Colors
Configures the Screen Display Colour theme of the Panel. Apart from looking nice, this allows to adapt The River to ambient light to avoid dizziness and visual fatigue.

Full	Initial colours, intense white background
G1..G4	Shades of grey
B1..B4	Shades of blue
R1..R4	Shades of red
M1..M3	Monochrome screen type

The same can be done on the Key Screen (*see The Riverkey, GLOBAL Setup*)

AutoSave (No, Yes)
Set on **Yes**, automatic backup is activated. When you switch on The River, you will find your environment as you left it at the last session even if you did not do a backup.

Propagate (No, Yes)
Set on **Yes**, in **All** mode or if the selected channel is a target of other channels, all the actions on the panel are sent to the channels involved (*see Propagating the commands in All and Redirection*).

Dump To USB (No, Yes)
Set on **Yes**, all the actions on the panel are sent as MIDI data on the USB Panel socket. It is the most suitable working mode when using The River together with a sequencer software. Through this option you can record notes as well as actions on the sound (*see Layers and connecting with a sequencing software*).

Dump Current
This function sends a SYSEX backup of The River Edit Zone throught the USB PANEL socket.
Make sure that the USB cable is connected to the computer and that the Library Editor application is on. Click on the Recept button of the app to put it in receiving mode. Then confirm sending the data by pressing an encoder.

Dump All Single
This function sends a SYSEX backup of sound (160) and FX (40) of The River through the USB PANEL socket.
Make sure that the USB cable is connected to the computer and that the **Library Editor application** is on. Click on the **Recept** button of the app to put it in receiving mode. Then confirm sending the data by pressing an encoder.

Dump All Multi
This function sends a SYSEX backup of Multis (40) of The River through the USB PANEL socket.
Make sure that the USB cable is connected to the computer and that the **Library Editor application** is on. Click on the **Recept** button of the app to put it in receiving mode. Then confirm sending the data by pressing an encoder.

Dump The River
This function sends a SYSEX backup of The River through the USB PANEL socket.
Make sure that the USB cable is connected to the computer and that the Library Editor application is on. Click on the Recept button of the app to put it in receiving mode. Then confirm sending the data by pressing an encoder.

Factory Singles
This function restores the Factory sounds and FX of The River. Customised sounds and FXs are deleted/replaced. A dialogue box will ask for confirmation before proceeding.

Factory All
This feature restores the entire River River "Factory" config. Sounds, Multis and Custom FX are deleted/replaced. A dialogue box will ask for confirmation before proceeding.

About
By clicking on one of the encoders, this function indicates the current version of the PANEL and CARD firmware. Consult the internet site forum.baloran.com for the latest firmware versions, instructions and updates.

Reboot
Reboots the PANEL card after an update of the OS. This function is only for authorised technicians and repair specialists.

8. Tune

Press **S** TUNE to access the Autotune management.

The River is fitted with an algorithm for tuning the oscillators and filters according to the temperature. It measures continuously the temperature inside the instrument (this temperature is displayed on the last line on the screen) and adapts the running of the voice cards according to this temperature.

Performing an **Autotune All** at 20, 25, 30, 35, 40 degrees Celsius should allow The River to perform correctly in all circumstances. It is also important to warm up the instrument for about 20 minutes at start before performing an **Autotune All**

For average temperatures, The River will interpolate the adjustments against those already recorded. If a voice drifts a little compared with the rest, you can start an **Autotune V1..8** only for that voice..

Autotune All takes a little over two minutes. Please do not touch the keyboard or the commands until the message WAIT disappears from the screen.

RESET AUTOTUNE reinitialises the table. After executing this function, your River works without Autotune. It must therefore be followed immediately by an **Autotune All.** 😉

⚠ *This function is also recommended after each update of the Firmwares.*

DIAGNOS LEDS
Allows to activate the voice activity indicator. If **Yes**, the red buttons of the first row blink shortly when the corresponding voice is activated. If **No**, these red buttons indicate the activity of the corresponding channels.

9. Level Page

Press **S** LEVEL to access the page for setting the input level of the voice cards.

This setting is very important. Each chorus uses a BBD, analog component, which saturates very quickly if the output level of the voices is too high. Or the other way around, if the level is set too low, the signal/noise ratio can be very bad. You have to find the highest level before the manifestation of saturation and this, of course, for the "loudest" of your settings (strike some complex chords etc...).

Each encoder sets the muffling of the corresponding voice in dB

To adjust all the voices of a channel at the same time, use **S +** that channel's encoder.

10. Page Pan

Press **S** PAN to access the page for setting the panoramic of the voice cards.

Each encoder sets the panoramic placement of the corresponding voice

To adjust all the voices of a channel at the same time, use **S** + the channel's encoder.

11. Chorus 1..3 Page

Press **S** CHOR1 to acces the setting page of Chorus 1.
Press **S** CHOR2 to acces the setting page of Chorus 2.
Press **S** CHOR3 to acces the setting page of Chorus 3.

Encoders 1 to 7 allow to access the following settings.

1	LEVEL (Off, -50…0…+10)	Output level of chorus
2	PAN (16<…0…>16)	Panoramic of output of each chorus
3	WAVEFORM	Waveform of the modulation of the Delay: Non No modulation Sin Sine curve Tri Triangle Squ Square S&H Sample & Hold Rnd Random modulation Tap Simulation of the variation of speed of a Tape Echo. For maximum realism, this has been modelled on a vintage Tape Echo. Ch2 Synchronisation of Chorus 1 or 3 with Chorus 2
4	RATE (0...360)	Modulation speed, If WAVEFORM=Ch2, meaning that this Chorus is synchronised with Chorus 2, this parameter sets difference in degrees of the modulation of this chorus compared to Chorus 2
5	DELAY (0-200)	Delay introduced by the BBD. This corresponds to a delay between 2ms and 50ms.
6	AMPLITUDE (0...100)	Amplitude of the modulation. If WAVEFORM=Ch2, meaning that this chorus is synchronised with Chorus 2, this parameter is inactive because it is substituted by that of Chorus 2. The amplitude of the modulation is corrected so that the setting of the delay associated with that of the modulation remains in the settings range.
7	FLANGER (Yes/No)	Available only on Chorus 2, this option activates the specific feedback of the signal to obtain an effect Flanger (comb filter).
8	PARAM (Off..+10)	For the Echos, it sets the level of the "second reading head”. For the Ping-Pong, it sets the amplitude of the "stereo”. For the Reverberations, it sets the pre-Delay.

12. FX Page

Press **S** FX to access the page of settings for the Echo or Reverberation effects.
Encoders 1 to 8 allow access to the following settings.

1	TYPE (0…7)	Choice of algorithm of the digital effect. Tape Tape Echo Ping Echo Ping Pong Echo Clean Echo Plate "Gate" Reverberation Gated "Plate" Reverberation Small "Small Hall" Reverberation Large "Hall" Reverberation Baloran "Baloran" Reverberation (House secret, he won't say more...) 😉
2	LP FILTER (0...64)	Sets the frequency "low-pass" applied to the input signal. This allows to muffle the repetitions or reflections. Precious tool!
3	SYNC / DELAY (ms)	Sets the delay effect for the echos and for the reverberations. The delay is expressed in ms and is indicative 😉 The first values allow to "synchronise" the delay with the tempo.
4	FEEDBACK (0…+33)	Sets the level of reinjection of the output on the input of the delay. For the echos, FEEDBACK sets the number of repetitions, up to the characteristic auto-oscillation encountered on the tape echoes. For the reverberations, FEEDBACK will only be audible near the auto-oscillation.
5	WAVEFORM	Waveform of the modulation of the Delay: : Non No modulation Sin Sine curve Tri Triangle Squ Square S&H Sample & Hold Rnd Random modulation Tap Simulation of the variation of speed of a Tape Echo. For maximum realism, this has been modelled on a vintage Tape Echo.
6	RATE (0…360)	Sets the modulation rate. The fast modulations are not audible on the reverberations. For a good simulation of the wow/flutter of a Tape Echo, set WAVEFORM on Tap, RATE to 12-15 and MOD at 8-10.
7	AMPLITUDE (0…100)	Sets the amplitude of the modulation.
8	PARAM (Off...+10)	For echoes, set the level of the "second reading head". For ping-pong echo, set the amplitude of the "stereo". For reverberations, set the pre-delay.

