GFI SYSTEM®

USER MANUAL
Rev - D (May 2025)

User Manual
D U O P H O N Y
Advanced Parallel Blender

Table of Contents

1. Overview

Duophony is our take on the 'Parallel Blender' pedal. What is exactly a 'Parallel Blender'? The idea is really simple: a pedal that blends the signals from 2 or more sources.

source 1
source 2
⋮
source n

→ (+) → output
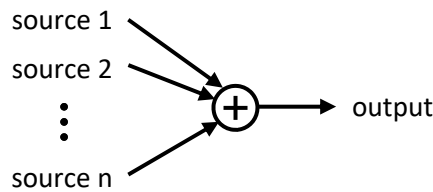
In the context of musical instruments, why would one want to mix sound sources like this? In most cases it comes down to 'effects'. Guitar, bass, and also synth players may use many kinds of effects. The ability to combine the various kinds of effects by blending them together creates opportunities to discover new sounds, enchance or alter how the effects sound, or even conjure up a whole new kind of effects.

For instance, the usual way of constructing your effects arsenal is by chaining the effects together in series, perhaps something like this:

→ COMP → FUZZ → O/D → DIST → MOD → DELAY → REVERB →
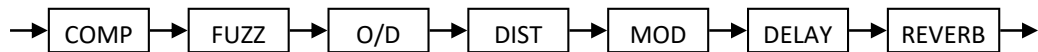
This is nice and safe.
But, what if you could combine the Delay and the Reverb like this intead?

DELAY
REVERB
(+) →
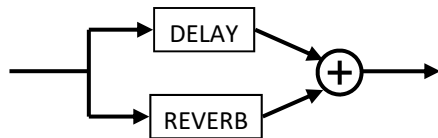
Or maybe concoct a dirt section cocktail with the fuzz, Overdrive, and Distortion like this?

→ O/D → FUZZ / DIST → (+) →
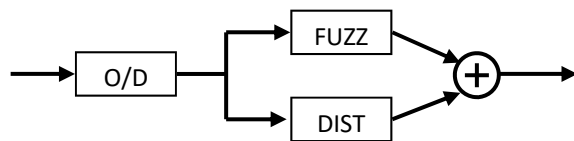
An example of 'tone enhancement' usage scenario is to blend in your clean (unprocessed) sound with the processed sound from your effects, to retain the precious low end that may be missing from the effects

O/D
(+) →
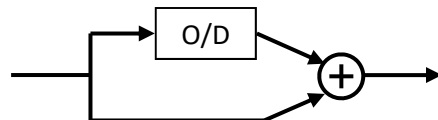
Blending dry signal with wet signals

These are just a few of the applications of parallel blender pedal, we will see many more later.

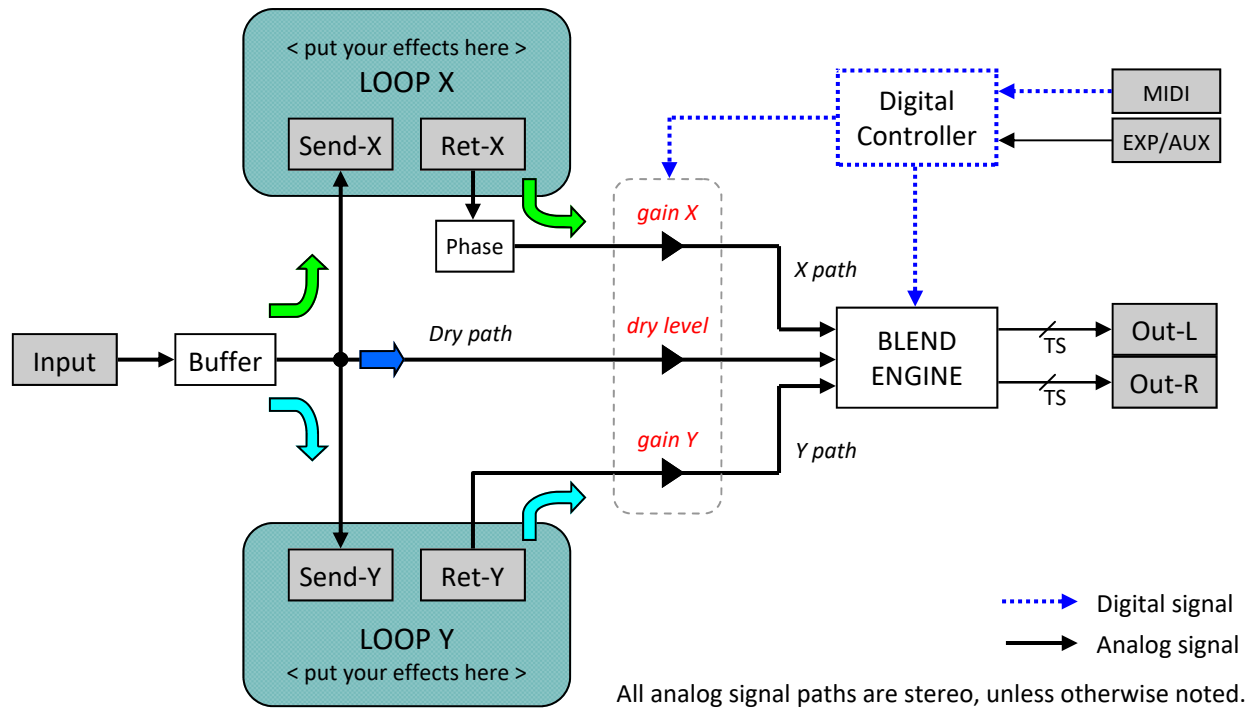With Duophony, we extended this basic concept of parallel signal blending and pushed it to its full potential, allowing users to seamlessly integrate this parallel blend device into their effects chain and get the most out of it.

Here's a simplified block diagram of the Duphony's internal signal paths and processing for your reference. Some details are omitted for clarity.

< put your effects here >
LOOP X
Send-X   Ret-X

LOOP Y
Send-Y   Ret-Y
< put your effects here >

Phase

Input → Buffer

gain X
X path

Dry path   dry level

gain Y
Y path

Digital Controller

MIDI
EXP/AUX

BLEND ENGINE

TS → Out-L
TS → Out-R

········► Digital signal
———► Analog signal

All analog signal paths are stereo, unless otherwise noted.

☞ If nothing is plugged into the effects loop, no signal will flow on the loop path.
Insert a patch cable between the Send and Return jacks if you wish to bypass the effects loop.

Typical Interconnect

Expression

Aux Switches

Midi Controller

MIDI INPUT

LOOP X

IN

OUT

Instrument / Line Level sources

TS for mono
TRS for stereo

EXP/AUX

RET-X

SEND-X

IN

GAIN X

X ON/OFF
OPTIONS

dB %

Bank4 70
30

SAVE

DUOPHONY

LEFT CHANNEL / LFO SPEED

RIGHT CHANNEL / LFO DEPTH

B

A

Y ON/OFF
GLOBAL

dB %

GAIN Y

OUT-R

RET-Y

SEND-Y

OUT-L (mono)

