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D3

User Manual for the Xvive Duet Stereo Dual-Loop Looper

Version 1.0

Introduction :

We believe that the Duet looper is the first mini looper that allows series recording and playback of two loops. Coupled with the more usual Undo/Redo mode, good low frequency response, highheadroom stereo inputs and outputs, extremely low latency response (less than 1.5ms) to user inputs, true bypass, and USB support for future updates and upgrades,we think we've made something pretty special. We hope you enjoy this pedal and do so for many years.

Features :

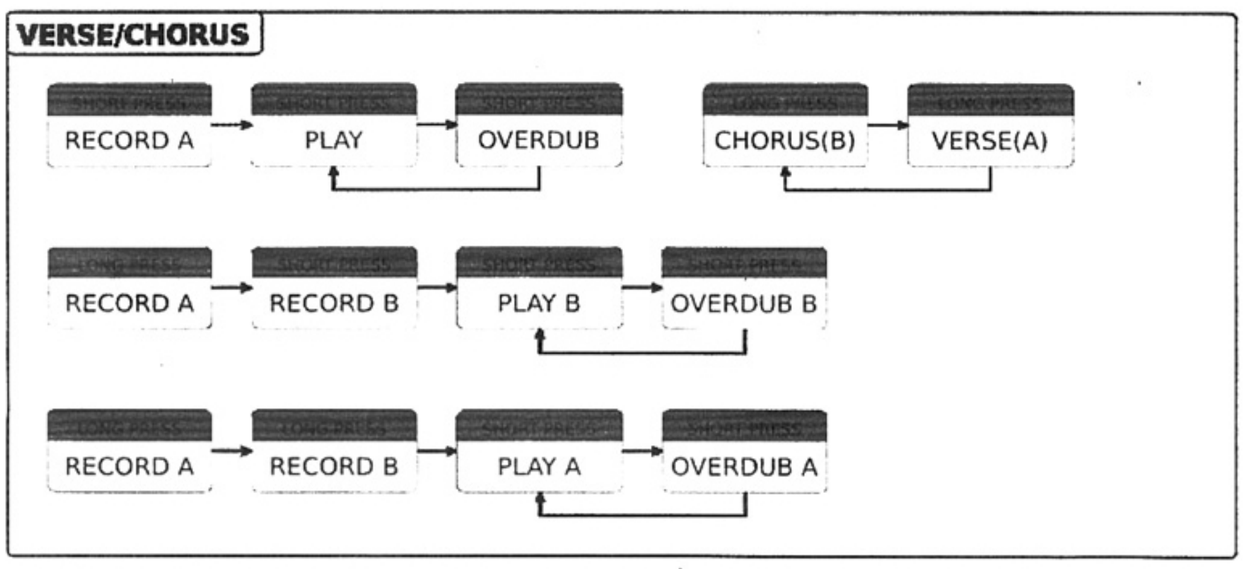
- Xvive DUET Stereo Dual-Loop Looper with two modes: Undo/Redo and Verse/Chorus.
- Stereo 44 kHz 24bit audio, voiced for an analog sound.
- High dynamic range inputs and outputs for loud instruments, three times linelevel.
- Capable of interfacing with both instruments and linelevel equipment.
- Flat frequency response down to 10 Hz for bass instruments.
- True bypass.
- USB port, for firmware updates and future updates and upgrades.
- **Verse/Chorus Mode:**
  * Two series mode separate loops to record to, each with a maximum length of 5 minutes.
  * Each loop can be recorded, overdubbed, or played separately.
- **Undo/Redo Mode:**
  * One 5 minute loop that allows undo and redo.
  * Capable of Record Play Overdub, and also Record Overdub Play for ambient loops.

Requires 9 to 12 Volt input, center pin negative. Input is protected against incorrect voltages and polarities.

Instructions :

Here are the most important points:

- We talk about "layers" and "loops".
  - A loop is a segment of audio recorded and looped back later.
  - A loop can consist of many layers of audio recorded over each other.
  - The initial loop record lays down the "first" or "base" layer. Later layers are called "overdub layers".



More detail : Verse/ Chorus mode

In Verse/Chorus mode:

Meanings of LEDs:

1. Pulsing Red. This is a loop that could contain audio data.
2. Pulsing Blue. This is a loop that contains recorded data.
3. **Red.** This means " **Recording** first (base) layer in loop".
4. **Blue.** This means "**Playing** a loop".
5. **Purple.** This means "**Overdubbing** onto a loop".
6. If an LED is flickering, that means that the next state will be the colour of the LED. For example, if you are playing a loop, it will be Blue, but if you signal that you want to overdub soon, the LED will flicker purple. Once you start overdubbing, the LED will be purple with no flicker.
7. LEDs will pulse off momentarily at the top of a loop, to give a visual aid as to when the end of the loop has arrived.

