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Ditto X4 Looper

User Manual



tc electronic

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EN Important Safety Instructions

CAUTION
RISK OF ELECTRIC SHOCK!
DO NOT OPEN!
ATTENTION
RISQUE D'ÉLECTROCUTION !
NE PAS OUVRIR !

Terminals marked with this symbol carry electrical current of sufficient magnitude to constitute risk of electric shock. Use only high-quality professional speaker cables with ¼" TS or twist-locking plugs pre-installed. All other installation or modification should be performed only by qualified personnel.

This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.

This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.

Caution
To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel.

Caution
To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.

Caution
These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

1. Read these instructions.

2. Keep these instructions.

3. Heed all warnings.

4. Follow all instructions.

5. Do not use this apparatus near water.

6. Clean only with dry cloth.

7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11. Use only attachments/accessories specified by the manufacturer.



12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15. The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.

16. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.



17. Correct disposal of this product: This symbol indicates that this product must not be disposed of with household waste, according to the WEEE Directive (2012/19/EU) and your national law. This product should be taken to a collection center licensed for the recycling of waste electrical and electronic equipment (EEE). The mishandling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the efficient use of natural resources. For more information about where you can take your waste equipment for recycling, please contact your local city office, or your household waste collection service.

18. Do not install in a confined space, such as a book case or similar unit.

19. Do not place naked flame sources, such as lighted candles, on the apparatus.

20. Please keep the environmental aspects of battery disposal in mind. Batteries must be disposed-of at a battery collection point.

21. Use this apparatus in tropical and/or moderate climates.

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LIMITED WARRANTY

For the applicable warranty terms and conditions and additional information regarding MUSIC Group's Limited Warranty, please see complete details online at music-group.com/warranty.

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1. Introduction

Ditto X4 Looper is the pedal that'll let you turn a single moment in time into something truly spectacular. By perfectly merging ease of use with stellar creative features like dual loop tracks, 7 loop FX, loop decay and MIDI sync, Ditto X4 Looper will instantly become the canvas on which you paint your multi-layered sonic masterpieces. If you can dream it, you can loop it!

- The guitar player's looper - made for guitarists by guitarists
- Dual loop tracks - create evolving multi-track compositions or fully fledged songs
- 7 loop FX - endless creative potential

Even though Ditto X4 Looper basically offers endless creative possibilities, it still honors the core principle of our famed Ditto Looper. Simplicity! No drum-machines, no deep-editing menus or other time consuming tech-nonsense, only immediate unfiltered fun. So all you have to think about is - What will you create today?

2. Setup

The Ditto X4 should contain the following items in the box:

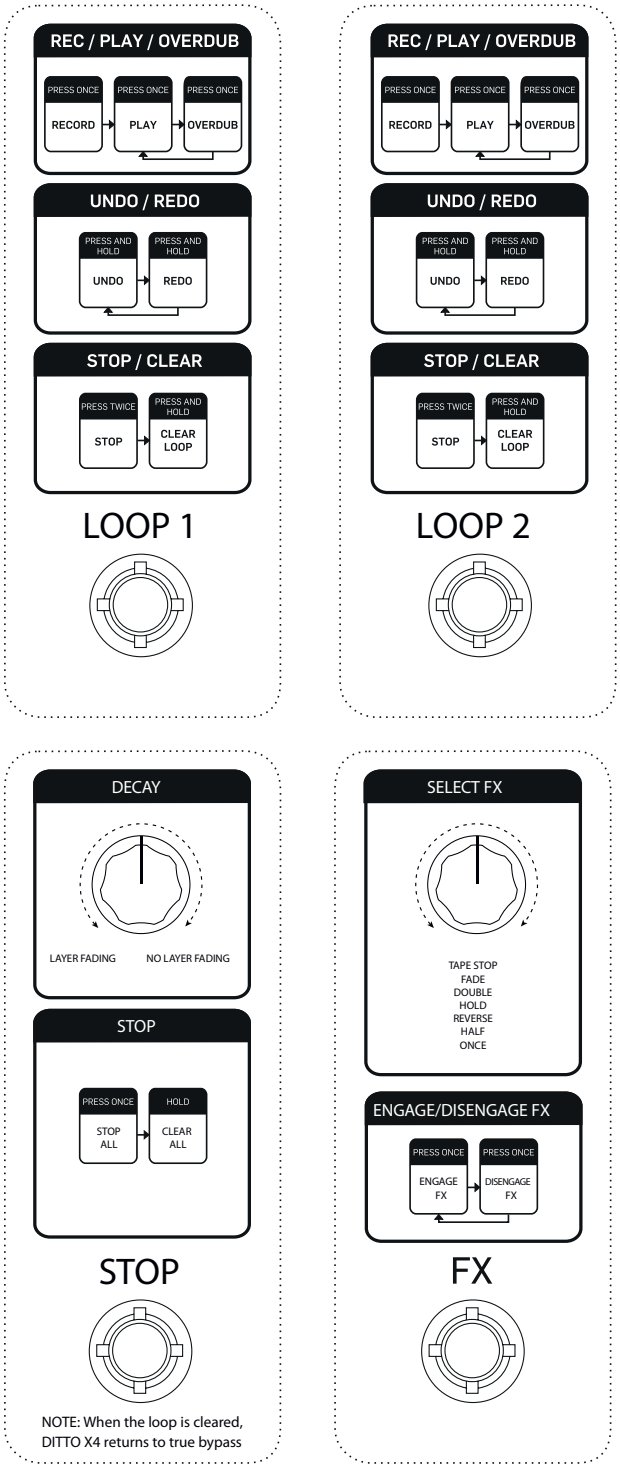
- 1 Ditto X4 looper pedal
- 1 9V power supply
- 2 rubber feet for "non-velcro" pedalboard mounting
- 1 USB cable
- 1 "Quick Start Guide" sheet
- 1 TC Electronic sticker
- 1 leaflet about TC's guitar FX product range