Right Output

LOOP Y

OUT

IN

Left Output
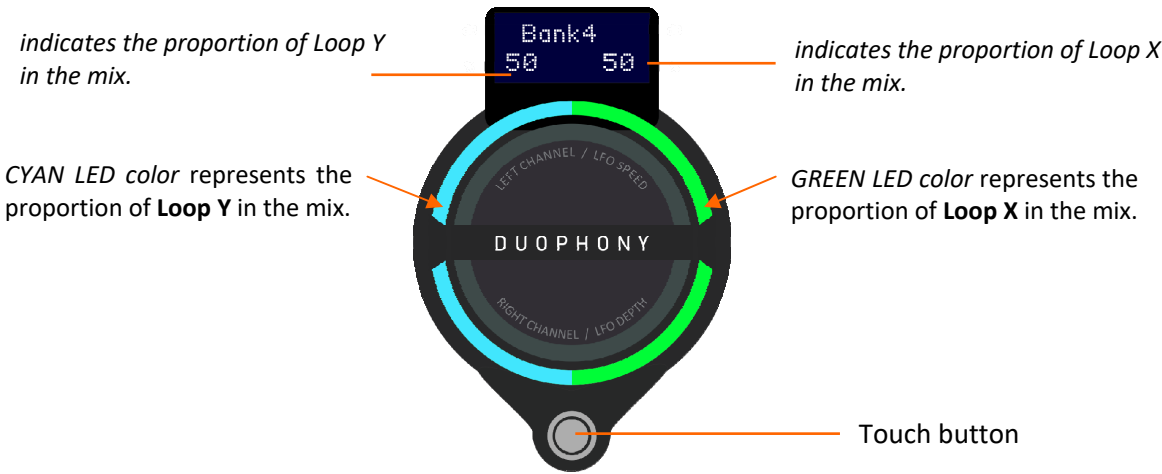
TS for mono
TRS for stereo

— *TS*

— *TRS*

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2. Controls

MIX CONTROL:
Duophony sports two rotary touch sliders that are used to control the blend between Loop X and Loop Y. Sliding clockwise will give Loop Y more proportion in the mix, and sliding counter-clockwise will give Loop X more proportion in the mix.

indicates the proportion of Loop Y in the mix.

indicates the proportion of Loop X in the mix.

CYAN LED color represents the proportion of **Loop Y** in the mix.

GREEN LED color represents the proportion of **Loop X** in the mix.

Touch button

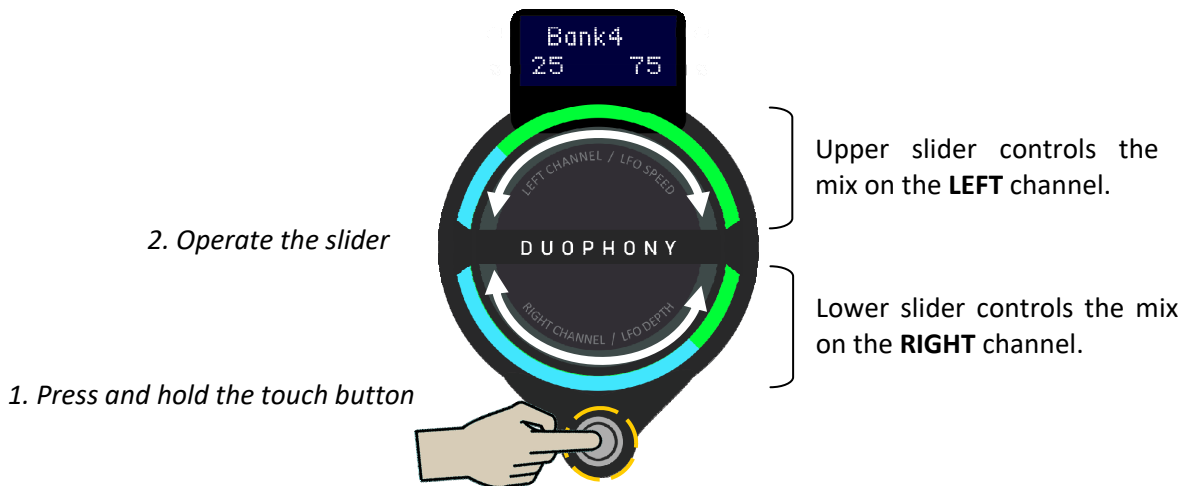**Setting the Left and Right mixes independently**
Thanks to the two independent sliders, it is possible to set the mix independently for Left and Right channel, giving you an unprecedented flexibility in sculpting stereo mixes. For example, you can have a mix like these:

	LEFT	RIGHT
LOOP X	25%	75%
LOOP Y	75%	25%

, or

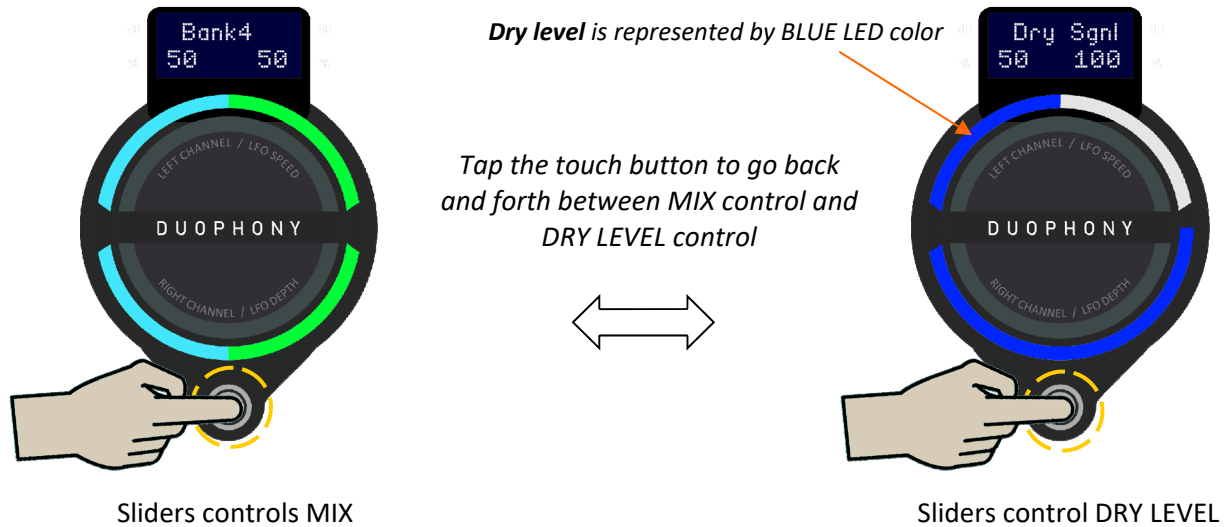|	LEFT	RIGHT
LOOP X	100%	0%
LOOP Y	0%	100%

The default behavior of the sliders are 'synced', i.e. operating one slider will set the mix for both Left and Right channels equally. To temporarily break this 'linkage', and thus operate the slider independently: ***press and hold the touch button while operating the slider.***

2. Operate the slider

Upper slider controls the mix on the **LEFT** channel.

Lower slider controls the mix on the **RIGHT** channel.

1. Press and hold the touch button

DRY LEVEL CONTROL:

Duophony also has the ability to blend in the clean (dry) signal into the mix. DRY LEVEL control is used to set the amount of dry signal passed into the mix. As with the Mix control, the upper slider controls the dry level for Left channel, and the lower slider controls the dry level for Right channel.

Dry level is represented by BLUE LED color

Tap the touch button to go back and forth between MIX control and DRY LEVEL control

Sliders controls MIX

Sliders control DRY LEVEL

SPEED & DEPTH CONTROL:

Yes you read it right! Duophony does have a modulation engine. See chapter 8 - page 15 for detailed information on this fantastic feature.

The modulation speed and depth are also controlled using the touch sliders. The upper slider controls the Speed, and the lower slider controls the Depth.