Meanings of footswitch pushes:

1. There are three kinds of pushes:
   1. **Long hold (0.5 seconds)**. Means "schedule a **switch** to the other loop, and the end of the loop".
   2. **Double short** tap. Always means **"STOP"**
   3. **Short** tap. Used for **everything else**

Operation in Verse/Chorus mode:

In V/C mode, there are two loops that can store audio data, and you can switch between them. We call them the "Verse" and "Chorus" loops, but you can use them however you please.

Generally, a long hold where a short would have done, means do the short operation, but also switch to the other loop at the end of this loop.

The poweron state of the looper in V/C mode is the "STOPPED" mode, with both LEDs pulsing, and true bypass engaged. The LED will be red if there is no audio stored in loop, and blue if there is audio in a loop.By default, the Duet will show two pulsing red LEDs, meaning that there are two loops available, and they are empty (they would be blue if there were something in them).

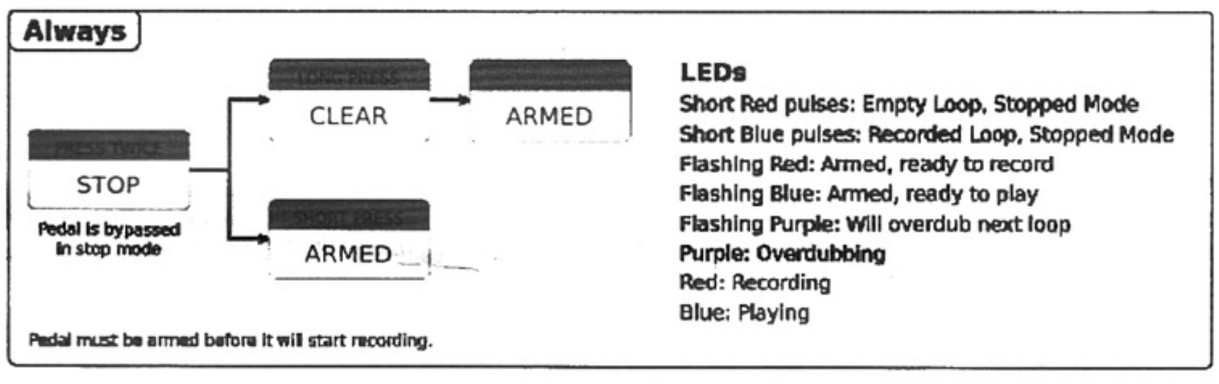
A short tap on the footswitch will now take you to "ARMED" mode. In this state, the Duet is ready to record the first loop, so one loop is flickering red, meaning "If you hit the footswitch now, this LED will go red, which means 'recording'". A short tap will start recording the first (Verse) loop. Record the first loop, and tap the footswitch to end recording the loop. The loop LED will now go Blue, meaning "Playing". Another short tap will make the LED flash purple, meaning "Will switch to Overdub at end of loop". Once the end of the loop is reached, the LED will go solid purple, meaning "Overdubbing". Use short taps to alternate between playing and overdubbing.

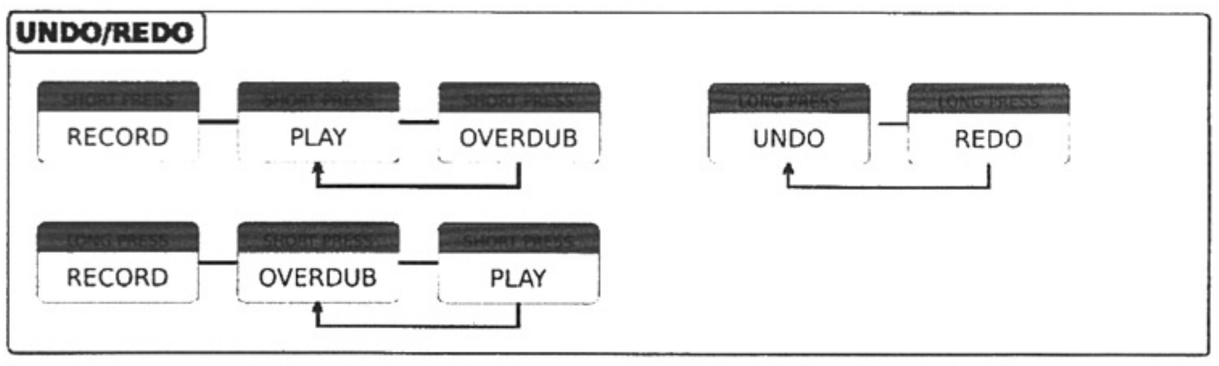
Once you are comfortable using short taps to play and overdub, hold down the footswitch for around half a second. The Chorus LED will start flickering red, meaning that the Duet will start recording the second loop.

once it reaches the end of the current loop. Once the Duet is recording on the second loop, it will behave as it did for the first loop. Use a long hold to switch between loops.