Inspect all items for signs of transit damage. In the unlikely event of transit damage, inform the carrier and supplier. If damage has occurred, keep all packaging as it can be used as evidence of excessive handling force.

Connect the 9V power supply to the X4's DC input socket, and plug the power supply into a power outlet.

Connect your guitar and other pedals to the Ditto X4 as described in the Hookup chapter.

The Quick Start Guide graphic will give you a basic understanding of the hardware functions. Proceed through this manual for an in-depth explanation of all the features.



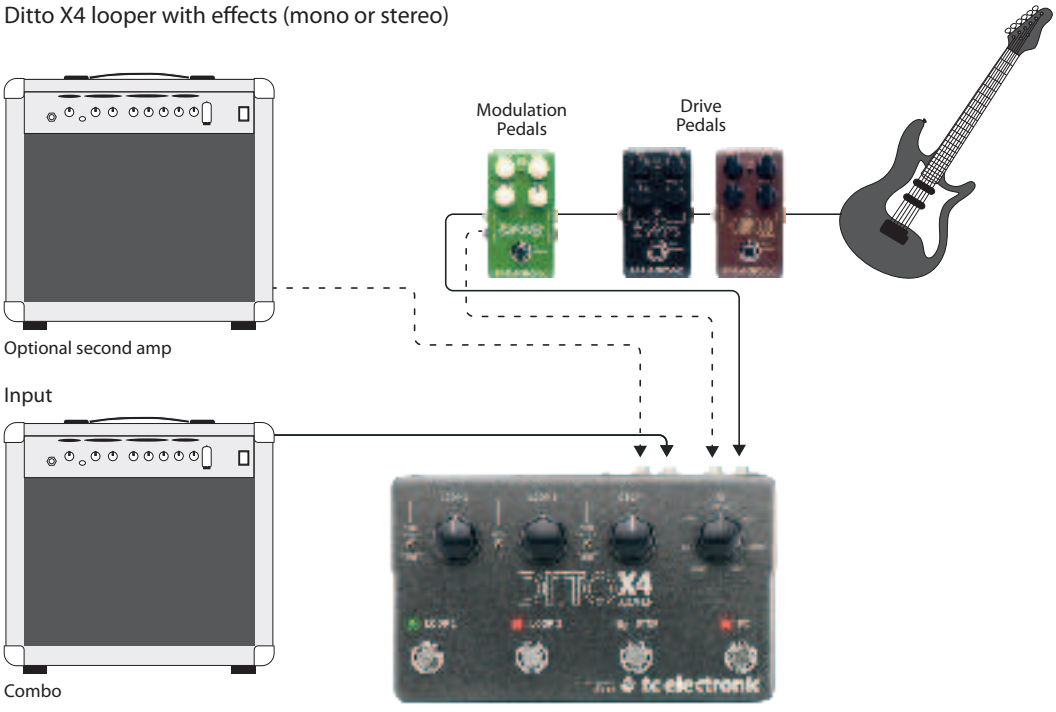
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3. Hookup

