BLACK COUNTRY CUSTOMS

HANDCRAFTED IN THE UK

THE DIFFERENCE ENGINE

USER MANUAL

Laney™

DESIGNED, ENGINEERED & MADE IN THE U.K.

CONTENTS

INTRODUCTION

VIDEO GUIDE

THE DIFFERENCE ENGINE is the ultimate in delay pedals. Handcrafted in the UK, by Laney's own Black Country Customs team, deep in the depths of the Black Country. The Pedal combines 3 distinctly different, superbly crafted eras of delay into a compact box. Careful consideration has been taken to ensure the highest sonic quality that would rival any top end studio gear.

The BCC-TDE is ideal for instruments and line level equipment, making it at home in any set up, whether on a pedal board, in a rack, or in the studio.

THREE INTO ONE

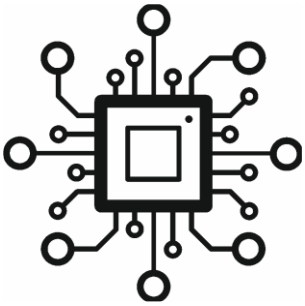
Three eras of delay built in to one powerful machine. The Difference Engine emulates three classic eras of delay. Each preset is built from one of these eras.

ANALOGUE TAPE ERA

Modelled around classic vintage tape echo units, such as the RE501 space echo, featuring all the warmth and analogue nuances of tape.

- Warm sounding analogue tone.
- Delay times up to 1250ms.
- Straight delay from a single tape head.
- Or select multiple tape heads – for that classic overlaid delay effect.
- Add tape artifacts with WOW & FLUTTER controls.

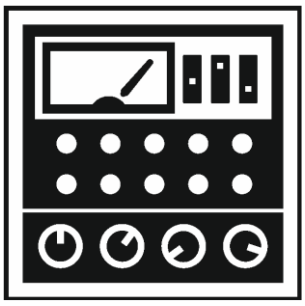
DIGITAL ERA



The digital era – based on the crisp sounding digital delays of the 80's, such as the KORG SDD3000 – with the modern benefits such as Tap Tempo, Freeze and BPM display.

- Up to 2500ms of crystal clean delay.
- Multi Tap delay enables complex delay patterns.
- Ability to freeze repeats using the freeze function.
- Advanced routing options for stereo, wet/dry and mono options.
- Modulation on repeats to add colour.

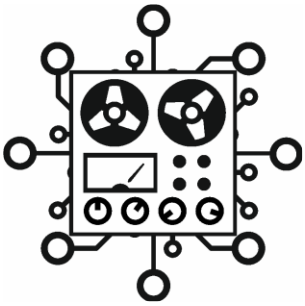
DYNAMIC DELAY ERA



And thirdly the Dynamic Digital era – based on the huge sounding pumping delays of the 80s and 90s.

- Up to 2500ms of delay time
- Settable boost and ducking ratio to dial in the severity of compression.
- 0.1ms to 120ms attack times gives subtle to extreme ducking.
- 15ms to 6secs of release time.
- Threshold control allows fine control of ducking with dynamic inputs.

COMBINED POWER



- Combine features from each era to create unique delays

FEATURES

- 3 distinct and superb delay modes.
- An ultra-sharp stunning 2.42" OLED screen.
- Compact pedal board friendly format.
- 100 user recallable and customisable presets.
- Stereo In and Out via ¼" Jacks.
- External expression pedal configurable control.
- MIDI IN and OUT via 5 pin DIN for presets and parameter control.

VIDEO GUIDE

WHATS IN THE BOX

- BCC-TDE delay pedal
- Black country customs presentation tin
- BCC-TDE quick start guide
- USB to MIDI adaptor

PEDAL OVERVIEW

VIDEO GUIDE

CONTROLS

- COLOUR
  - Sets the level of modulation present in the delay repeats. The type of modulation is controlled by the mode and the modulation settings of the preset. See the MODULATION section for more details.
- MIX
  - Turn to adjust the overall level of the delayed signal in the overall mix.
- TONE
  - Sets the overall tonality of the delayed signal. At 50% the tone has no effect, values above 50% will increase the level of brightness, below 50% will darken the tone of the repeats.
- REPEATS
  - Sets the number of repeats of the delayed signal. At minimum settings you'll get a single repeat and at maximum you'll get runaway feedback that goes into self-oscillation.
- DISPLAY SCREEN
  - The OLED display will show the current mode and preset details to you.