Speed & Depth are represented by single BLUE LED

Mix   Dry   Mod
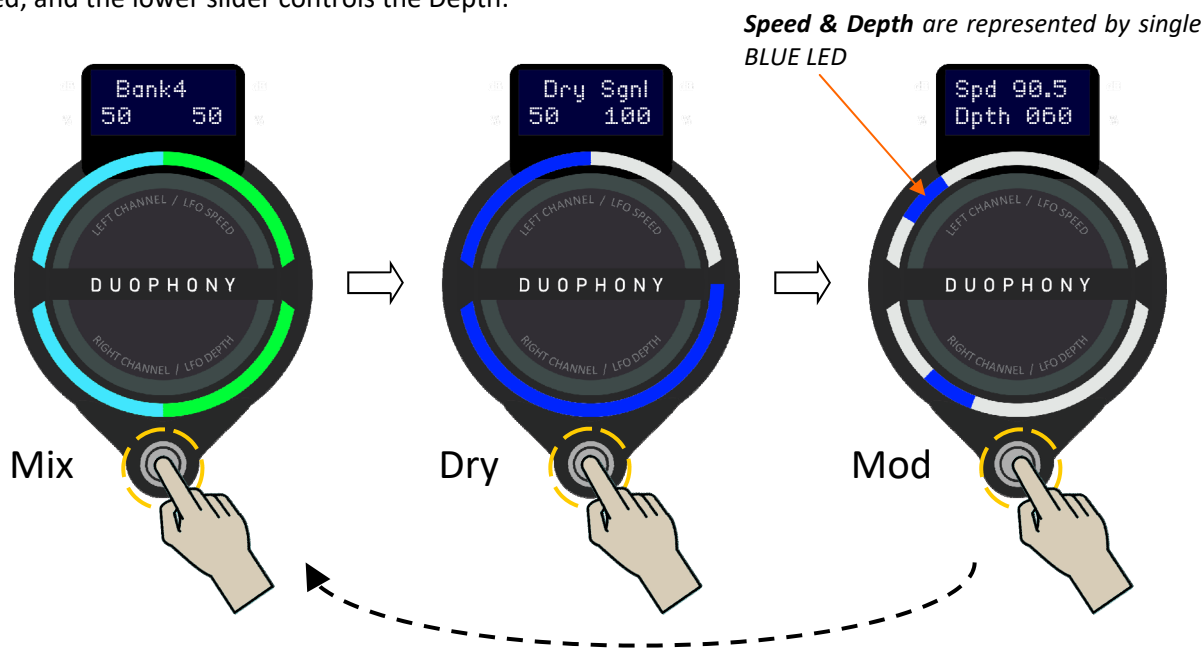
A note about the touch sliders
The touch sliders work best with soft touch. If you find the sliders are somehow unresponsive, try operating them with softer touch, do not press on the surface.

GAIN CONTROLS:

Both Loop X and Loop Y have independent gain controls to help balance the level between the effects in the loops. These gain controls are positioned after the loop return. This control is capable of cutting and boosting the gain, and goes from *mute* to *+6 dB*. As you make the adjustment the gain dB values are displayed on the screen.

Gain control for Loop Y   *Gain control for Loop X*
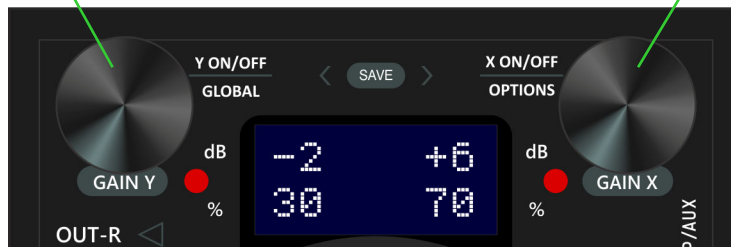
Tips: You can quickly turn off (mute) an effects loop by pushing the corresponding Gain knob/button. Pushing the knob once again will turn the loop back on.

3. Modes and Routing
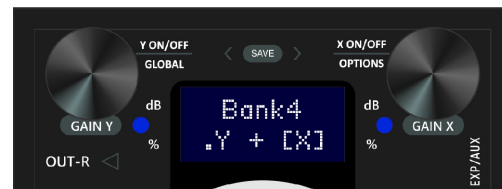
MODES:

Duophony offers 3 parallel blend modes:

- ○ XY Mix
  Loop X and Loop Y are mixed proportionally. For example, if Y is set to 30%, X will be at 70%. This mode is marked by the LED color **VIOLET**.
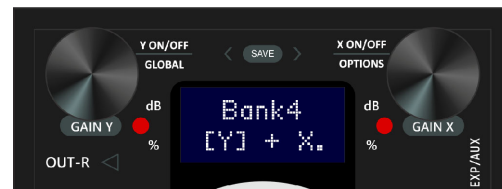

- ○ Y plus [X]
  In this mode, the Mix control functions as a *level control* for Loop Y, i.e. Y goes from 0 to 100%, while X is always at 100%. This mode is marked by the LED color **BLUE**.

- ○ X plus [Y]
  In this mode, the Mix control functions as a *level control* for Loop X, i.e. X goes from 0 to 100%, while Y is always at 100%. This mode is marked by the LED color **RED**.


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Example use case for *Y plus [X]* and *X plus [Y]* modes:
Put a delay pedal in Loop X Put a reverb pedal in Loop Y, you can then blend in the delay on top of the reverb without reducing the reverb, or vice versa. This works best with pedals that have a KILL DRY or 100% Wet feature.

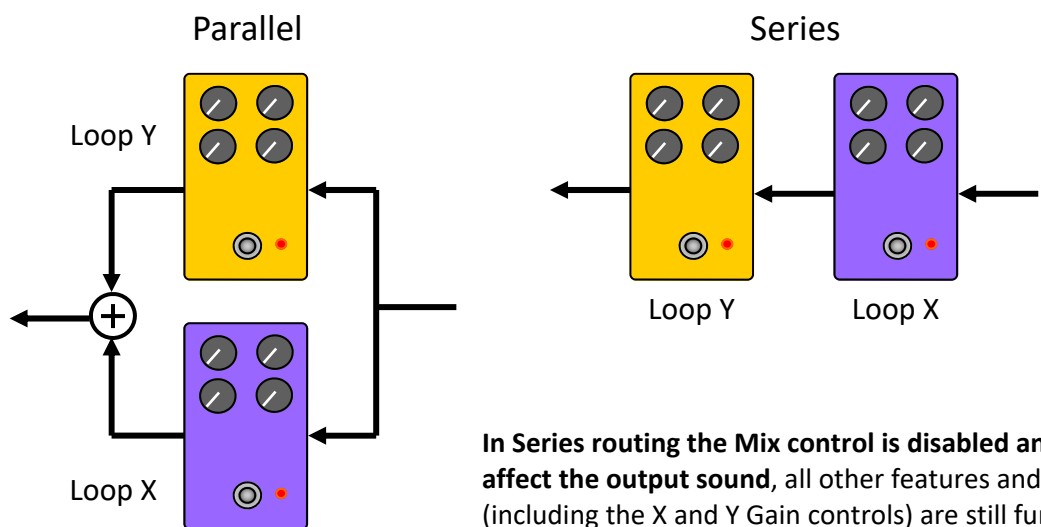The Modes option is found in the **Options** menu (saved on per preset basis).
Press and hold the X knob for 2 secs to enter Options menu.
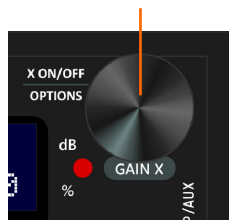
Options
└── **1. Modes** ┬── XY mix
                 ├── Y plus X
                 └── X plus Y

ROUTING:
Duophony offers 2 routing options:

Parallel

Loop Y

Loop X

Series

Loop Y   Loop X

In Series routing the Mix control is disabled and will not affect the output sound, all other features and controls (including the X and Y Gain controls) are still functional.

Parallel routing is what this pedal is all about, but what about series routing? Why would you want this option in a parallel blender pedal? Well, without this option, once you're done hooking up everything on your pedalboard, the effects that you've put in Duophony's effects loop will be permanently stuck in parallel configuration, there'll be no way to have them combined in series, without rewiring your pedalboard. The Routing option efficiently removes this setup rigidity and lets you switch <u>back and forth between parallel and series on the fly</u>.

Routing option is applied on per preset basis, so you can have parallel configuration in some preset and series configuration is some others. Routing can be configured in the Options menu.