Basic Looping - No Effects

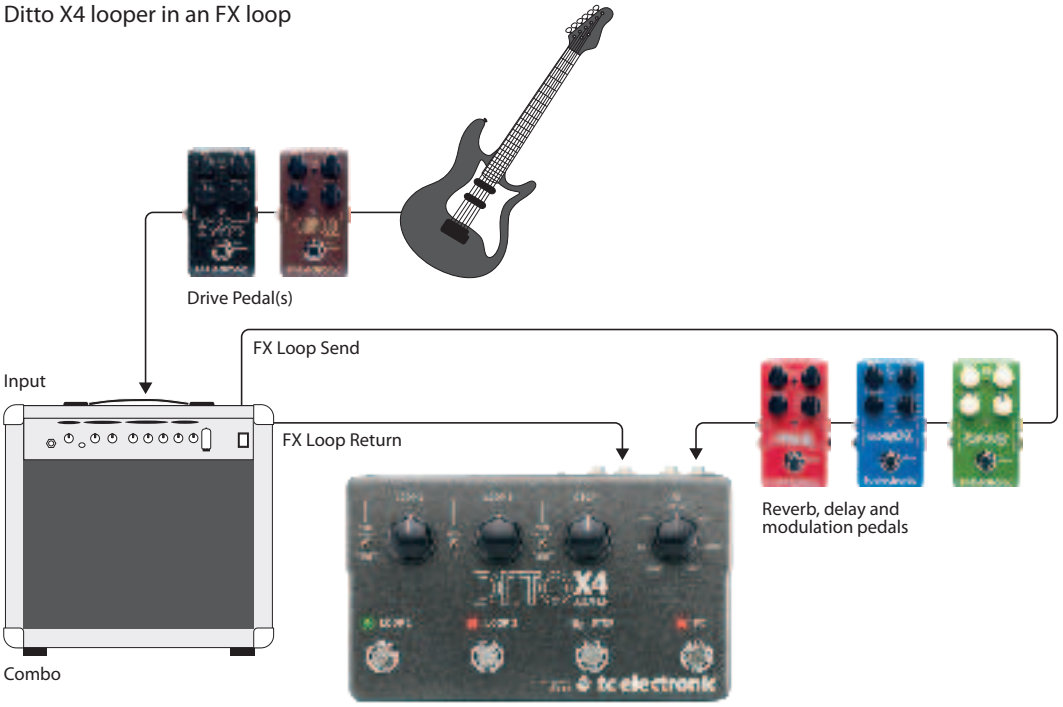


Ditto X4 looper with effects (mono or stereo)

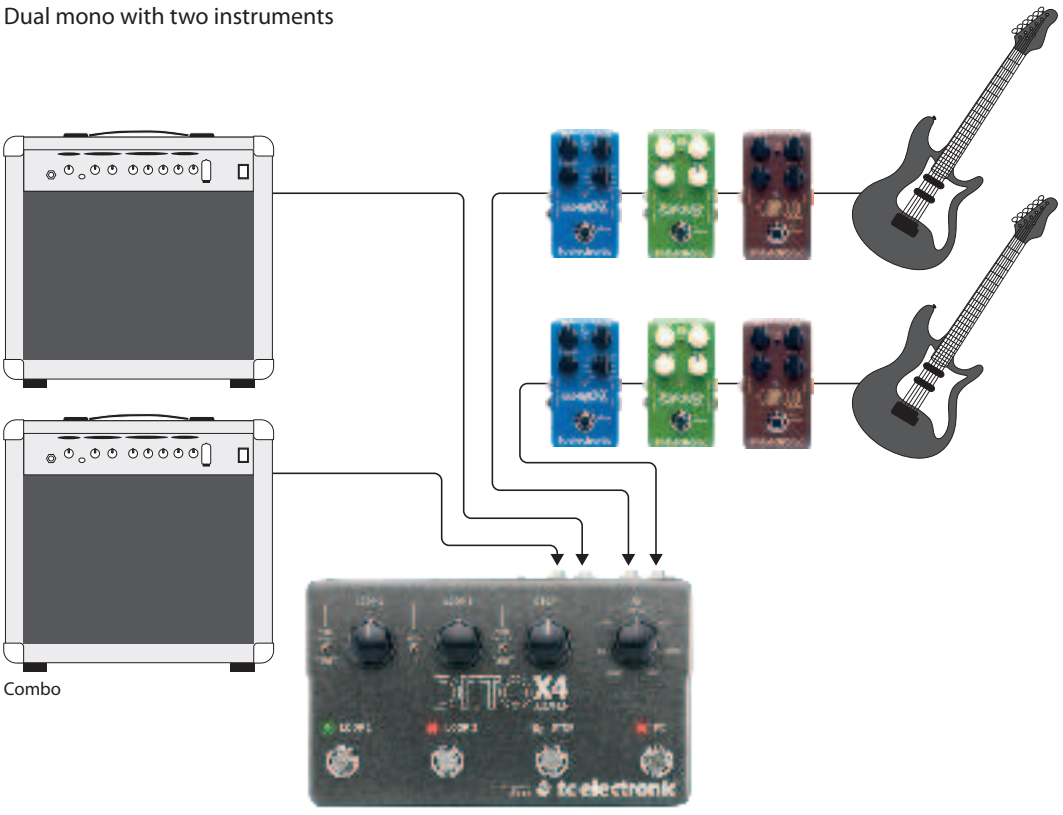


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Ditto X4 looper in an FX loop



Dual mono with two instruments



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4. Controls



1 **STORE/LEVEL** switches – these perform the following functions for their associated loop:

- Briefly flip the switch up to store the current loop as a backing track.
- Hold the switch in the up position for three seconds to delete the stored backing track.
- Hold the switch in the down position while turning the associated LOOP knob to set the level of the backing track. See the "Store, Import, Export " chapter for details.

2 **LOOP** knobs – adjust the level of loop 1 and 2 with these knobs. When holding the adjacent STORE/LEVEL switch in the down position, the knobs adjust the volume of their respective stored backing track.

3 **SERIAL/SYNC** switch – when set to Serial, either loop 1 or loop 2 can be played at a time, allowing distinct parts to be switched back and forth. In Sync mode, both loops can be played simultaneously.

4 **DECAY** knob – this controls the amount of volume reduction that occurs each time an overdub repeats. When set fully clockwise, the loop will not decay at all. This is useful for creating stacks of overdubs that gradually disappear from the main loop.