- Each LED can be one of three colours: red, purple, or blue.
  - **Red** always means "**recording** first (base) layer", EXCEPT when the rightmost LED is solid in Undo/Redo mode. There, it means an UNDO will happen at the end of the loop.
  - **Blue** always means "**playing** back this layer".
  - **Purple** always means "**overdubbing** this layer".
- Each LED can be solid, flashing, or pulsing.
  - Solid means "this is happening".
  - Flashing means "this will happen next loop".
  - Pulsing means "this is available, but I am not doing anything". So, pulsing red means "you could record a base layer". Pulsing blue means "you could play back this layer". The Duet is bypassed when the LEDs are pulsing.
- There are two modes: Undo/Redo, or Verse/Chorus.
  - Undo/Redo mode allows you to record a layer, and undo it later. When waiting, it shows one pulsing red or blue LED, meaning you can record or play oneloop.
  - Verse/Chorus allows you to record two loops, and switch between them.
- There are three types of footswitch presses: tap, double- tap and long press,
  - Tap: a quick press and release of the button.
  - Double Tap: two taps within half a second of each other.
  - Long press: one halfsecond hold and release of the footswitch.
- All commands (except stop) take effect at the beginning of the next loop.
- Each kind of press usually means one thing:
  - In Undo/Redo mode, a long press means "Undo/Redo".
  - In Verse/Chorus mode, a long press means "Switch to the other loop".
- The pedal will remember previously recorded audio when powered down.
- Switching modes from Verse/Chorus to Undo/Redo (or vice versa) will stop the looper but retain your recorded audio. If you have recorded a Verse and Chorus, one loop will be the main loop and the other will become the undo loop (and vice versa).
- Removing power while playing or recording audio may corrupt the looper data. Please don't do this.

Quick Reference Guide :





To stop the Duet, enter two short taps. The Duet will stop and go into true bypass, indicating which loops are recorded using pulsing LEDs. To clear all loops, while stopped, hold down the footswitch for around half a second. Both loops will clear. If you do not want to clear the loops, tap the footswitch to skip to the "ARMED" state.

There is one last convenience feature built into this mode: instead of using a short tap to start or stop recording, or to switch between play and overdub, using a long hold will automatically switch to the other loop at the end of the loop.

More detail : Undo/ Redo mode

In Undo/Redo mode:

1. **Left** LED: **Same** as in Verse Chorus Mode.
2. **Right** LED: **Solid red** means we are waiting for the end of the loop, so we can **undo**

Operation in Undo/Redo mode:

Operation in Undo/Redo mode is very similar to Verse/Chorus mode, except:

1. There is only one loop.
2. You can "undo" the last overdub, and redo it later.
3. **Long hold** means **"undo at the end of the loop"**

Other than the addition of the undo/redo functionality, and the fact that there is only one loop, the Duet behaves the same as in Verse/Chorus mode. A long press now means "undo", where before it meant "switch loops".

What does "commit an overdub" mean?

Whenever you exit the overdubbing mode on a loop and enter the play mode, we consider that overdub to have been committed. The results of the overdub are now stored. If you layered multiple layers down during this overdub, then all of those layers are considered to be part of this overdub.

The meaning of "undo"

What happens when an undo occurs?

1. If you are **in the middle of an overdub**, and trigger an undo without closing the overdub, the entire **overdub is forgotten**, and a new overdub is started in its place.
2. If you are **playing a loop** (ie. not overdubbing), **undo will go back to the version of the loop before the last overdub** was committed, at the end of the loop.
3. If you **undo twice** on a committed loop, you **undo the undo**
4. Note again that undoing in the middle of an overdub forgets the overdub and starts another. It is not possible to redo that overdub, because attempting an undo will simply forget the overdub again, and closing the overdub commits it, meaning an undo will return to the state before the overdub, and another undo will bring the overdub back.

Legal Stuff

The Xvive DUET Stereo DualLoop Looper uses FreeRTOS. See https://www.freertos.org. We are required to provide you with our source code for FreeRTOS if you request it from us. Our version is unmodified, so we provide you the source code by giving you this link: http://sourceforge.net/projects/freertos/files/latest/download?source=files.