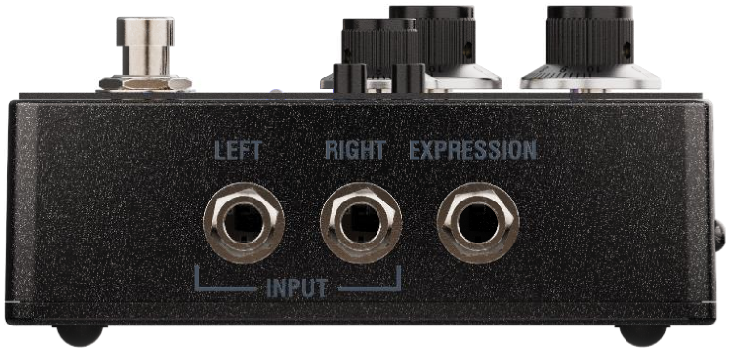
Note: You can set the contrast and auto dim options in the SETTINGS MENU

- MENU
  - Press the MENU button to display the inbuilt menu on the Screen. Whilst the menus are displayed pressing the MENU button will enter the current selection.
- MODE
  - Press the MODE button to swap between PRESET and LIVE modes. When viewing the menu, MODE will act as an exit / back button. The two modes are described in detail in the
  - PRESET & LIVE MODE section.

- EDIT
    - The EDIT control is a multifunctional endless encoder with a tactile button press. Turning the EDIT control left or right will scroll or change parameter values and pressing the EDIT control has different functions depending on what you're doing at that time.
        - In PRESET and LIVE modes, the EDIT control will change the current delay time, pressing the EDIT control will change which digit of the delay time you want to change. Great for dialling in those exact delay times.
        - When browsing the menu system, the EDIT control allows you to scroll up and down and select/enter with a press of the EDIT control.
        - When editing a parameter, turning the EDIT control will change the value of the parameter and pressing the EDIT control will scroll through the digits.
- LEFT FOOTSWITCH
    - This footswitch has two functions, in PRESET mode it is used to scroll down the current preset. In LIVE mode it is used to enable/disable the BCC TDE Effect.
- RIGHT FOOTSWITCH
    - Like the LEFT footswitch, in PRESET mode it is used to scroll up the current preset. In LIVE mode the RIGHT FOOTSWITCH handles both TAP TEMPO and the FREEZE FUNCTION.

Note. Check out the PRESET & LIVE MODE for more information about the two main operation modes.

CONNECTIONS



- EXPRESSION
  - Connect a TRS ¼" Expression Pedal here to control a wide selection of parameters. Checkout the EXPRESS YOURSELF section for more details.
- INPUT
  - Unbalanced ¼" Jack Connections for your guitar, bass, mono pedals, keyboard etc. If you're using only one input use the LEFT input, for stereo devices connect both LEFT and RIGHT inputs.

- OUTPUT
  - Connect these ¼" unbalanced outputs to other pedals, directly to your guitar amp input of FX loop or into an audio interface etc. When running in mono use only the LEFT ¼" output.

- MIDI
  - Connect your MIDI gear here, the BCC-TDE supports a variety of different MIDI messages. See the MIDI section for more details.
- DC IN
  - The BCC-TDE requires a 9V DC power supply (not included) and supports most standard 9V DC pedal supplies such as the type you may already have on your pedal board.
  - PSU plug type should be centre negative, 2.1 x 5.5 x 10mm plug type.

Note. Make sure your PSU can supply at least 150mA

GETTING STARTED

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HOW TO CONNECT TO THE DIFFERENCE ENGINE

IN FRONT OF THE GUITAR AMP

This is the simplest and quickest way to get started. Plug your guitar directly into the BCC-TDE left input and take the left output of the pedal into the amplifier input.

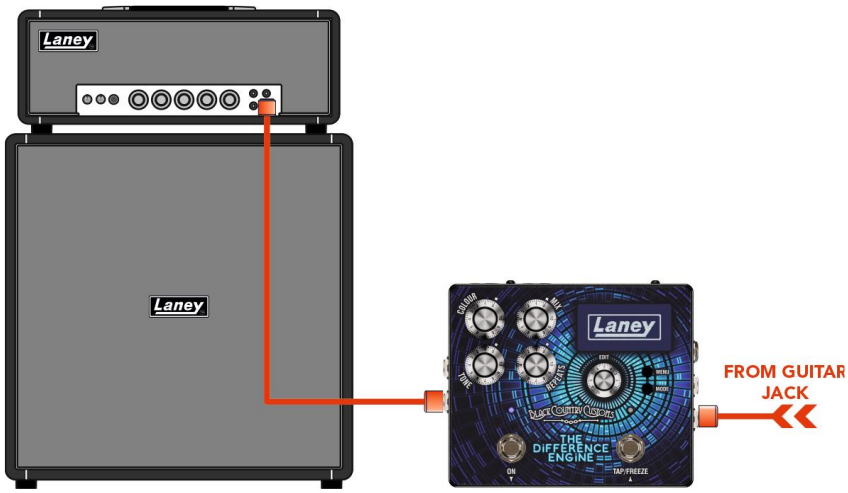

Figure 1

Note The BCC-TDE fits nicely on a pedal board and can be connected to other pedals in series.