5 **FX** knob – select one of the 7 FX with this knob. See the "Onboard FX" chapter for details.

6 **LOOP 1 and 2** footswitches – use these to control several loop-related functions. See the "Creating Loops" chapter for details.

7 **STOP** footswitch – press this to stop both loops immediately. Press and hold the switch to erase the loops.

8 **FX** footswitch – press this to engage the selected loop FX. See the "Onboard FX" chapter for details.

9 **INPUT** jacks – Connect one ¼" TS cable for mono operation, or 2 cables for stereo.

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⑩ **OUTPUT** jacks – Send audio via one or two ¼" TS cables.

⑪ **Power input** – connect the 9V power supply. Note that this pedal cannot operate on batteries.

⑫ **MODE** switches – these allow fine details of the pedal's operation to be adjusted. See "Mode Switches" chapter for details.

Switch	Down	Up
1	REC → PLAY → OVERDUB	REC → OVERDUB → PLAY
2	Overdub starts immediately (Sync mode only)	Overdub starts at the end of loop
3	Serial mode - record 2nd loop at end of 1st loop's cycle Sync mode - loops are synced	Serial mode - begin recording 2nd loop immediately Sync mode - loops are un-synced, allowing simultaneous playback of loops with different lengths
4	True Bypass	Buffered Bypass

⑬ **USB** input – connect the Ditto X4 to a computer to transfer files back and forth. This connection is also used for firmware updates.

⑭ **MIDI IN and THRU** jacks – connect an external MIDI clock to keep your loops perfectly in sync.

5. Creating Loops

Depending on the setting of the Serial/Sync switch, the Ditto X4 can function a bit differently. We'll discuss how each loop operates by itself, then dive into the possibilities with 2 loops. These instructions also assume that the pedal's MODE switches are set to their default "down" position (see callout #12).

Recording a single loop

To start recording, press one of the LOOP footswitches. The LED will light up red to indicate that the loop is in record mode. At the end of your loop, press the same footswitch again.

The LED will turn green and the loop will repeat continuously. The LED will blink every time the loop starts over again. Each loop allows up to 5 minutes of record time.

Adjust the corresponding LOOP 1 or LOOP 2 knob to set the playback volume for the loop you have recorded. These knobs have no affect on the direct sound of your guitar.

Overdubbing

To record another layer (overdub) on top of the first loop, press the same LOOP button (1 or 2) that you initially used. The footswitch LED will turn red to indicate that you are recording.

When you've completed the second layer, press the footswitch again to quit record mode. The Ditto X4 will begin looping both layers.

Note that the length of the loop will not increase when overdubbing. If you continue playing while in record mode after the first layer repeats, you will create a 3rd layer of overdubbed audio. There is no limit to overdub layers.

Tip: Use the Decay knob to cause overdubs to gradually fade with each loop cycle.

Undo

It's very possible that at some point during your looping experimentation, you will not be satisfied with a loop layer you have just created. To clear the last layer that you recorded, press and hold the loop footswitch for the loop you want to delete for 1.5 seconds or longer during playback. The LED will blink twice in rapid succession and the last take will be removed. Any previously-recorded takes will remain.

Redo

If you delete the most recent loop layer by mistake, or simply change your mind, it can easily be restored. Press and hold the loop footswitch for 1.5 seconds again during playback. The LED will blink twice in rapid succession and the previously-deleted layer will be restored.

Using undo/redo creatively

Undoing and redoing overdubs can be used for more than just correcting mistakes. You can make your performance more interesting by removing and bringing back sections. Here is a simple example:

- Record a bass line (loop cycle 1).
- Record a chord progression (loop cycle 2).
- Record a melody (loop cycle 3).
- Press and hold the loop footswitch to clear the melody, allowing you to play different lines over the loop.
- Press and hold the loop footswitch to bring back melody from loop cycle 3.

Note – undoing or redoing by using the footswitch is only possible during playback. If you hold down the footswitch after you have stopped loop playback or recording, you will delete the full loop, including all overdubs!

Stopping loop playback/recording

To stop loop playback, press the relevant LOOP footswitch twice in short succession. This is particularly useful when using both loops in Sync mode, since it will allow you to stop one loop while the other continues.

Alternatively, you can press the dedicated STOP footswitch to stop one or both loops.

To stop recording, press the LOOP footswitch for the loop you are recording to. Playback will begin immediately.

Various onboard FX, such as TAPE STOP and FADE, will also stop the loop in an interesting and less immediate way.

The associated LOOP LED will start flashing green to indicate that your loop is still in memory and ready for playback.

Stopping loop playback/recording and deleting the loop

To stop loop playback/recording and delete everything you have recorded, press the LOOP footswitch twice in short succession and hold the switch down on the second tap. After 1.5 seconds, the in-memory loop will be deleted.

Pressing and holding the STOP footswitch will delete BOTH loops, so only use this method if you don't want to keep one of the loops intact.

The LED will turn off to indicate that the loop has been deleted. At this point, you can start recording loops from scratch again.

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Deleting the loop when you are not recording or playing back

To delete everything you have recorded for one of the loops while you are not recording or playing back audio, press and hold the LOOP footswitch. Doing this will cause a brief moment of playback to occur before the pedal "realizes" that you intend to delete the loop.