13. Other Page

Press **S** OTHER to access the page for other parameters of the effects
Encoders 1 to 6 allow access to the following settings.

1	SMOD RATE (0...360)	Rate of the global sinusoid LFO of surmodulation of the 3 chorus LFOs
2	SMOD AMPL. (0...100)	Amplitude of the surmodulation imposed by the global LFO
3	DYN DEST	Allows to define the target parameter of the dynamic modulation. Non None Ch. Ampl Level of modulation of the choruses Ch. Rate Speed of the modulation of the choruses Ch. Both Level and speed of the modulation of the choruses Ch. Level Level of the effect of the master (sum of the choruses) Dry Level Level of the direct signal of the master Card Filter Level of the FX filter Card Delay Delay of the FX Card Feed Level of the FX filter Card Rate Speed of the FX modulation Card Ampl. Amplitude of the FX modulation Card Param Parameter specific of FX Card Level Level of the FX effect
4	DYN LEVEL (0...100)	Level of the dynamic modulation
5	DYN SRC	Source of dynamic modulation. Audio Envelope of the input signal Velocity Velocity of the last MIDI note Mod Wheel Modulation knob (MIDI CC1) Aftertouch Aftertouch channel CC4 MIDI Control Change 4 (Foot) CC7 MIDI Control Change 7 (Volume) CC11 MIDI Control Change 11 (Expression)
6	PAN MODEL	Panoramic stage model expressed as Model number (1...8) & Stage width (0…15). It's best to choose the maximum width of the scene to perceive detecting each model's voice location, then reducing it in order to give back a "natural" feel to the ensemble Model 1 First 4 voices to the left, the other 4 to the right. Model 2 Left to right, progressive larger Model 3 Left to right, progressive narrower Model 4 Left, right, left, right, etc... Model 5 Left, left, right, right, etc... Model 6 Left, left, left, right, right, right, centre, centre. Model 7 4 voices left to centre, 4 voices right to centre. Model 8 Random distribution. To change the distribution, select again this model.

14. Mixer Page

Press **S** MIXER to access the page of settings for other effects parameters.
Encoders 1 to 6 allow to access the following settings.

1	CHO LEVEL (Off, -50…0…+10)	Level of final output of the choruses
2	CHO PAN (<16…0…>16)	Panoramic of final output of the choruses
3	DRY LEVEL (Off, -50…0…+10)	Output signal level not processed
4	DRY PAN (<16…0…>16)	Panoramic of the output signal not processed
5	FX LEVEL (Off, -50…0…+10)	Level of the output of the digital effect
6	FX PAN (<16…0…>16)	Panoramic of the output of the digital effect

15. TRANS Page and RDIR Page

Press **S** TRANS/RDIR to access either the **TRANS** page or the **RDIR** page.

The **TRANS** function (transpose) allows to transpose by a semitone (**-24** to **+24**) each of the voices individually, independent of the transposition keys of The Riverkey. Each encoder allows to set the transposition of each voice. This allows to obtain very creative scales and arpeggios or chords by stacking up the sounds.

To adjust the transposition of all the voices of a channel at the same time, use S + the encoder of the channel.

The **RDIR** (redirection) function allows to change the corresponding driver channel.
Encoder 1 allows to indicate which channel will drive channel 1, encoder 2 will allow to indicate which channel will drive channel 2 etc...

Using multitimbrality, this function will allow to create complex layers (*see Propagating the commands in All and Redirection*).

VII. Synthesis Parameters

Let's have a look now in detail at the synthesis parameters of The River.

1. OSCILLATOR 1 / 2

These are two real VCOs capable of producing three exclusive wave forms and interacting by synchronisation.

a. Parameters Identical for VCO 1 and VCO 2

32-16-8-4 : Octave of the VCO expressed in feet. To access row 4', press a second time the row 8'. In this case, the buttons 16' and 8' are lit.

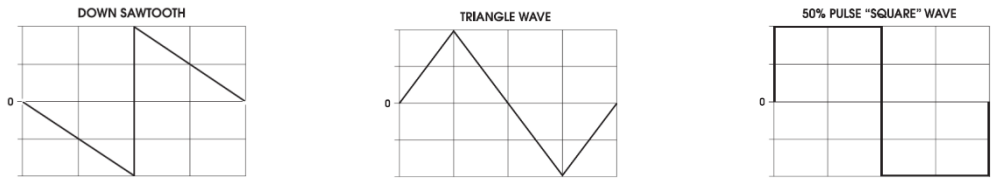
DLFO (0...400) : Modulation of the pitch of the VCO by the LFO (digital, for all the voices assigned to the same channel).

LFO ou LFO/ENV (0...400) : Modulation of the pitch of the VCO by the LFO (analog, by voice).
For the VCO 2, the option OSC2 ENV allows to choose the modulation source. Lit button - it is the envelope of the filter, if not it is the LFO.

 choice of the wave form of the VCO :

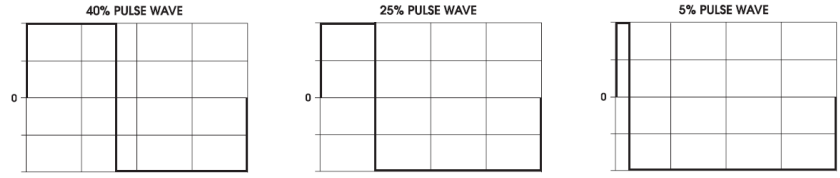
- Saw tooth
- Triangle
- Variable duty cycle rectangular pulse wave (PW)

The saw tooth is a most outstanding wave, ideal for strings, brass instruments or deep bass. The triangle wave is much softer, useful for flute or organ sounds. The pulse is an intermediary wave, useful for clarinet or fizzy bass. If you vary its size by an intermediary sinusoidal LFO of average speed you can create richer strings and layers than with saw tooth waves.



Source : manuel Alesis Andromeda

PW (0...400) : manual setting of the duty cycle of the pulse wave when it is selected



Source : manuel Alesis Andromeda

PWM LFO ou **PWM LFO/ENV (0...127)** : Modulation of the size of the pulse by the LFO. For the VCO2, the option OSC2 ENV allows to choose the modulation source. Lit button - it is the envelope of the filter, if not it is the LFO.

b. Parameters found only in VCO2

SYNC : Allows to create a harmonic content by making the two oscillators interact. When the VCO frequencies are close, it resembles a Hard Sync. When the frequencies get further apart, the interaction resembles to a combination between the two waves. Modulating the pitch of the VCO2 by an LFO or an envelope (cf. DLFO waves) you can create unstable spectral scannings. When SYNC is activated, the pitchbend modulates the pitch of the 2 VCOs (contrary to Moog The Source). To modulate just one, use the DLFO with the MOD wave form (WHEEL)

INTERVAL (-12...11 – Keyb Off) : Rough detuning by a semitone of VCO2 compared with VCO1. The **Keyb Off** position disconnects the monitoring of the keyboard by the VCO2..

FINE TUNE (-200...+200) : Fine detuning of the VCO2 against VCO1 by a range of of more or less a semitone. When **INTERVAL** is on **Key Off**, you can modify its speed with FINE TUNE, a function which would be interesting to use with the **FM FILTER** below to create sounds of the Ring Mod type.

FM FILTER (0…127) : Modulation of the cutoff frequency of VCF with VCO2 output.

c. Common parameters

WHEEL CTL : Turns on the action of the modulation knob on the amount of action of the LFO (or ENV of the filter if this option is activated for oscillator 2). This command is very useful. Deactivate this button to set the maximum modulation of the LFO on the oscillators and the filter, then activate this button. This way, you will be able to use the knob to increase the modulation up to the maximum level as you have defined it..