Options
└── **2. Routing** ┬── Parallel
                   └── Series

4. Knobs and Buttons

Every knob is also a button. The following operations can be done on each knob :

TURN   PUSH or TAP   HOLD   TWIST (press and turn)
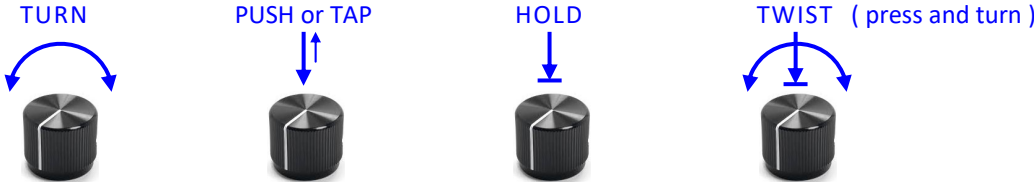
Here's a summary of what each knob/button does, this is just a quick reference, more detailed information will be given in the respective sections of this user manual

- **Turn** - adjust the Gain for Loop Y
- **Push** - toggle loop Y on and off.
- **Hold** - enter Globals menu (see chapter 7)
- **Twist** - Set Expression mapping (see ch.9)

- **Turn** - adjust the Gain for Loop X
- **Push** - toggle loop X on and off.
- **Hold** - enter Options menu (see ch.6)
- **Twist** - Set Modulation on or off (see ch.8)

KNOBS and BUTTONS

Y ON/OFF   X ON/OFF
GLOBAL   ‹ SAVE ›   OPTIONS

dB   Bank4   dB
GAIN Y   30   70   GAIN X
%   %

OUT-R ◁

EXP/AUX

OUT-L ◁   ◁ IN
(mono)

A   B

- **Push/Tap** - scroll through the sliders functions (see chapter 3, page 4-5)
- **Hold** - Unsynchronize the sliders (see chapter 3, page 4)

5. Navigating Presets

There are 16 preset locations in Duophony, organized into 8 banks.

BANK 1 Patch A Patch B	
BANK 2 Patch A Patch B	
BANK 3 Patch A Patch B	
BANK 8 Patch A Patch B	
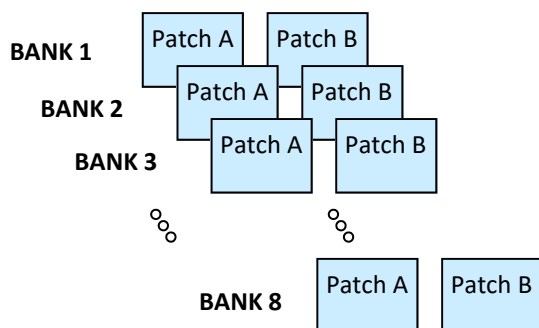
Calling a Preset
The two patches in each bank (patch A and patch B) can be quickly recalled by pressing footswitch A or footswitch B.
The LED will indicate which preset is currenctly active.

Bypassing the Pedal
To bypass the pedal: press the footswitch that corresponds to the currently active preset.

Changing Banks:

Press both switches simultaneously to increment the bank number upwards. You can do this repeatedly to reach the desired bank number, or you turn the X knob or the Y knob to quickly increment / decrement the bank number. When you've reached the desired bank, press A or B to call the desired patch.

Tips:
External switches can be connected to the EXP/ AUX port and configured for Bank Up / Bank Down operation. This is much more convenient than having to step on two footswitches simultaneously.

2. Turn the knob for faster bank scroll.

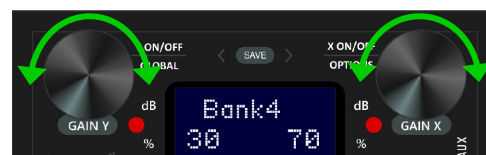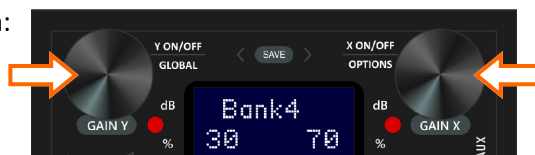*1. Press simultaneously. Repeat as required, OR ...*

Saving Presets

To save the current parameter settings to a preset location:
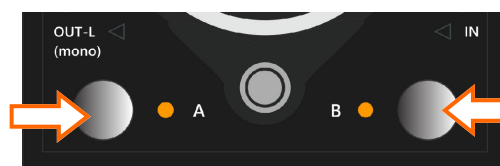1. Press and hold button Y and button X together.
   Release when the screen reads:

   ```
   <Bank1 >
   A.save.B
   ```

2. If you wish, you can change the bank number by turning the Y knob or the X knob.

3. Press footswitch A to save to patch A, or footswitch B to save to patch B.

6. Options

Parameter settings in the Options menu are specified on per preset basis.

Press and hold the X knob for 2 secs to enter Options menu.

Use the Y and X knobs/buttons to navigate around the menu:

- Push the X button to save changes
- Hold the X button to exit without saving changes

- *Turn the X knob to browse.*
- *Push the X button to make selection.*

- Push the Y button return to the item list.

```
*Modes
*Routing
```
X

- **Item list scene -**

```
<--      OK
>>Parallel
```
Y   X

- **Item edit scene -**
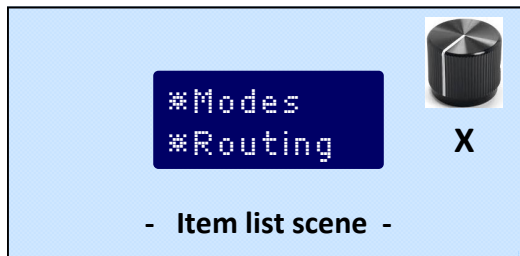
OPTIONS

Options

1. Modes —— XY mix : This mode mixes X and Y proportionally. For example, if Y is set to 30%, X will be at 70%. This mode is marked by the LED color **violet**.

Y plus X : In this mode, Y goes smoothly from 0 to 100%, while X is always at 100%. This mode is marked by the LED color **blue**.

X plus Y : In this mode, X goes smoothly from 0 to 100%, while Y is always at 100%. This mode is marked by the LED color **red**.

2. Routing —— Parallel : Loop X and Loop Y are combined in parallel.
—— Series : Loop X and Loop Y are combined in series (Loop Y << Loop X)

☞ **In Series routing the Mix control is disabled and will not affect the output sound**, all other features and controls (including the X and Y Gain controls) are still functional.

Options

— **3. Phase X** ┬— Normal   : signal phase of Loop X is unaltered.
                 └— Inverted : signal phase of Loop X is inverted (shifted by 180°).

If you add two sounds toghether, there is a chance that you may get thin and tiny sounds. This is caused by *phase cancellation*. Inverting the phase on one of the signals usually solves the problem.

— **4. Trails** ┬— Trails X : Trails function disabled.
                └— Trails ✓ : Trails function enabled.

Trails enabled: If you have a delay or a reverb pedal in the loops, you can have the delay or reverb tails fade out, instead of abruptly cut, when the Duophony is bypassed.

This feature is only meaningful if the loops contain delay or a reverb pedals. For other types of effects it is recommended to keep the trails disabled.

— **5. Hz/Bpm** ┬— Hz   : Modulation speed will be displayed in Hz.
                └— Bpm : Modulation speed will be displayed in Bpm.

— **6. Subdiv** ┬— Whole.4 ⎫
                ├— Whole.2 ⎬ **< added in firmware 2.0.0 >**
                ├— Whole
                ├— Half
                ├— Quarter
                ├— Dotted
                ├— 8th
                ├— Triplet
                └— 16th

— **7. Tempo** ┬— Global : Modulation speed will follow the global tempo.
               └— Preset : Modulation speed will follow the value saved in the preset.

— **8. PC State** ┬— Engage : When the preset is called via Midi PC, it will load in engaged state.
                  └— Bypass : When the preset is called via Midi PC, it will load in bypassed state.

☞ **Note:** Changes made in the Options menu will be automatically saved into the current preset, i.e. you do not need to execute the preset save operation again.

7. Global Setting

Press and hold the <u>Y knob</u> for ~2 secs to enter Globals menu.

Use the Y and X knobs/buttons to navigate around the menu:

- *Push the X button to save changes*

- *Push the Y button return to the item list.*
- *Hold the Y button to exit without saving changes*

- *Turn the Y knob to browse.*
- *Push the Y button to make selection.*

#Input
#Banks

Y

<—   OK
>>Stereo

Y   **X**

- **Item list scene -**

- **Item edit scene -**

Globals

1. Input ─┬─ Mono   : input signal is mono
            └─ Stereo   : input signal is stereo.

2. Banks ─ [2 to 8]

Select the number of preset bank you would like to use. For example, if you choose '3 banks', then the bank-change cycle is like this:

bank-1   bank-2   bank-3   bank-1   bank-2 ...