Holding the STOP footswitch for 1.5 seconds will delete both loops without any audio being heard. If you do not intend to keep one of the recorded loops intact, this is better method.

The LED will flicker red and then turn off to indicate the loop is clear. Note that while using the "undo" function that clears an overdub, deleting a whole loop has no "redo" feature. Deleting loops as described in this section permanently removes the loop.

A safe way to save a loop that you want to keep is to store the loop as a backing track as described in chapter 6.

Using two loops in Serial mode

Set the SERIAL/SYNC switch up to the Serial position. In this mode, the 2 loops are kept separate from one another, enabling different loop lengths and creative switching back and forth.

You can start with either loop, but for this example, create a loop in loop 1. While the loop is playing back, press the LOOP 2 footswitch. This will arm loop 2 and the LED will rapidly flash red. Loop 1 will stop playback at the end of its cycle and recording will automatically begin for loop 2.

After loop 2 has been created, it will continue to cycle automatically. You can press the LOOP 2 footswitch again to record additional layers as described earlier in this chapter. Pressing the LOOP 1 footswitch while loop 2 is playing will cause both LEDs to rapidly flash green to indicate that the playback will switch. Loop 2 will stop its playback after the cycle completes and loop 1 will start automatically.

When 2 loops exist in Serial mode, the LED for the loop that is currently playing will be solid green, and the paused loop will be flashing green.

To stop a loop's playback, either press the current loop's footswitch twice in short succession, or press the STOP footswitch. The LED will rapidly flash green and the loop will stop at the end of its cycle.

Using two loops in Sync mode

Set the SERIAL/SYNC switch down to the Sync position. This mode allows loop 1 and 2 to be played independently or simultaneously. The first recorded loop sets the overall phrase length and the second loop can be multiples of that length. For example, if the first loop represents 4 measures of music, the second loop could be 4 measures, 8 measures, 12, etc.

You can start with either loop, but for this example, create a loop in loop 1. Just as loop 1 is completing its cycle and starting over, press the LOOP 2 footswitch. The LED will turn red and recording will begin. Loop 1 will continue to play as you record onto loop 2.

*note that flipping Mode switch 2 to the "up" position will allow the second loop to be armed during loop 1 playback, and recording will automatically begin at the start of the next cycle.

To stop loop 2 recording, either press the LOOP 2 footswitch at the end of 1 phrase to keep the 2 loops the same length, or simply let the recording continue. The second loop's length will always end in multiples of the first loop, so even if you stop the loop 2 recording a bit too early, the loops will still be in sync when dual playback begins.

After material is recorded for both loops, you can stop and start either loop at will. If only loop 1 is playing, loop 2's LED will flash green. Press the LOOP 2 footswitch once to begin the second loop at any point during playback, not just at the beginning of a cycle. Press a loop footswitch twice is short succession to stop that loop.

Note that both loops can still contain multiple layers, so many creative options exist for creating a stack of loops in loop 1, then creating another stack of layers in loop 2 that can be started and stopped at will.

Keep in mind that a loop must be currently playing to record an additional layer on top of it. If a loop is currently paused, you will need to press the loop footswitch once to play the loop, then again to start recording.

6. Store, Import, Export

Current (in-memory) loop vs. stored loop (backing track)

Ditto X4 Looper is very flexible when it comes to recording, importing and exporting audio loops. When you are recording something, this is the "current loop". It will be available even after powering down Ditto X4 Looper.

In addition to the memory that holds the current loops, there is an onboard storage module (similar to a hard disk or a USB flash drive) for each of the 2 loops. This storage module is used to transfer loops (or even complete backing tracks) from and to your computer/DAW.

You can set playback volume for the in-memory loops and the stored loops (backing tracks) independently. See "Balancing backing track and current loop levels" at the end of this chapter.

Current loop stays in memory

When you power down Ditto X4 Looper and there are still loops in memory, the loops will be available even after you power down the device.

When you power up Ditto X4 Looper again, the LOOP footswitch LED will flash green, indicating your previously-recorded loop is available. Just hit the LOOP footswitch and playback will start. If you want to start from scratch instead, delete the loop (see "Stopping loop playback / recording and deleting the loop/ backing track" in chapter 5.

USB operation vs. looping

The following sections ("Exporting Ditto X4 Looper loops to a computer" and "Importing loops into Ditto X4 Looper from a computer") describe how you can connect Ditto X4 Looper to a computer using the supplied USB cable to import or export loops and backing tracks.

Please note that once you have attached it to a computer, your Ditto X4 Looper effectively becomes a USB storage device, and audio is disabled. This means that you can transfer audio files to and from Ditto X4 Looper – but you cannot play back (or record) audio at the same time. Ditto X4 Looper does not act as a USB audio interface. This means that to get back to looping, you will have to unplug/ eject Ditto X4 Looper.