2. MIXER

OSC1 (0…127) : level setting for VCO1

S DLFO MOD (0…127) : action of the DLFO on the VCO1 level

OSC2 (0…127) : level setting for VCO2

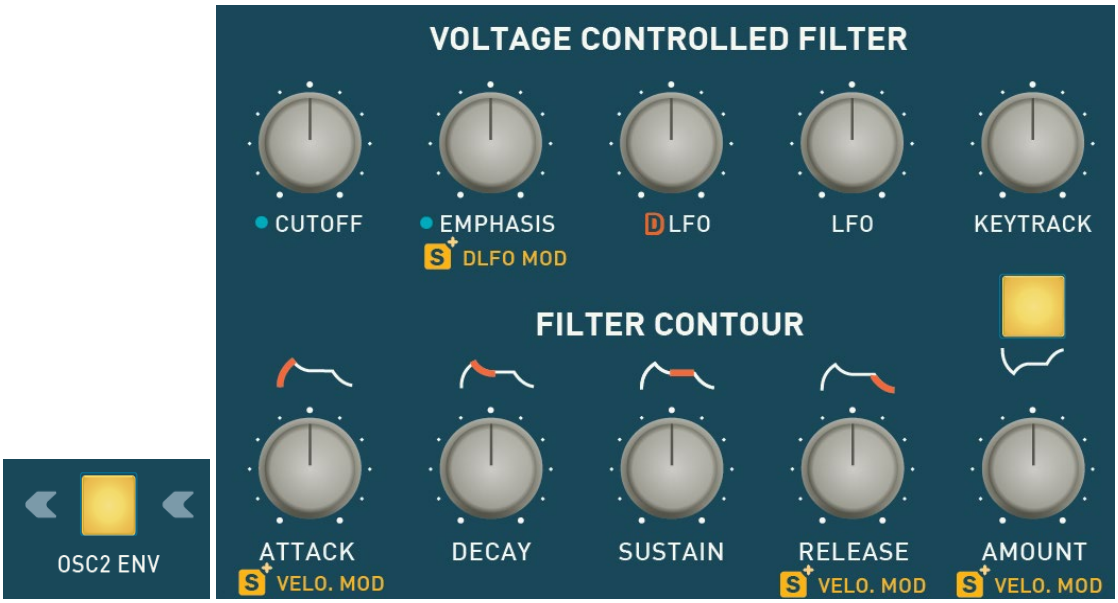
S DLFO MOD (0…127) : action of the DLFO on the VCO2 level

NOISE (0…127) : setting the level of the white noise generator, slightly broken (cream white)

S DLFO MOD (0…127) : action of DLFO on the level of NOISE.

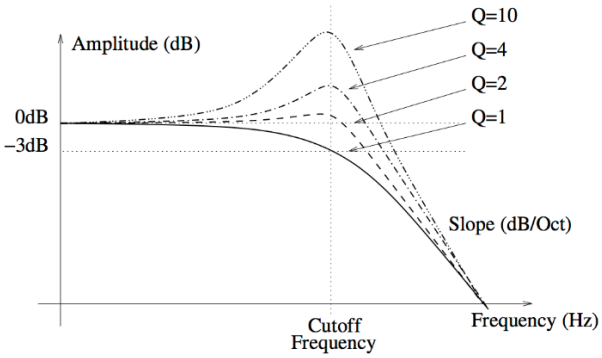
3. VOLTAGE CONTROLLED FILTER - FILTER CONTOUR

This is a low-pass 4 poles resonant VCF, in transistors scale, a concept democratised by Bob Moog in the 60s. He is the creator, with others, of the fullness and depth of "his Moog". The River offers the same rich and generous sound.



CUTOFF (0 …400) : cutoff frequency of VCF. The filter cuts the frequencies above the cutoff frequency, with a slope of 24 dB octave (it removes 24 dB of highs off each octave).

EMPHASIS (0…400) : RESONANCE or Q. The frequencies are amplified on each side of the CUTOFF with a level defined by the resonance. Close to 300 (3h...) the filter enters in auto-oscillation, acting like a VCO, it starts producing a pure sine wave, tuned according to the CUTOFF and the TRACKING parameter. This allows to play melodies even if the input levels of the three sound sources are at 0.



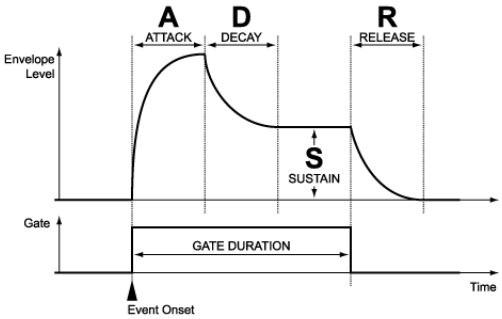
Source : applied-acoustics.com

S DLFO MOD (0…127) : action of DLFO on the **EMPHASIS** level.

DLFO (0…400) : modulation of the CUTOFF by the DLFO (for all the voices on the same channel)
LFO (0…400) : modulation of CUTOFF by the analog LFO (by voice)

KEYTRACK (0…127) : modulation of the CUTOFF by the following through of the keyboard. A higher value allows to open more the filter as you go up on the keyboard, avoiding muffling the sharp notes. If the filter is in auto-oscillation, this parameter allows to adjust the sine wave slope produced by the filter.

ADSR (0…127) : segments Attack - Decay - Sustain - Release of the envelope acting on the CUTOFF.



Source : audiomulch.com

S VELO MOD (0…127) of **ATTACK** or **RELEASE**: modulations separated by attack times and release by the velocity of the touch. Test it for a beautiful expressivity of the filter through the keyboard!

AMOUNT (0…127) : quantity of action of the envelope on the VCF. This parameter defines the amount of intensity of the envelope curve in modulating the CUTOFF.

S VELO MOD (0…127) of **AMOUNT**: modulation of amount by the attack velocity. This parameter completes the full array of the expressivity parameters of The River.

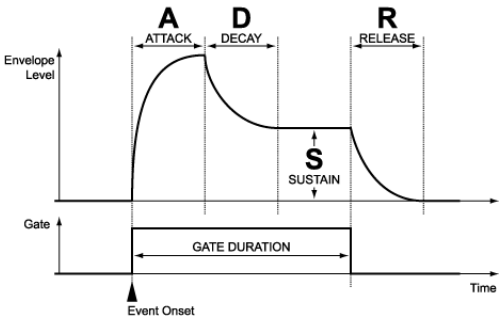
REVERSED CURVE : inversion of the envelope curve to create negative modulations.

OSC2 ENV: when this option is active, the modulation source for the oscillator becomes the envelope of the filter. This parameter acts on OSC2 LFO/ENV and OSC2 PWM/ENV.

4. LOUDNESS CONTOUR

This section modulates the VCA governing the final volume of each voice before it attacks the effects or the individual audio outputs.

ADSR (0…127) : segments ATTACK - DECAY - SUSTAIN - RELEASE of the envelope acting on the VCA.



Source : audiomulch.com

S VELO MOD (0…127) of **ATTACK** or **RELEASE** : separated modulations of the attack times and the release by the velocity of the touch. Test it for beautiful nuances in volume through the keyboard !

EXPRESSION (0…127) : modulation amount by the velocity of the amplitude of the two envelopes.

S PEDAL MIN (0…127) : setting of the minimum volume driven by the expression pedal when it is in the raised position (cf. back panel).

5. ANALOG LFO

Each voice has an independent analog LFO. This LFO is independent of oscillation, it is impossible to synchronise it with voices of with a clock. It is magnificent for detuned PWMs or sounds slightly out of tune.