This is useful when you need to use only a few preset locations.

3. Midi Ch. ─ [1 to 16]   : Set the Midi Channel number.

4. SwitchB ─┬─ Preset : Footswitch B = Preset switch.
             └─ Tap   : Footswitch B = Tap-tempo switch.

☞ When footswitch B is configured as tap-tempo switch, you lose the ability to call patch B, only patch A is available for use. The total number of available presets is therefore halved to 8 presets.

5. PowerUp ─┬─ Bypass : Pedal powers up in bypassed state.
             └─ Engage : Pedal powers up in engaged state.

Globals

6. **Fave** ── [1A to 16B]   Select your 'favorite' patch.

☞ When you assign an aux switch to the 'favorite' function (see below), you can quickly call a favorite patch of your choosing by pressing that aux switch.

7. AuxTip
8. AuxRng
9. AuxT+R

* *Bank Up* - move up the bank.
* *Bank Down* - move down the bank.
* *Toggle X* - Toggle the X loop on and off.
* *Toggle Y* - Toggle the Y loop on and off.
* *Fave* - Call the favorite patch (see item no.6 above).
* *Bypass* - Toggle bypass / engage.
* *Toggle P/S* - Toggle loop routing: *Parallel <-> Series*
* *Toggle LFO* - Toggle modulation LFO on and off.
* *Tap-Tempo* - Set the LFO speed by tapping on the switch.

10. Dry Signal
Off : dry signal is disabled at all times (including when pedal is bypassed).
On : dry signal is enabled.

< added in firmware 2.0.0 >
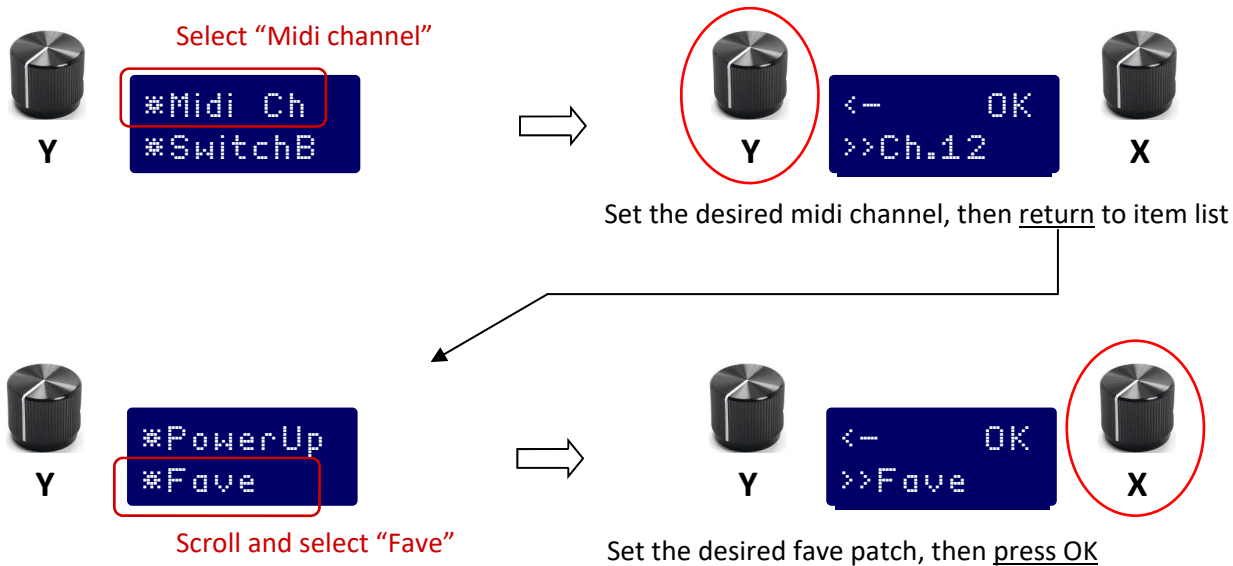
11. Exp/Aux
Exp EP : use with expression pedal.
Aux 1 : use with single-button aux switch.
Aux 2/3 : use with 2 or 3 button aux switch.

< added in firmware 2.1.0 >

**Tips:** <u>Making changes to multiple items in Global Settings menu efficiently</u>.

Say, you want to set the Midi Channel number and the Favorite patch number…

Select "Midi channel"

Y
```
✳Midi Ch
✳SwitchB
```

⟹

Y
```
<-      OK
>>Ch.12
```
X

Set the desired midi channel, then <u>return</u> to item list

Y
```
✳PowerUp
✳Fave
```

Scroll and select "Fave"

⟹

Y
```
<-      OK
>>Fave
```
X

Set the desired fave patch, then <u>press OK</u>

Changes to both Midi Channel and Fave Preset setting have now been saved.

GLOBAL SETTING

8. Using Modulation (modulated blending)

Modulation applies a LFO (*low frequency oscillator*) waveform to modulate the blending of the X and Y effects. It's like someone continuously sliding his/her finger back and forth on the Mix slider control. This can create interesting variations to the otherwise static mixture of sounds.
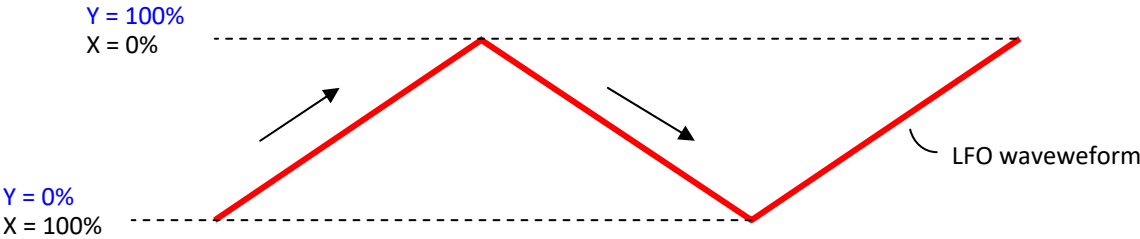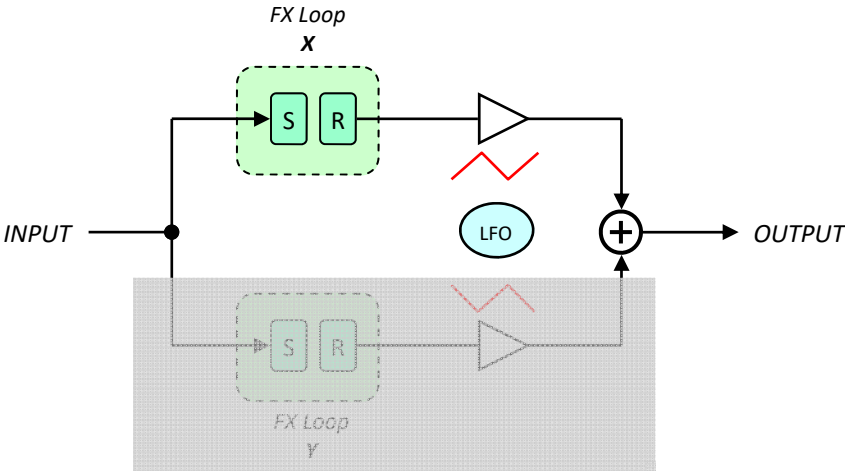
Conceptually it works like this:
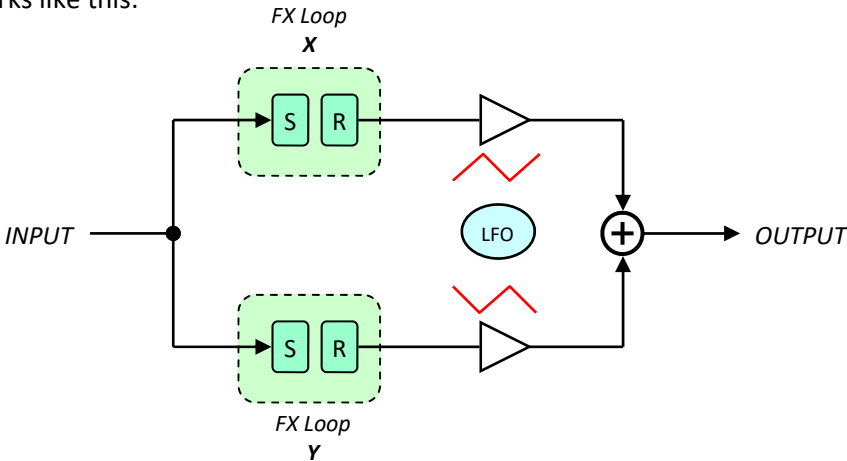
👉 **Duophony as a Tremolo pedal**

Note that, if you disable one of the loops, then you got yourself a standard tremolo effect acting on the active loop signal.