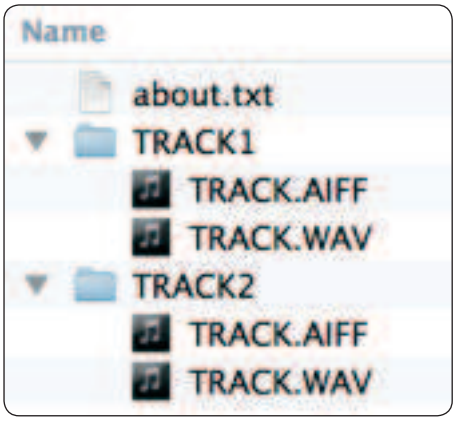
On computers running Microsoft Windows or Apple OS X operating systems, no software is required for accessing Ditto X4 Looper as described in this section – it's all plug & play.

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Exporting Ditto X4 Looper loops to a computer

If you have created a really great loop (e.g. a song idea or a beautiful riff), you may want to reuse it. Now you could simply record the signal coming from Ditto X4 Looper's audio outputs to your DAW – but this could lead to signal quality degradation and requires post-editing (trimming) the recording. This is why Ditto X4 Looper allows you to export your loops in pristine quality.

1. When you are happy with your loops, nudge the STORE/LEVEL switch(es) up briefly. This will store each loop within the device in a format (actually, two formats) that can easily be transferred to a computer. After storing the current loops, please wait a few seconds before connecting the pedal to your computer.
2. After power has been connected to the looper and it has run its startup sequence, connect a USB port on your computer to the USB port of Ditto X4 Looper using the supplied USB cable. The LOOP footswitch LEDs will start blinking orange, indicating that Ditto X4 Looper now is in USB transfer mode, and audio will be disabled.
3. Your computer will recognize Ditto X4 Looper as an external USB storage device. It will be shown in the Finder (OS X) or Windows Explorer as a drive called "DITTO" containing folders called "TRACK1" and "TRACK2".



   Each "TRACK" folder should hold two files: "TRACK.AIF" and "TRACK.WAV". These files contain the loops that you have previously stored (see step 1) in both AIFF and WAV formats. AIFF is commonly used in OS X, while WAV is the commonly used format for Microsoft Windows.

   Please refer to the instruction manual of your DAW to learn which format you should use.

4. Copy the respective file ("TRACK.AIF" or "TRACK.WAV") to your computer, e.g. by dragging it from the "TRACK" folders to the desktop. Wait for the file transfer to finish. Note that you may need to rename one or both tracks if they are carried to the same folder on your computer.
5. On a Windows PC, eject the "DITTO" drive by clicking it with the right mouse button in Windows Explorer and selecting "Eject" from the context menu.

   On a Mac, eject/unmount the "DITTO" drive by selecting it and pressing [Cmd] and [E] simultaneously.

6. Disconnect Ditto X4 Looper from your computer. The LOOP footswitch LEDs will stop blinking orange and return to green, and audio will be enabled again.

About audio formats

Ditto X4 Looper saves audio files in 32 bit floating point format. If your DAW does not support this AIFF/WAV "flavor" – or if it doesn't support AIFF or WAV at all – you will have to convert the files coming from Ditto X4 Looper to a supported format.

Please consult your DAW's manual or support pages to find out which audio formats it supports. You should then be able to find a free audio format converter – either as an application for your operating system or as an online service.

If nothing else works, you can simply record the signal from Ditto X4 Looper's audio outs into your DAW.

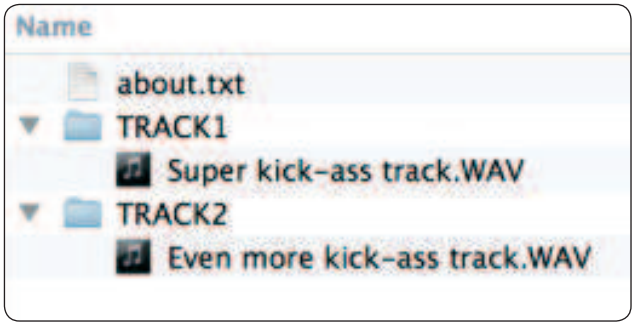
Importing loops into Ditto X4 Looper from a computer

Did you find (or create) an insanely great song that you would like to use on stage as a backing track? Well, with Ditto X4 Looper, you can – without having to schlep your notebook on stage. All you have to do is transfer your backing track or base loop from your computer to Ditto X4 Looper using a USB connection.

1. Create a loop in your DAW and export it as an audio file in either AIFF or WAV format.
2. Connect a USB port on your computer to the USB port of Ditto X4 Looper using the supplied

   USB cable. The LOOP footswitch LEDs will start blinking orange, indicating that Ditto X4 Looper is now in USB transfer mode, and audio will be disabled.

3. Your computer will recognize Ditto X4 Looper as an external USB storage device. It will be shown in the Finder (OS X) or Windows Explorer as a drive called "DITTO" containing a folder called "TRACK".
4. Copy your audio file (in AIFF or WAV format) from your computer to Ditto X4 Looper by dragging it to the "TRACK1" folder of the "DITTO" drive for the track to be played from LOOP 1 controls and "TRACK2" folder for the track to be played from the LOOP 2 controls. Wait for the file transfer to finish.