: choice of the wave form of the LFO

- Triangle
- Square (symmetrical pulse)

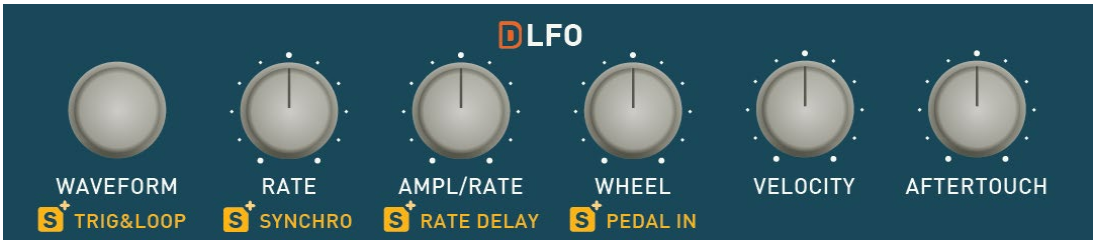
RATE (0-127) : rate of LFO

S VELO/DELAY (127-0-127) :

Left Setting the modulation of the maximum strength by the attack velocity

Right Setting how quickly the LFO's depth will reach its maximum strength.

6. DLFO (DIGITAL LFO)



Each channel has a digital LFO which modulates simultaneously all the voices assigned to that channel. Very useful for creating filter scannings, pitch variations or syncs of in phase oscillators. It can be synchronised with the clock source (internal or external).

The oscillators and the filter have a DLFO potentiometer for precisely controlling the modulation of the DLFO on the corresponding module.

WAVEFORM: choice of the wave form of the DLFO

Mod	Allows to "design" the modulation with the Wheel
Sin	Sine curve
Tri	Triangle
Squ	Square
Saw Up	Saw tooth ascending
Saw Down	Saw tooth descending
S&H	Sample & Hold
Random	Random
Tape	Tape Wow / Flutter
AR Up	Rising Envelope
AR Down	Descending Envelope

S **TRIG&LOOP** : choice of the mode of Restarting of the DLFO cycle

None	Free cycle
Reset	Restart of the cycle at each pressing of a key
Loop	Redéclenchement des enveloppes analogiques (loudness et filter) à chaque cycle
Loop+Reset	Restart of the cycle at each pressing of a key and of the envelopes at each cycle

S **SYNCHRO** : choice of the synchro of the cycle of DLFO with the clock (internal or external)

None	The DLFO is not synchronised with the clock source
1/4	The DLFO cycle is starting every 4 beats
1/2	The DLFO cycle is starting every 2 beats
1/1	The DLFO cycle is starting every beat

RATE (0…400) : rate of modulation of DLFO. For the AR type of wave forms, it is the mounting beat.

AMPL/RATE : balancing the action of the 4 sources of modulation (WHEEL, VELOCITY, AFTERTOUCH, PEDAL IN) to the amplitude or the speed of the DLFO. To the left is expressed by the percentage of action on the speed and to the right by the percentage of action on the amplitude. All the way to the right the modulations only affect the speed, all the way to the left they only affect the amplitude. At the centre the 2 parameters are affected at 100%.

S **RATE DELAY (0…127)** : descending beats when the wave form is of the AR type.

The following four parameters allow to fine tune the influence of the controller on the modulation. When one of the parameters is at the maximum, the DLFO amplitude/rate will be dependent at 100% on this parameter. For example: if WHEEL=127, you will only observe any activity of DLFO if the knob is moved from its "pause" position. Only then will you also be able to notice an eventual influence of the velocity or the aftertouch.

If the four parameters are at 64 (the middle), that means that the DLFO output will always be active with an average amplitude even if these four parameters are inactive. Also, each two could have the same influence on the DLFO amplitude/rate.

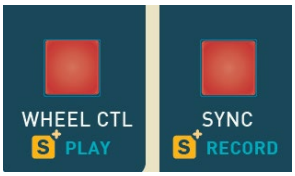
WHEEL (0…127) : modulation of rate and/or amount of DLFO by the wheel.

VELOCITY (0…127) : modulation of rate and/or quantity of DLFO by the attack velocity.

AFTERTOUCH (0…127) : modulation of the rate and/or quantity of DLFO by the keyboard pressure.

S **PEDAL IN (0…127)** : modulation of the rate and/or quantity of DLFO by the expression pedal.

7. MOTION SEQ



This is a movement sequencer allowing to modulate certain synthesis parameters in real time, on maximum 16 steps, in a cyclical manner. These parameters are indicated by a blue dot:

- OCTAVE (32-16-8-4) of each VCO
- VCO2 INTERVAL
- LEVEL of each mixer source (VCO1, VCO2, NOISE)
- CUTOFF of the filter
- VCF EMPHASIS

a. Enregistrer une séquence

Press the S **RECORD** button (SYNC button).
Set the position of the desired parameters then play a note: the position is recorded and the next step is selected. Set the new position of the parameters for this step, etc.

b. Ending a recording

Press the S PLAY button or press again on S RECORD.

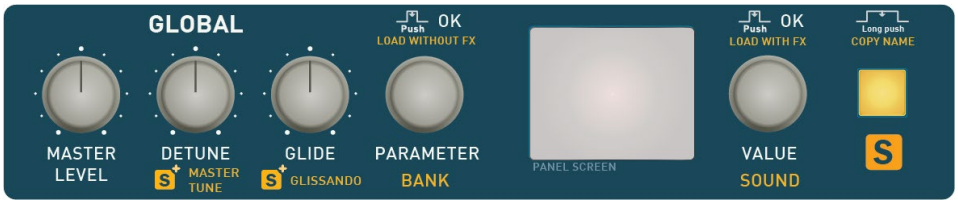
c. Starting the sequence

Press the **S** **PLAY** button (WHEEL CTL button).

The MSEQ launches automatically when you select the program if the program has been recorded with the sequencer in PLAY mode.
The speed is controlled by the RATE of DLFO (itself being driven by its own sources of modulation).
The settings are stored in memory in each program.

VIII. GLOBAL section commands

Amongst these commands, some are global and others stored in memory by program. It is important to understand this concept in order to avoid any confusion, taking into account the multitimbrality of the machine.



MASTER LEVEL (0…100) : adjusts the general volume of The River (global, non-storable).

DETUNE (0…15) : detunes the voices one against the other. Useful for thickening the sound in UNISON mode (stored with each program).

S MASTER TUNE (-60…0…60) : tunes The River globally on a range of +/- a semitone (global, non-storable).

GLIDE (0…127) : defines the portamento beats (stored with each program).

S **GLISSANDO (0..127)** : defines the glissando beat = chromatic glide (stored with each program).

Glide *and* ***Glissando*** *are mutually exclusive. You will have to choose one of them* 😉

IX. The Riverkey

The Riverkey parameters are organised in 5 menus:

GLOBAL setup, **S KEY** F#3 Shared or system settings
LAYER setup, **S KEY** F#3 Settings of the selected layer
ARP setup, **S KEY** G#3 Activating and setting the arpeggio for the selected layer
SEQ setup, **S KEY** A#3 Activating and setting the sequencer for the selected layer
LFO setup, **S KEY** D#4 Activating and setting of the LFO CV.

To select a menu, you can either press the **S KEY** plus the black key corresponding to the group, or turn the left encoder while pushing it until the menu is displayed.
Next select the parameter with the left encoder and its value with the right encoder.
Numerous parameters can be accessed directly through **S KEY** shortcuts written on the magnetic reminder.

1. GLOBAL Setup Parameters

Tempo (30..300), **S KEY** D3 = Tap Tempo
S KEY E3 = TEMPO – (sensitive to velocity) , **S KEY** F3 = TEMPO + (sensitive to velocity)
Set the global tempo of The River. The modules which use the Tempo can only personalise fractions of the Tempo. In External Clock mode, the Tempo is recalculated. A rectangle blinks to the rhythm of the tempo in the upper corner of the screen. If it does not blink anymore it is very likely that you have selected the external clock and The River doesn't receive it.
The shortcut **S KEY** Tap Tempo is active all the time regardless of the menu chosen..