The modulation engine features:

- **9 LFO shapes** - *Sine, Triangle, Exponential, Sawtooth, Reverse Sawtooh, Square, Pulse1, Pulse2,* and Random —— **< added in firmware v2.0.0 >**

- **2 modes** - *Normal* (centered) or *Panning*.

- **7 subdivisions** - *Whole, Half, Quarter, Dotted 8th, Eighth, Triplet*, and *Sixteenth*.

- **Hz or Bpm** display mode.

- Tempo can be set via the on-board touch slider, tap-tempo, or midi clock.

☞ Tempo subdivision and display mode (Hz or Bpm) can be set in the **Options** menu (see chapter 6, page 11).

☞ Footswitch B can be configured as Tap Tempo switch, so you can quickly set the modulation tempo by tapping your foot. However you lose half the presets since all the B presets can no longer be used. This option is set in the **Globals** menu (see chapter 7, page 12).

Setting up the modulation parameters:

• Twist (press and turn) the X knob to enable or disable modulation. Release the button hold to confirm the selection.

If modulation is enabled, you will then enter the modulation setup menu where you can select the LFO *shape*, *mode*, *speed*, and *depth*.
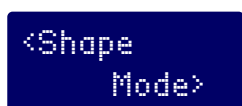
• Turn the Y knob to set the LFO shape, and
  turn the X knob to set the LFO mode (*normal / panning*).

• Use the upper rotary touch slider to set the LFO speed, and
  Use the lower rotary touch slider to set the LFO depth.

If at this point, you change your mind, and would like to disable the modulation instead, you can twist the X knob again and make the desired changes.

• Push any knob to save the changes.

Notes:
When modulation is active, any changes you make to the Mix parameter via the touch rotary slider will not immediately take any effect since the LFO has taken full control over the Mix parameter. The changes will take effect once modulation is disabled.

Tips:

Setting the speed to an exact Hz or BPM.

When using the touch slider to set the modulation speed, at times it may be difficult to set the value to an exact number that you have in mind. For instance, you are trying to set the speed to be exactly at 90.5 bpm but can't seem to hit the exact number. No worries, here's how to set the speed to an exact Hz or Bpm:

- Use the touch slider to set the speed to a number somewhere close to the desired value.
- Now press and hold the touch button.
- Turn the X button to increment or decrement the value.
- Release the touch button when the desired value is reached.

2. Turn the X knob

1. Press and hold the touch button

9. Using Expression Pedal or Aux Switches

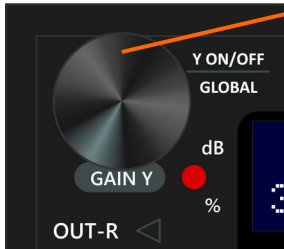**< added in firmware 2.2.0 >**

Expression

Expression control may be mapped to *Mix*, *Dry Level*, *LFO Speed*, *LFO Depth*, or *Wet Level*.
Only one parameter may be mapped at a time.

Setting up the expression parameters:

- Twist (press and turn) the Y knob to select the parameter you wish to map to the expression pedal. Release the button hold to confirm the selection.

  If expression is mapped to a parameter, you will then enter the expression setup menu where you can set the Heel and the Toe values.

Heel position   *Toe* position

- Turn the Y knob to set the Heel value, and turn the X knob to set the Toe value.

  If at this point, you change your mind, and would like to change the parameter to be mapped, or even disable the expression instead, you can twist the Y knob again and make the desired changes.
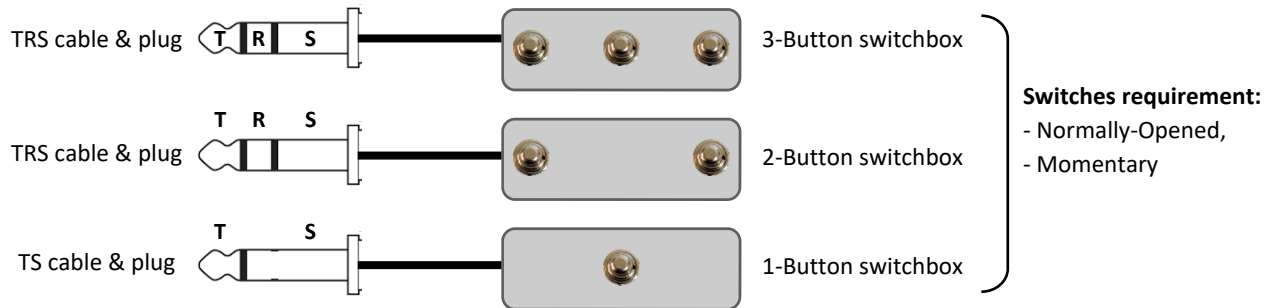
- Push any knob to save the changes.

Expression Pedal requirement:

Polarity	: *Wiper-to-Tip*
Wiper resitance	: 10 KOhm
Cable	: TRS

Ring

Tip

wiper

Resistance value 10K Ohm
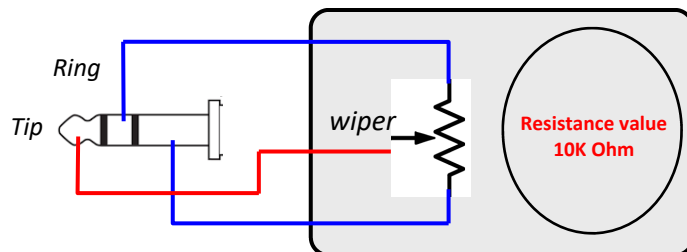
Aux Switches

An external switch box can be used to access various functions of Duophony remotely. Single-button, dual-button, or triple-button switch boxes can be used. You can assign various functions such as, *bank up*, *bank down*, *favorite preset*, *toggle routing*, etc, to these switches. For detailed information on how to do this, please see chapter 7, page 13.

TRS cable & plug — 3-Button switchbox

TRS cable & plug — 2-Button switchbox

TS cable & plug — 1-Button switchbox

Switches requirement:
- Normally-Opened,
- Momentary

Connecting an expression pedal or aux switches to Duophony

Pre-Firmware 2.1.0

On power up, Duophony will try to detect the presence of any expression pedal or Aux switches connected to the EXP/AUX port, and configure the internal processing accordingly. Therefore, make sure that the expression pedal or Aux switch is already connected to Duophony prior to powering up the pedal.

Firmware 2.0.1 and above

Automatic detection is deprecated and no longer used. Instead, we added an option (in the Global settings menu) to allow users explicitly select whether to use the Exp/Aux input as an expression pedal input or as an Aux switch input. This change was made to achieve a more consistent behavior.

Globals
└── **11. Exp/Aux** ┬ Exp EP : use with expression pedal.
├ Aux 1 : use with single-button aux switch.
└ Aux 2/3 : use with 2 or 3 button aux switch.

Note: When the Exp/Aux input is configured as 'Expression', the pedal will always assume an expression pedal is connected to the Exp/Aux input. In the event that no expression pedal is actually present, low level noise at the Exp/Aux input may fool the pedal into reacting to it. To avoid this, configure the Exp/Aux input as Aux 1 or Aux 2/3 whenever you are not using Duophony with an expression pedal.