5. Eject/unmount Ditto X4 Looper as described in "Exporting Ditto X4 Looper loops to a computer". The LOOP footswitch LEDs will flicker as the loop is read.
6. Disconnect Ditto X4 Looper from your computer. The LOOP footswitch LEDs will stop blinking orange and return to green, and audio will be enabled again.

Importing MP3 files to Ditto X4 Looper

Usually, you will want to import AIFF or WAV files into Ditto X4 Looper: This will give you the highest possible audio quality, and no conversion is required. However, you can also import MP3 files with a 44.1 kHz sampling rate. Ditto X4 Looper will convert an imported MP3 file to AIFF and WAV format.

The procedure is the same, with the following exceptions:

- Converting an MP3 file takes some time. During conversion, the LOOP footswitch LED will flicker red. Converting a long (6 minute) MP3 file will take about 90 seconds.
- Importing tight/short MP3 loops with MP3 metadata will add a few milliseconds of silence to the end of the loop. If you want to ensure seamless, sample-accurate playback, please use files in AIFF or WAV format.

Notes about working with imported backing tracks:

- Levels of imported backing tracks are reduced so you can jam to these tracks and hear yourself.
- Track/file names of imported loops/backing tracks are irrelevant, as long as the suffix (".WAV" or ".AIF") is correct.
- You only have to delete existing backing tracks if you need to make room for new tracks. If there are several tracks in the TRACK folder, the last imported track will be used.

Balancing backing track and current loop levels

What you are recording with Ditto X4 Looper is called "the current loop". If you store this current loop (by using the STORE/LEVEL switch), or if you import a previously-recorded track from a computer as described in the previous section, this is a "backing track".

You can set the volume for the current loop and the backing track independently.

- To set the level of the current loop, turn the LOOP LEVEL knob.
- To set the level of the stored backing track, turn the LOOP LEVEL knob while pulling the associated STORE/LEVEL switch towards you.

The ability to control the volume of the current loop and the backing track independently allows you to control the mix very effectively.

Note that the LOOP knob still controls the overall level of the backing track and current loop. Adjusting the backing track level effectively balances its volume against the level of the current loop.

7. Onboard FX

On top of all the useful looping, layering and storing features on the Ditto X4, there are also 7 loop effects that can be used to enhance your experience.

Reverse

This effect plays the recorded loop backwards. This can be done on a single loop or with both loops playing back in Sync mode. When you engage the effect, the FX LED will flash red, and you can return to normal 'forward' playback by pressing the FX footswitch again. Note that you can record a second loop while the first loop is playing in reverse, but it is very difficult to do this in a way that causes the loops to match when you disengage the reverse effect.

Half

Engaging this effect causes the loop to play back at half speed and also detunes the pitch by one octave.. This can be used to create bass lines by playing the riff in double time, then engaging the Half effect. Press the FX footswitch again to return to normal playback speed and pitch. Additional loops can be created while this effect is engaged, and all loops will play back at half speed.

Once

This effect is useful if you know you want the loop to stop at the end of its phrase. Rather than trying to manually stop the loop right before it cycles around, you can press the FX footswitch mid-way through playback. The LED will rapidly flash green and the loop will stop at the end of the current cycle.

Tape Stop

This effect offers a fancier way of stopping a loop than the dedicated STOP footswitch. Pressing the FX footswitch causes the loop to fade out and detune over the course of a couple seconds, similar to an analog tape machine being powered down during playback. The LED will flash red even after playback has stopped, and the loop can be re-engaged by pressing the FX footswitch again.

Fade

Rather than an abrupt end to the loop when using the STOP footswitch, this effect causes the loop to gradually fade out over the course of ~5 seconds, which is perfect for the end of a performance. The LED will flash orange as the audio is fading and continue flashing even after playback has stopped. Pressing the FX footswitch again will start the loop again.

Note – after audio has fully faded, you can press the STOP footswitch, then press the FX footswitch without the loop resuming.

Double

This is the opposite of the 'Half' effect. Engaging the effect will cause the loop to play back the loop at double the recorded speed, and also shift the pitch by one octave.

Hold

This option is a momentary stutter effect, meaning the effect is only engaged while you press the FX footswitch. A short sample of the loop is taken right as the footswitch is depressed, allowing a specific note or chord to repeat on a "mini-loop" until the switch is released. When you release the footswitch, playback will resume from the point that the loop would have been had you never engaged the effect at all.

The effect also supports tap tempo, allowing you to determine exactly how long the "mini loop" will be. Simply tap the FX footswitch in rhythm, and the effect will use that tempo to loop one "beat" as soon has you hold down the FX footswitch.

As an example, let's say you recorded a progression of G, D, Em, C, with each chord lasting 1 measure. If you pressed the FX footswitch just as the D chord started and held it for 2 measures, a loop of just the D chord would ring during that time, and when you released the footswitch the C chord would just be starting. In other words, your hold time paved over the measure of D and measure of C. This allows you to keep the phrasing on track during a performance.

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Multiple FX

It is possible to run more than one effect at the same time. For example, start playback from a loop, then engage the Reverse effect. The LED will flash red. Then turn the FX knob to the Half setting and press the FX footswitch again. The loop will play back in reverse and at half speed, and the LED will flash orange. To undo either effect, make sure the FX knob is set to the desired effect and press the FX footswitch. Only the other effect will be heard on the loop.