Swing (0..10), **S KEY** D4 = Swing - , **S KEY** E4 = Swing +
Sets the amplitude of the Swing of the clock. A 0, the Swing is deactivated.

T.Swing (0..3), **S KEY** F4
Sets the type of Swing.

0	No Swing
1	1/4
2	1/6
3	Combined

Profil (0..10 Max), **S KEY** D#5 = Profil -, **S KEY** F#5 = Profil +
Allows to choose one of the Riverkey profiles downloaded with the Profile Editor.

Layer act (All, Sel)
Permet de choisir le mode de fonctionnement des Layers.
Allows to choose the functioning mode of the Layers.
In **All** mode, all the layers are "processed" simultaneously. In **Sel** mode, only the selected layer is active. This allows to have a different approach of the layers: you can for example define a layer which goes to The River, one which goes to the MIDI socket and one to the USB socket. The **Sel** mode allows to choose the destination by selecting the layer.

Clock, **S KEY** B4
Controls if the internal clock is given by The River. If an output is defined, The River broadcasts the MIDI Real Time Start, Stop and Continue messages.
No No output

Mid MIDI socket
USB USB socket
M+U MIDI and USB sockets

Ext. clock (Off…On), **S KEY** G7
Sets if The River must use an external clock (MIDI or USB) instead of its internal clock. If the external clock is selected, The River receives also the MIDI Real Time Start, Stop and Continue messages.

Bend (1...12)
Sets the amplitude of the Bend on The Riverkey. This parameter is used only for the CV outputs because the amplitude of the Bend setting is a parameter of the sound (*see sound OPTIONS*).

Aft.Crv. (0...4)
Sets the response curve of the aftertouch. The choice of the curve allows to adapt the behaviour of the keyboard to your playing technique. Curve 4 seems to give the greatest linearity of response of the aftertouch.

Vel.Crv. (0...4)
Sets the response curve of the velocity. The choice of the curve allows to adapt the behaviour of the keyboard to your playing technique.

Pedal 2
Allows to define the role of pedal 2
Shift Pedal 2 acts is **S KEY**
Start Pedal 2 acts as **S KEY** C3, meaning a start stop of the sequencers/arpeggios.

MPE (Off, On), **S KEY** A7
Configures The River in MPE mode. You can also use template 8 which does the same thing but also load a sound adapted to this mode of functioning.

Colors
Configures the Colour theme of The Riverkey display. Apart from the aesthetic aspect, this allows to adapt The River to the ambient light to avoid dizziness and visual fatigue.
Full Initial colours, bright white background
G1...G4 Shades of grey
B1...B4 Shades of blue
R1...R4 Shades of red
M1...M3 Monochrome type of screen

Calibr (Off, On), **S KEY** C8
Allows to launch and end the calibration procedure (*see below Calibration of the physical controllers*).

Version (Off, On)
Displays the current version of the firmware of The Riverkey.

If you turn the right encoder and you confirm by pushing it in, this will put The Riverkey in Reboot/Programming mode. It is preferable to use the update program rather than this one.

2. LAYER Setup Parameters

Active (No, Yes)
Allows to activate or not the layer. This allows for example to activate or deactivate a layer managed through a MIDI socket. When a layer is deactivated, its range is no longer displayed.

From (A0…C8), **S KEY** C#4 (voir SPLIT)
Sets the lowest note included in the range of the Layer. The notes under this limit will not be transmitted to the output. The ranges of the Layers can overlap without restrictions.

To (A0…C8), **S KEY** C#4 (voir SPLIT)
Sets the highest note included in the range of the Layer. The notes above this limit will not be transmitted to the output. The ranges of the Layers can overlap without restrictions.

Octave (-3..+3), **S KEY** C#3 = Octave -, **S KEY** D#3= Octave +
Sets the transposition of the Layer in Octave. These two **S KEY** shortcuts are always active regardless of the menu selected.

Transp (-12..+12), **S KEY** B3 = Transp -, **S KEY** C4= Transp +
Sets the transposition of the Layer in semitone. This function is also very useful for the CVs. With a MiniMoog, you have to put this parameter to -5 and press on the first key of the mini's keyboard if you want afterwards to drive it correctly with The River's keyboard.

Source
Sets the source of the event of the Layer.

Riv	Integrated keyboard
Mid	MIDI In socket
USB	USB Key socket
M/U	P MIDI In and USB Key sockets
All	All the sources (Integrated keyboard, MIDI In, USB)

Chn In (All, 1...16)
Sets the "source" channel for external sources. For **All**, all the channels are taken into account. For other values, only the events of that channel will be taken into account.

Destin
Sets the destination of the Layer. Only one destination can be defined for one layer.

Riv	The River
Mid	MIDI Out socket
USN	USB Key socket
MoL	CV + Gate monophonic low note priority (restart if note lower)
MoH	CV + Gate monophonic high note priority (restart if note is higher)
MoR	CV + Gate Full Retrig (restart at each note)
Para	CV + Gate polyphonic (n CVs, 1 Gate)
Poly	CV + Gate polyphonic (n CVs, n Gates)

Chn Out (Sam, 1...16), **S KEY** G4 = Channel -, **S KEY** A4= Channel +
Sets the MIDI output channel for the MIDI Out and USB outputs. Sam transmits the MIDI channel received. For one output The River, this parameter indicates the Channel receiving the events.

NB CV (1...8)
Sets the number of CV for the destinations CV + Gate. Example: Destin = Poly, NB CV = 4 for a 4 CVs and 4 Gates. For the destinations C + Gate, the screen displays the number of the first CV socket reserved and the

number of the first Gate socket reserved to the layer. Choosing a specific CV Gate socket number can only be done using a profile defined with the Profile Editor.

Mod CV
Sets the type of CV for the CV + Gate destinations.

VOc	Standard Volt / Octave
HzV	Standard Hz / Volt (mainly Korg/Yamaha)

Mod Gat
Sets the type of Gate for the CV + Gate destinations.

Pos	Positive pulse
Neg	Negative pulse

Midi Flt 1
Sets the filter MIDI 1 for the destinations MIDI and USB.

No	No filter
Whe	Wheel filtered
Ben	Bend filtered
W+B	Bend and Wheel filtered

Midi Flt 2
Sets the filter MIDI 1 for the destinations MIDI and USB.

No	No filter
CC	MIDI Control Change filtered
PC	MIDI Program Change filtered
C+P	MIDI Control Change and MIDI Program Change filtered

After
Sets the functioning of the Aftertouch for the destinations MIDI and USB.

Off	The Aftertouch is not transmitted
Cha	The Aftertouch is transmitted normally
Poly	The Aftertouch is transformed in Pseudo Polyphonic Aftertouch Only the last note played receives the value of the Aftertouch

Velo
Sets the functioning of the velocity for the destinations MIDI and USB.

Real	The true velocity is transmitted
64	The fixed velocity of 64 is transmitted
92	The fixed velocity of 92 is transmitted
127	The fixed velocity of 127 is transmitted

3. ARP Setup Parameters

Status (Stop, Play), **S KEY** C3
Allows to start or stop the arpeggio of the layer. When you are in the LAYER Setup or GLOBAL Setup menus, the shortcut **S KEY** C3 starts or stops all the arpeggios and sequences of the profile.
In **PLAY** mode, if you play a note on the keyboard, the motif is transposed, the first note of the arpeggio being the reference note. If you play several notes, the motif is redesigned. The velocity of the notes is recorded in the arpeggio 😉.

Tempo (30...300), **S KEY** D3 = Tap Tempo
Sets the global tempo of The River. The modules using the Tempo can only personalise fractions of the Tempo (*see below Divide*). In External Clock mode, the Tempo is recalculated. A rectangle in the right upper part of the screen blinks in the rhythm of the tempo.

Divide (1/1...1/8), **S KEY** E3 = Divide –, **S KEY** F3 = Divide +
Sets the division of the BEAT sequencing the notes of the arpeggio.