10. Using MIDI

You can use any standard MIDI controller capable of sending Program Change (PC), Control Change (CC) messages, and MIDI Clock to remotely change presets or controlling other functions or parameters in Duophony. Duophony's MIDI input accepts the following TRS to DIN5 pin mapping:

1/8" TRS - to - DIN5 mapping
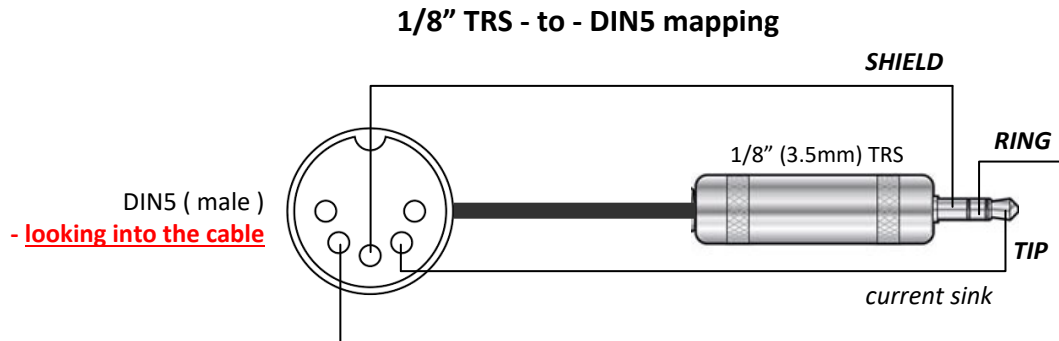
There are conflicting definitions as to the pin numbering on the DIN5 connector. Use the diagram above as your reference when ordering or making your own cable.

MIDI CHANNEL
Duophony is pre-programmed to use MIDI channel 1. You can change the channel number to any number from 1 through 16 in **Global Settings** menu.

MIDI CLOCK
MIDI clock allows you to sync the tempo of the LFO in Duophony to other gears via MIDI sync timing pulses. You have the freedom to decide which preset should respond to midi clock and which should not. To configure a preset to respond to midi clock set the Tempo Mode to *Global* in the **Options** menu.

Globals
— **MIDI Ch.** — Channel 1
...
— Channel 16

Options
— **2. Tempo** — Global
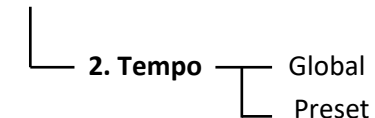— Preset

PC MESSAGE
Send PC messages to call presets.

PC0 - Patch A (Bank 1)   PC8 - Patch A (Bank 5)
PC1 - Patch B   PC9 - Patch B
PC2 - Patch A (Bank 2)   PC10 - Patch A (Bank 6)
PC3 - Patch B   PC11 - Patch B
PC4 - Patch A (Bank 3)   PC12 - Patch A (Bank 7)
PC5 - Patch B   PC13 - Patch B
PC6 - Patch A (Bank 4)   PC14 - Patch A (Bank 8)
PC7 - Patch B   PC15 - Patch B
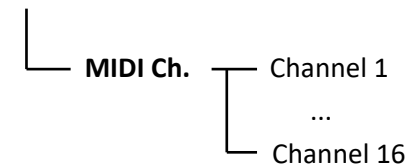
MIDI Implementation Chart

OPERATION	CC#	CC Value Range
Loop X	14	*Off* = 0, *On* = 127
Loop Y	15	*Off* = 0, *On* = 127
Modes	16	*XY Mix* = 0, *Y plus X* = 1, *X plus Y* = 2
Routing	17	*Parallel* = 0, *Series* = 127
Phase X	18	*Normal* = 0, *Inverted* = 127
Expression	19	0 - 127
Tap-Tempo	20	Any
Subdivision	21	**Whole.2** = 0　　**Dotted** = 5 **Whole.4** = 1　　**8th Note** = 6 **Whole** = 2　　**Triplet** = 7 **Half** = 3　　**16th Note** = 8 **Quarter** = 4
Bypass / Engage	22	*Bypass* = 0, *Engage* = 127
Mix	23	0 - 127
Mix (Left)	24	0 - 127
Mix (Right)	25	0 - 127
Dry Level	26	0 - 127
Dry Level (Left)	27	0 - 127
Dry Level (Right)	28	0 - 127
LFO Speed	29	0 - 127
LFO Depth	30	0 - 127
LFO	31	*Off* = 0, *On* = 127
Gain X *	32	0 - 127 (see chart below)
Gain Y *	33	0 - 127 (see chart below)
Mute L [+]	34	0 = mutes Left output, 127 = unmutes Left output (in both cases Right output will be unmuted)
Mute R [+]	35	0 = mutes Right output, 127 = unmutes Right output (in both cases Left output will be unmuted)
Mute LR [+]	36	0 = mutes both outputs, 127 = unmutes both outputs
Wet Mute L ~	37	0 = mutes Wet (Left), 127 = unmutes Wet (Left) (in both cases Wet Right will be unmuted)
Wet Mute R ~	38	0 = mutes Wet (Right), 127 = unmutes Wet (Right) (in both cases Wet Left will be unmuted)

* Added in firmware v1.0.4　　　+ Added in firmware v1.0.5　　　~ Added in firmware v2.0.0

Gain X (CC#32) and Gain Y (CC#33) value mapping

CC value	Gain (dB)
0 - 3	OFF
4 - 7	-30
8 - 11	-24
12 - 15	-20
16 - 19	-18
20 - 23	-16
24 - 27	-14
28 - 31	-12
32 - 35	-10
36 - 39	-8
40 - 43	-6
44 - 47	-5
48 - 51	-4
52 - 55	-3
56 - 59	-2.5
60 - 63	-2

0 - 3, OFF —— *Mute*

CC value	Gain (dB)
64 - 67	-1.5
68 - 71	-1
72 - 75	-0.5
76 - 79	0
80 - 83	+0.5
84 - 87	+1.0
88 - 91	+1.5
92 - 95	+2.0
96 - 99	+2.5
100 - 103	+3.0
104 - 107	+3.5
108 - 111	+4.0
112 - 115	+4.5
116 - 119	+5.0
120 - 123	+5.5
124 - 127	+6.0

76 - 79, 0 —— *Unity gain*

USING MIDI

11. Example Applications

- ### Using Duophony in Mono or in Stereo.

Duophony can be used with mono or stereo gears. Internal signal paths of Duophony are stereo, including phase and gain controls.

The L and R **outputs** of Duophony are routed to separate jacks. For the **inputs**, **sends**, and **returns**, the L and R channels share a single jack which accepts TS connection for mono signal, or TRS connection for stereo signals.
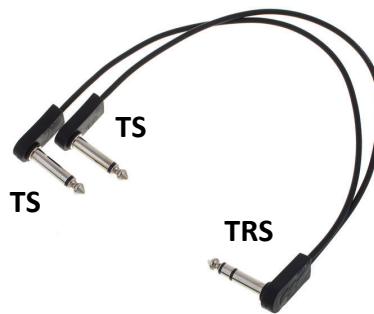
Use TS jack on both ends to send or receive mono signal:

Use TRS jack on Duophony end to send or receive stereo signal:

To interface Duophony's **input**, **send**, and **returns** with stereo pedals that has separate Left and Right jacks you will need to use TRS-to-Dual Mono cable:
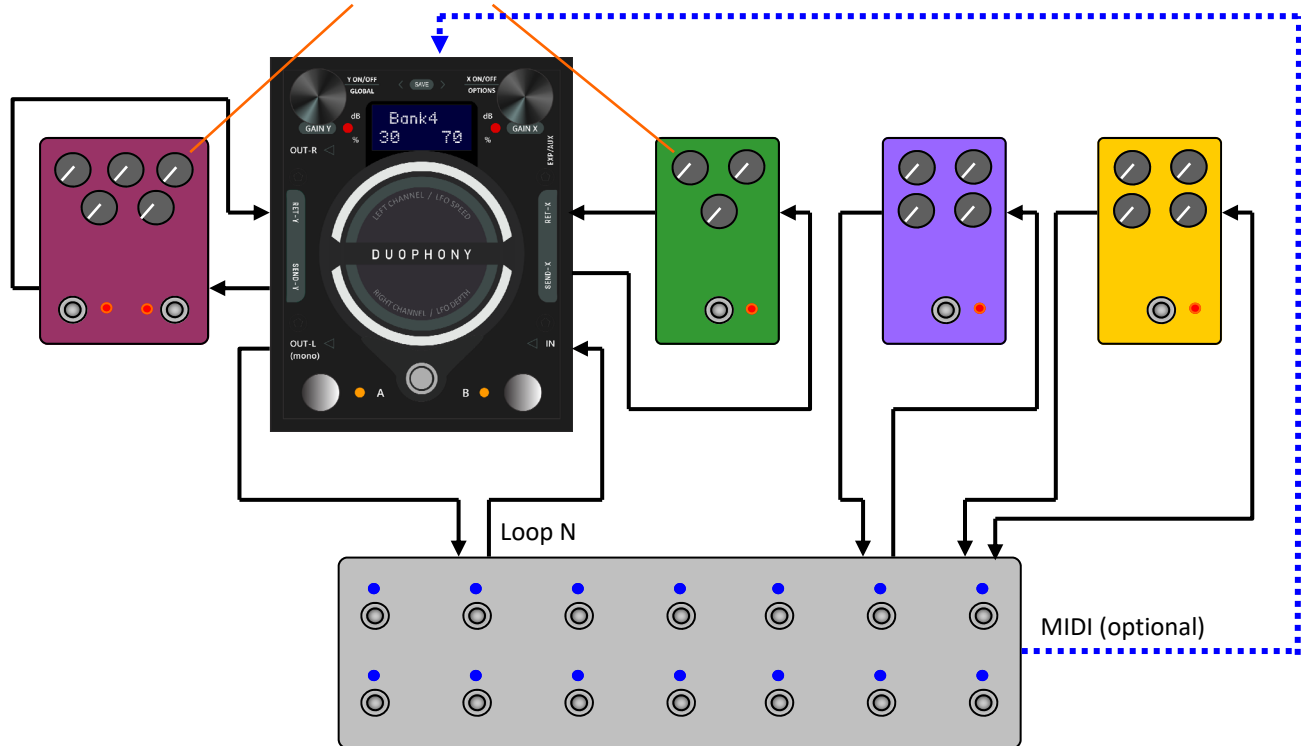
TS

TS

TRS

- ### Connecting Duophony to your Amps FX Loop
1. Connect the SEND of the amps FX loop to the IN of Duophony.
2. Connect the OUT(S) of Duophony to the RETURN of your amp's FX loop.
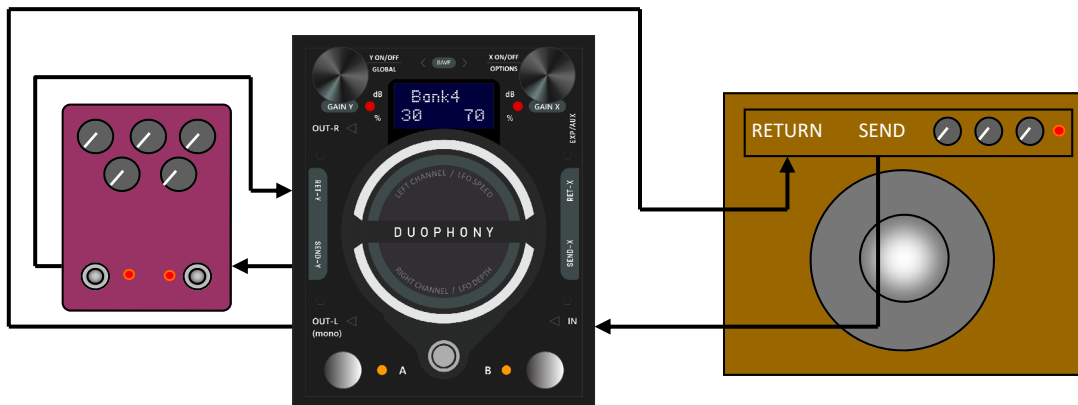
- Using Duophony with a looper switcher

in *Parallel* or in *Series*, depending
on Duophony's routing option

Loop N

MIDI (optional)

In the example above, a stereo delay and a stereo reverb are placed in Duophony's FX Loop. You can take advantage of Duophony's flexible routing (parallel or series) to achieve various delay + reverb combinations.

If the looper switch has MIDI output, you can connect it to Duophony's MIDI input, you can then control the state of the reverb and delay pedal individually using the Duophony's Loop-On/Loop-Off function.

12. Resetting the Pedal

Resetting the pedal will revert the parameters or configurations to factory default settings. There are 2 types of resets which can be performed independently: *Factory Reset* and *Global Settings Reset*.

FACTORY RESET

Factory Reset reverts all the presets back to factory settings. This operation will overwrite all user presets, but will not affect the saved global settings.

Press and hold footswitch A <u>while</u> powering up the pedal.
Keep holding until the screen reads:
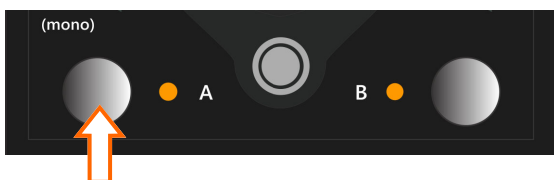
```
FACTORY
   RESET
```

⬇

```
Proceed?
YES     NO
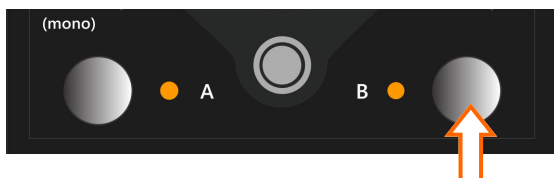```

Push footswitch A to confirm, or footswitch B to cancel.

### GLOBAL SETTING RESET

Global Settings Reset reverts the global configurations back to factory settings. This operation will <u>*not*</u> affect the saved presets.

**Press and hold footswitch B <u>while</u> powering up the pedal.**
Keep holding until the screen reads:

```
GLOBAL
   RESET
```

⬇

```
Proceed?
YES     NO
```

Push footswitch A to confirm, or footswitch B to cancel.

13. Firmware Update

Firmware updates may be posted for bug fixes and/or feature additions/modifications. You will need to connect your pedal to your computer via USB to perform a firmware update.

Step 1: connect the pedal to your computer via USB.

Step 2: Open the *GFI Firmware Updater* software.
Go to GFI System website, download and install the software if you not already done so. Mac and Windows version are available. Mobile devices versions are not supported at this time.

Step 3: Click the "Load Firmware File" button.

Go to GFI System website and download the firmware file (.fdt extension) if you not al ready done so. Place the file in a folder that has only latin (abc…) character in its name.

Step 4: Click the "Run Update" button to start the update.

Specifications :
- Input impedance   : 1 MOhm (*Inputs, Returns*).
- Output impedance : 500 Ohm (*Outputs, Sends*).
- Current draw : 165 mA.
- Dimension : 9.7 x 12 cm (3.8 x 4.7 inch)
- Power source : 9VDC (negative center).

Key Features :
- True stereo on all (inputs, outputs, and effect loops) signal paths.
- Parallel or Series routing modes.
- 3 parallel blend modes : *XY mix*, *Y plus [X]*, and *X plus [Y]*.
- 16 presets.
- Fully adjustable dry signal level.
- Phase invert function on loop X.
- Individual gain control for each loop.
- Bypass function with or without trails.
- Expression pedal and Aux switches control input.
- MIDI input.
- Full-featured modulation engine.

Visit the product page at our website for more demo videos, sound clips, FAQs, and updates.

This product is designed and manufactured by :

G F I **GFI** S Y S T E M ©

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Web   : www.gfisystem.com
GFI System