Note that it is possible to remove all active effects at once, which is handy when you have added several effects to multiple layers or loops. With playback stopped, hold the FX footswitch for 2 seconds and all effects will be removed from the loops.

8. Mode Switches

Since loopers are all about creativity and experimentation, the Ditto X4 was designed with some customization options. The tiny MODE switches on the back are set to the "down" position by default, but can be flipped with a pen, toothpick, paper clip, etc. to suit your needs.

Switch 1

The standard workflow for most loopers is such that pressing a footswitch starts the recording, pressing again stops the recording and automatically loops the audio, and a 3rd press starts an overdub recording. However, this can be switched so that the first press begins the initial loop recording, then the second press immediately starts the first loop and begins recording the overdub. The 3rd press stops the overdub and loops both layers. This modified workflow allows you to build stacked loops more quickly.

Switch 2

By default, recording an additional layer over a loop, or recording a second loop in Sync mode, will start immediately upon pressing one of the LOOP footswitches. However, flipping switch 2 to the "up" position will cause the associated LED to rapidly flash red to indicate that the loop is armed for recording. When the cycle repeats, the LED will light solid red and recording will begin.

This setting also causes "stop" commands (either by double tapping a LOOP footswitch or press the STOP footswitch) to end the loop at the completion of its cycle.

*note – in Serial mode, pressing the LOOP 2 footswitch while loop 1 is playing will still arm loop 2 for recording upon completion of loop 1's cycle.

Switch 3

Serial mode

Serial mode is geared toward having 2 distinct parts to a song that are not meant to be played simultaneously. Therefore, pressing a LOOP footswitch during another loop's playback arms the loop for recording. After the first loop finishes its cycle, the first loop stops and the second loop begins recording. This is convenient for a verse/chorus arrangement, but there may be times when you don't want to wait for the first loop to end before recording. Flip switch 3 to the "up" position to allow the second loop to begin recording immediately upon pressing its footswitch.

Sync mode

This mode was primarily designed to allow 2 independent loops to be played on top of one another in perfect synchronization. However, some players like to approach looping in a more ambient and experimental way, which is why Sync mode can be un-synced! Setting switch 3 to the "up" position allows loops 1 and 2 to have different lengths, enabling creative "whalesong" layers of audio that loop at different intervals.

Switch 4

True Bypass mode is a hard-wire bypass that gives absolutely no coloration of tone when the pedal is bypassed. This is the default mode for your effect pedal.

Using True Bypass on all pedals is a perfect choice in setups with a few pedals and relatively short cables before and after the pedals.

If…

- you use a long cable between your guitar and the first pedal or
- if you use many pedals on your board or
- if you use a long cable from your board to the amp,

…then the best solution will most likely be to set the first and the last pedal in the signal chain to Buffered Bypass mode. Can you hear the difference between a pedal in True Bypass or Buffered Bypass mode? Maybe, maybe not – many factors apply: active/ passive pick-ups, single coil/humbucker, cable quality, amp impedance and more. We cannot give a single ultimate answer, so experiment with switch 4 in the "up" position to hear what sounds best to you.

9. Firmware Updates

TC may provide updates for the built-in software of your pedal, the firmware. Updating your TC pedal's firmware requires…

- a computer running Microsoft Windows or OS X with a standard USB interface
- the specified DC power supply for your pedal.

Preparing the firmware update

1. Download the newest firmware from the "Support" page for your TC pedal. There are updaters
   - for Microsoft Windows (these are ZIP archives containing the firmware installer) and
   - for OS X (these are disk image files containing the firmware installer).
2. Unplug all cables (including the power supply) from your TC pedal.
3. Connect the pedal to your computer using a USB cable.
4. Press and hold the leftmost footswitch on your TC pedal.
5. Insert the DC power supply plug. The leftmost LED on your pedal should turn green.
6. Release the footswitch.

Your TC pedal will now be recognized as an updatable device.

Applying the firmware update

7. Quit all MIDI-related applications (e.g. your DAW) on your computer and launch the firmware updater you have downloaded in step 1.
8. In the firmware updater app, select your TC pedal from the drop-down list under the "STEP 1" heading.

   If you are using Windows XP, select "USB Audio Device" from the list.
9. When the "Update" button under the "STEP 2" heading turns green, click it.

The updated firmware will now be transferred to your TC pedal. Wait for the progress bar to reach 100%. When the update procedure is complete, the pedal will automatically restart.

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10. Specifications

Bypass mode	True Bypass (Buffered Bypass optional)
Signal circuitry	Analog dry-through
Dimensions (W x D x H)	235 x 145 x 57 mm (9.3 x 5.7 x 2.2")
Input connector	2 Standard ¼" jacks – mono/TS with automatic mono/stereo sensing
Input impedance	1 MΩ
Output connector	2 Standard ¼" jacks – mono/TS with automatic mono/stereo sensing
Output impedance	100 Ω
Power input	Standard 9 V DC, centre negative >300 mA (power supply included)
MIDI IN + MIDI THRU	Standard 5 Pin DIN connectors
USB port	Mini USB connector for file transfers and for software updates