Motif (0...9), **S KEY** G3 = Motif –, **S KEY** A3 = Motif +
Sets the motif of the arpeggio.

Octave (1..5), **S KEY** B3 = Octave –, **S KEY** C4= Octave +
Sets the octave number on which the motif of the arpeggio is calculated.

Order, **S KEY** D4 = Order –, **S KEY** E4 = Order +
Sets the order in which the notes of the arpeggio are read.

Up	Ascending
Dwn	Descending
Rnd	Random

Latch (No, Yes), **S KEY** F4
Sets the "holding" mode of the arpeggio. If Latch = **Yes**, when you release the keyboard, the arpeggio is held.

Duration (1..8), **S KEY** G4 = Duration –, **S KEY** A4 = Duration +
Sets the ratio of the duration of the note played over the note released. A1 - the note is very short, at 8 the note practically continuous.

4. SEQ Setup Parameters

Status (Stop, Play, Record, Record RT), **S KEY** C3, **S KEY** B3 = RECORD, **S KEY** C4 = RECORD RT
Allows to start or to stop the sequencer of the layer and to start the recording of a sequence. When you are in the LAYER Setup or GLOBAL Setup menus, the **S KEY** C3 shortcut starts or stops all the arpeggios and sequences of the profile. The velocity of the notes is recorded in the sequences 😉.

In **PLAY** mode, the sequence is transposed by the notes played on the keyboard, the first note played being the reference note.

Recording Step by Step (**S KEY** B3)
The screen displays the number of steps used on the 48 available. Each step can receive up to 4 notes, the sequencer is polyphonic. When you press the encoder while holding a note pushed in, the step is doubled in the beat. If you press a second and third time, the step is tripled and quadrupled. If you press the encoder when no key is pressed, a silence is inserted.

Recording in "Real Time" (**S KEY** C4)

The screen displays a number of steps used of the 48 available. Each step can receive up to 4 notes, the sequencer is polyphonic. The sequence played will be "quantified" to the definition of Divide (see below). It is therefore preferable to use the divides of 1/4 to 1/8 to record sequences in Real Time mode

Tempo (30...300), **S KEY** D3 = Tap Tempo

Sets the global tempo of The River. The modules using the Tempo can only customise the fractions of the Tempo (*see below Divide*). En External Clock mode, the Tempo is recalculated. A rectangle in the right upper corner of the screen blinks in rhythm with the tempo.

Divide (1/1...1/8), **S KEY** E3 = Divide –, **S KEY** F3 = Divide +

Sets the division of the BEAT which will sequence the notes of the arpeggio and will "quantify" the "real time" recording of a sequence.

Order, **S KEY** D4 = Order –, **S KEY** E4 = Order +

Sets the order in which the notes of the sequence are read.

Up	Ascending
Dwn	Descending
Rnd	Random

Duration (1..8), **S KEY** G4 = Duration –, **S KEY** A4 = Duration +

Sets the ratio duration of the note played over note released. A 1 - the note is very short, up to 8 - the note is practically continuous.

5. LFO Setup Parameters

Active (No, Yes) **S KEY** C3

Allows to activate or not the LFO CV. The latter allows to broadcast on a CV (by default jack no 1) an LFO which allows to add a new source of modulation to "vintage" equipment. This modulation tension is symmetrical and the maximum amplitude is +/- 10V.

Freq (0...360), **S KEY** E3 = Freq –, **S KEY** F3 = Freq +

Sets the LFO rate.

Wave (0...8), **S KEY** G3 = Wave –, **S KEY** A3 = Wave +

Sets the LFO waveform.

0	Constant
1	Sine curve
2	Triangle
3	Square
4	Saw tooth ascending
5	Saw tooth descending
6	Sample & Hold
7	Random
8	Tape (tape wow and flutter)

Level (0...100), **S KEY** B3 = Level –, **S KEY** C4 = Level +

Sets the LFO amplitude.

Offset (-99…+99), S KEY D4 = Offset –, S KEY E4 = Offset +
Sets the offset of the LFO, meaning that it shifts the tension lower or higher.

Sync (No, Yes), S KEY F4
Sets the restarting of the cycle of the LFO at each note played.

6. SPLIT setting

To set a Split, meaning joining two layers, you can manually define the note **To** of the first layer and the note n+1 as **From** of the second layer.

You can also use the shortcut S KEY C#4.
First of all, select the first layer. This must be the left side of the Split.

Press S KEY then holding it press **C#4** then the starting note (**From**) of the range of the Layer then the ending note (**To**) of this range. Release S KEY. This action should define the **From** and the **To** of the layer **AND** the **From** of the following layer, with the **To + 1**.

When you want to define only the note of SPLIT without modifying the start note, press S KEY then holding it press TWICE C#4 then the SPLIT note desired (**To**).
Release S KEY. This action should define the **To** of the layer **AND** the **From** from the following layer with the **To + 1**.

7. CHORD and HOLD Modes

The S KEY button allows to access two very useful functions.

CHORD
Strike a chord and while holding the keys press twice quickly on the button S KEY button. The **CHORD** mode is activated on all the layers concerned. Release the keys. Now if you type a note, the previous chord is played, transposed to that note. To turn off the **CHORD** mode, release all keys on the keypad and then press the S KEY button twice again quickly.

HOLD
Strike a chord and while holding the keys press at least 2 seconds the S KEY button then release it. The **HOLD** mode is activated on all the layers concerned. The chord or the note is held. If you touch a key, the previous chord is transposed to this note. To deactivate the **HOLD** mode, release all the keys of the keyboard then press again at least 2 seconds on the S KEY button then release it.

8. Autres commandes

To select LAYER 1, press **S KEY** F#4.

To select LAYER 2, press **S KEY** G#4.

To select LAYER 3, press **S KEY** A#4.

To select LAYER 4, press **S KEY** C#5.

To send MIDI Program Changes, press **S KEY** D5 or **S KEY** E5. The velocity allows to modify the forward or backward speed.

To send a MIDI Start of Stop message, press **S KEY** C5, **S KEY** G#6 or **S KEY** A#6.

To switch off all the ghost notes of all the layers, PANIC function, press **S KEY** C#6.

9. Calibration of the physical controllers

This function allows to recalibrate the two knobs, the aftertouch and the optional expression pedal.
Press **S KEY** C8 (the last C). The screen displays four lines corresponding to the calibration controllers. Move all the controllers in their extreme positions (Pitchbend, Wheel, Aftertouch, Pedal). The extreme values are now memorised.

If the expression pedal (or the ribbon) is not connected, a value is displayed on the corresponding line, you can ignore it. But the first time you connect your expression pedal you will have to restart the calibration.

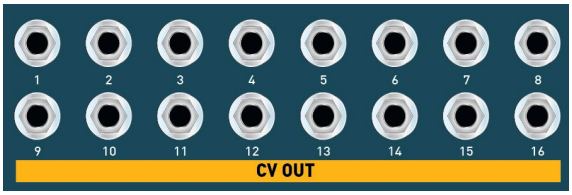
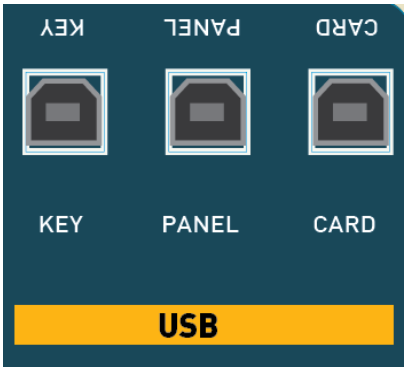
Confirm by pressing again the **S KEY** and the key C8.

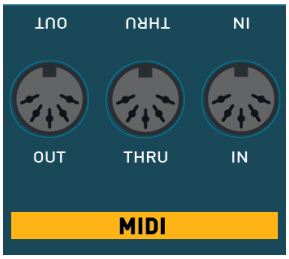
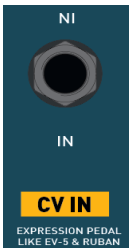
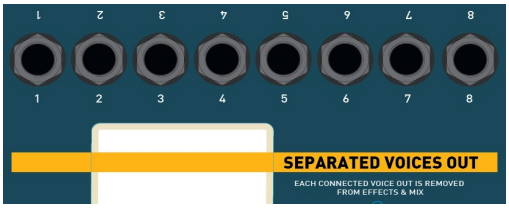
⚠ If you start a calibration accidentally, you have to finish it. If not, the controllers will not function properly any more in normal use.

X. The Back Panel

Apart for its unique sound, **The River** has been created to also be the control centre of your other instruments, new as well as vintage 😉 To this purpose, it offers numerous inputs/outputs that we will review now. For the **CVs** and the **Gates**, the main settings can be done from The River. Some advanced options are only available from the **Profile settings** that you can build with **The Riverkey Profile Manager application** available on forum.baloran.com . The documentation for this application is also available online.

1. Inputs / Outputs

	16 **CV** outputs to drive external analog modules compatible with V/Oct and Hz/Volt. Outputs 1 and 2 are symmetrical (-10V to +10V) and filtered to avoid the staircase effects of the slow LFOs. Output 1 is by default allocated to the LFO of The Riverkey and output 2 to the CV output of the Bend. The other outputs are positive from 0...10V. (*see The Riverkey LAYER Setup for CV sockets*)
	8 **Gate** outputs to drive external analog modules, positive or negative polarity. The amplitude of the output is between 0 and +15V. (*see The Riverkey LAYER Setup for the GATEs sockets*)
	3 ports **USB** type **B** to drive the MIDI by USB and to update the operating systems. These sockets are not USB Host. **KEY** = connection with software and inputs peripheral, backup and restoring, KEY Firmware updates **PANEL** = connection with software, backup and restoring, PANEL Firmware upgrade. **CARD** = reserved exclusively for CARD Firmware updates. (*see The Riverkey LAYER Setup for the USB In and Out sockets and Connecting with a computer)*

	**MIDI In / Out / Thru** sockets DIN 5 pins formats. (*see The Riverkey LAYER Setup for the MIDI In and Out sockets*)
	Entry for an expression pedal such as : Roland ™ EV-5, Moog ™ EP-3, etc… (*see VOLTAGE CONTROLLED FILTER - FILTER CONTOUR for the pedal*).
	2 inputs commutation pedals The first is dedicated to the use of a Sustain pedal. The second can be configured to be a double of Shift or the Start/Stop button of the sequences / arpeggios. (*see The Riverkey GLOBAL Setup for the pedals' parameters*)
	8 individual outputs for voice cards, 6.35 TS. Inserting a socket removes the voice from the global mix and effects.
	Entry for an audio stereo TS 6.35 jack routed to the effects section. Its sensitivity is of the line level. For a monophonic source, connect the instrument on the **LEFT** socket.
	Two pairs of XLR stereo outputs and TRS 6.35 jack. The symmetry for the signal is obtained by THAT Corporation high end components.

2. Energy supply, start/stop switch and fuses.

The nominal tension of the electrical network is indicated on the LEXAN to the left of the radiator, together with the serial number and the version of The River.

Connecting The River to an unsuitable electrical network will lead to considerable damages which are not included in the warranty. Modifications of the nominal tension can only be made by an approved qualified technician.

You must only use the cable supplied in the box to connect The River to the power supply. If you have to change the power supply cable, use only a cable in perfect condition, with an IEC standard socket, 3 conductors 0.75mm2, 250V, 10A..

Interrupteur Marche / Arrêt

When **I** is pushed in, The River is **ON**
When **O** is pushed in, The River is **OFF**.
Please wait at least 20 seconds between each ON and OFF action

Fuse

When changing a fuse, please do not tighten too much the fuse case. After inserting the new fuse, screw the fuse case in its enclosure until it offers some resistance. The internal spring will stop it from unscrewing.

- For a 230V network, The River comes with a thermal glass fuse 5x20mm, 1.25A 250VAC.
- For a 110V-120V network, use a thermal glass fuse 5x20mm, 2.5A 250VAC

XI. ANNEXES

1. Technical, dimensional, power specifications

- 100% subtractive analog synthesis
- Polyphony with 8 voices, each voice card being a changeable physical card.
- 2 VCO, 1 VCF, 2 envelopes, 1 VCA, 1 LFO per voice, hardware routing for the modulations.
- All components are operated while the instrument is switched on. Adjustments of micro-voltage taking into account the temperature insures the accuracy of the instrument.
- Complete multitimbrality: 8 channels with free voice/channel allocation.
- Wide-ranging management of the expressivity: aftertouch channel, pseudo aftertouch polyphony, attack AND release velocity.
- High-end TP/8 5 Octaves Fatar keyboard.
- Complete management of outputs / inputs by layer: 4 simultaneous layers allowing to create complex areas, to control the MIDI and USB inputs, to drive the outputs for MIDI, USB and the 16 CVs and 8 Gates.
- CHORD and HOLD modes.
- One intuitive sequencer per layer (4 notes, 48 steps polyphonic). Recording step by step in real time. Transposition of play.
- One arpeggiator per layer, numerous motifs and parameters. Transposition of play.
- Control of the external MIDI clocks and REAL TIME messages.
- Simplified connection with software programs (MIDI and USB).
- Complete bidirectional transmission of all the sound commands (CC and NRPN).
- Advanced MPE compatibility with the configurable control of all the Axes.
- CV LFO to add a modulation to external analog devices used under power.
- Effects: Analog Triple Chorus / Flanger + digital Echo / Reverberation. 100% analog pathway. Storage of the sound settings.
- Storage of 160 SINGLE programs, 40 MULTI programs carrying over all the parameters, including the current programs, effects and profile parameters, 40 effects programs, 10 profiles of combined layers. Backup and restoring through SysEx on USB.
- 2 pairs of stereo XLR and TRS 6.35 jack outputs.
- 8 individual outputs TS 6.35 jack.
- 1 earphones output 6.35 jack (front side) with dedicated potentiometer.
- 1 pair of audio stereo input TS 6.35 jack routed to the effects section.
- 3 MIDI In, Out and Thru 5 pin DIN connectors.
- 3 USB type B ports for MIDI driving through USB and update of the operating systems.
- 2 inputs Contacts Pedal and 1 entry Expression Pedal.
- Nominal voltage adaptable to all networks through the services of an approved technician.
- Electricity requirements: 120VA. IEC filtered socket.
- Dimensions (L x W x H): 104 x 52 (radiator included) x 20 cm.
- Weight: 26 kg (Optional Flightcase: add 15 kg).

2. Tableau Midi / CC / Sysex

See the reference document available on forum.baloran.com

3. Library management

Program and documentation available on forum.baloran.com

4. Profile Riverkey management

Program and documentation available on forum.baloran.com

5. Sound and Multis banks

Other banks are available to share on forum.baloran.com

6. Updates for The River

Programs, Firmware and documentation available on forum.baloran.com

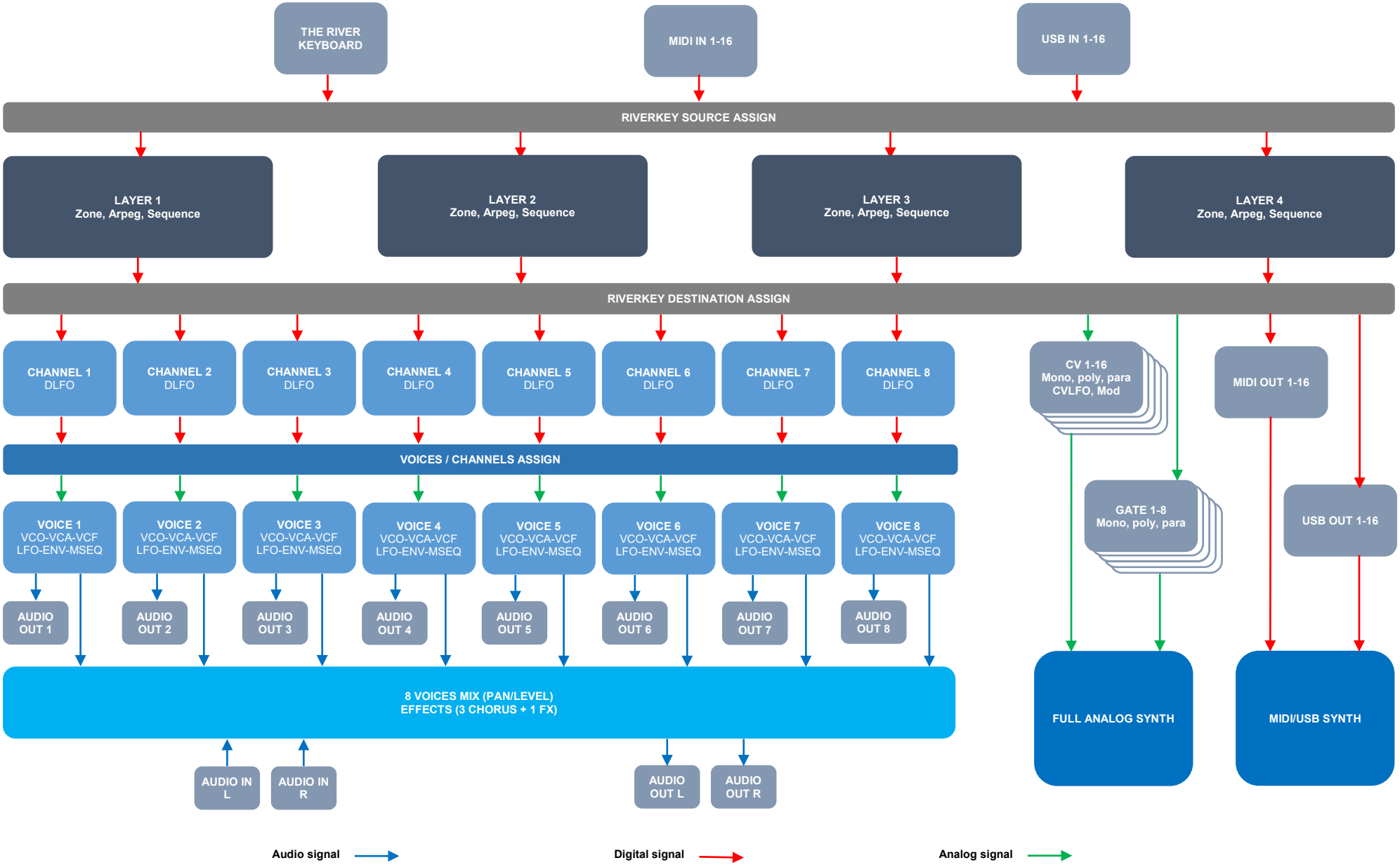
7. FAQ

This is the main role of forum.baloran.com . Nous serons heureux de vous y retrouver.

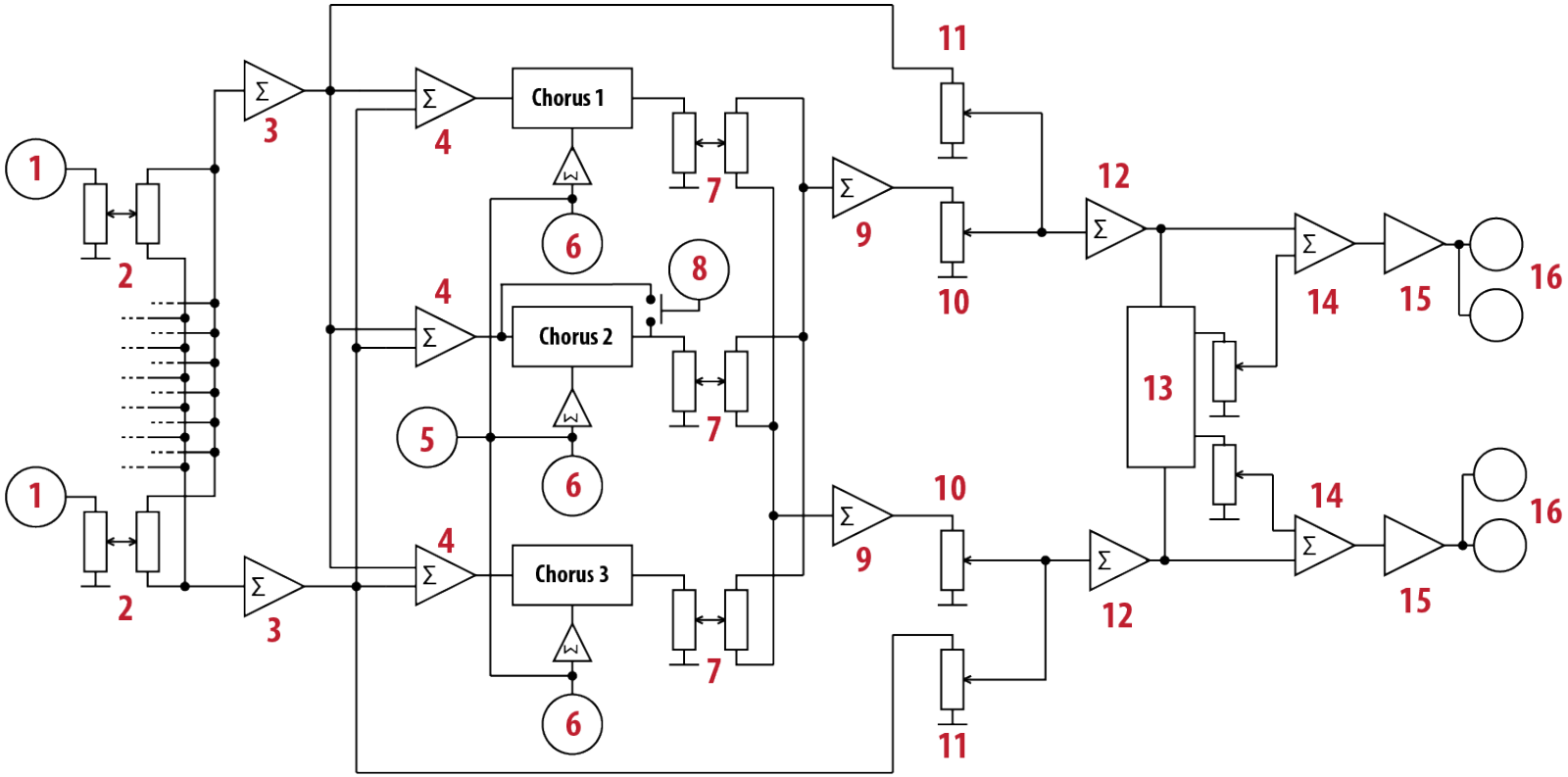
8. Compliance certificate

See the document provided with the instrument..

9. General Diagram



10. General Diagram of The Triko



1- Voices 1 to 8 inputs and external line L and R inputs
2- Levels and Panoramics settings for inputs 1 to 8
3- L and R Input Summing.
4- Chorus Input Summing
5- LFO of surmodulation summed with each LFO of the Choruses
6- Individual LFOs of each Chorus
7- Output Level and Pan for each Chorus
8- Chorus Flanger Switch
9- Summing L and R of the Chorus outputs
10- Settings Levels L and R of the Chorus Master (final chorus)
11- Settings Levels L and R of the Dry Master
12- Summings L and R of the Master
13- Digital Echo / Reverberation Unit.
14- Dry/Wet and PAN Stereo Mixer of the Digital Unit
15- Output signal Line Driver
16- Audio Outputs G and D in TRS and XLR 6.35 jack format