Figure 2

IN THE FX LOOP

If your amp includes an FX loop, it's common to connect delay effects into the loop. Using the FX loop can provide a cleaner delay tone especially when using distortion. The BCC-TDE is happy to run full line level or -10. Be sure to check and set the mix level accordingly

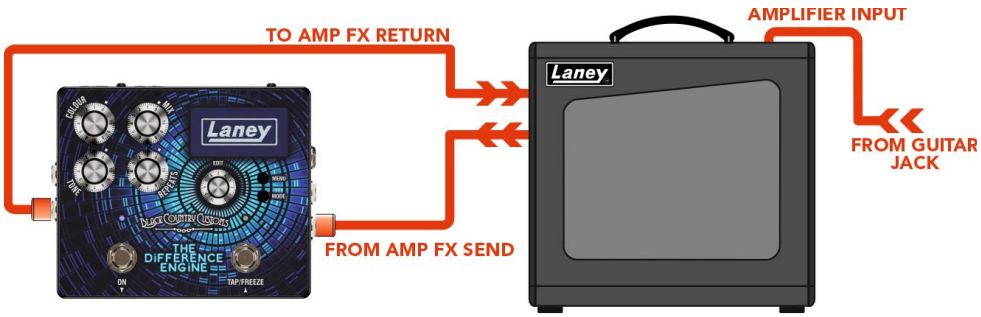

Figure 3

DIRECT

The BCC-TDE doesn't need to be used directly on your pedal board. The BCC-TDE is perfect for running directly into a mixer, audio interface or even into other gear. The output of the BCC-TDE can be connected to any line level input device.

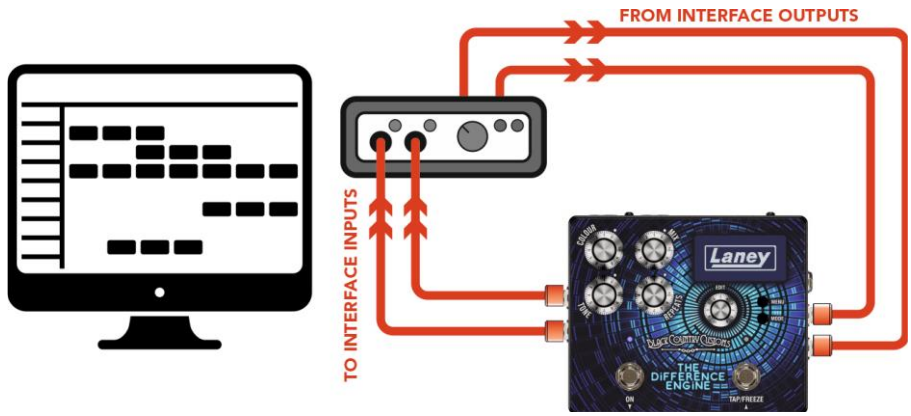

Figure 4

USING KEYBOARDS

The BCC-TDE can be used with most keyboards and synths which have ¼" Jack connections. You can run keyboards in both MONO and STEREO.

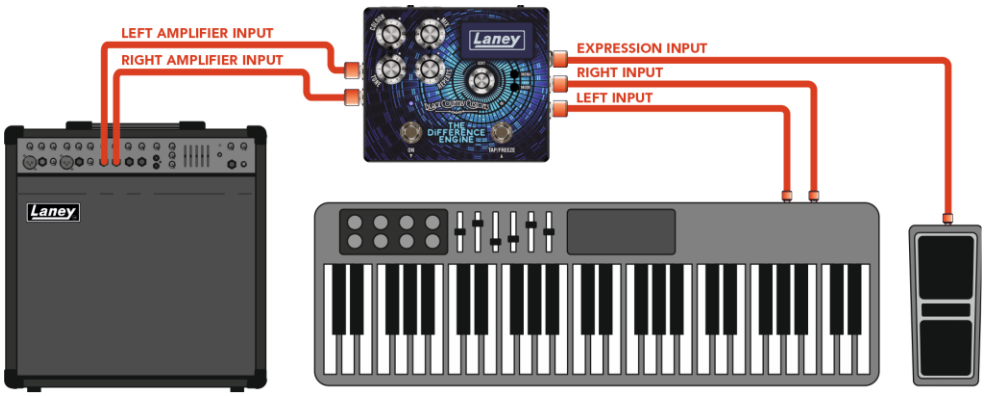

Figure 5

Note: Any line level source can be used with the BCC-TDE, not just guitars, keyboards, and synths!

STEREO CONNECTIONS

The BCC-TDE works great just using MONO connects (LEFT IN, LEFT OUT). But if you want to experience true sonically expansive delays, you'll want to hook up the BCC-TDE in stereo.

In stereo modes you have some options on how to connect, depending on your needs. For a more in-depth look on how the BCC-TDE can be routed, check out the ROUTING 101 section.

MONO IN -> STEREO OUT

- Connecting into the LEFT (MONO) input and then to both LEFT and RIGHT outputs.

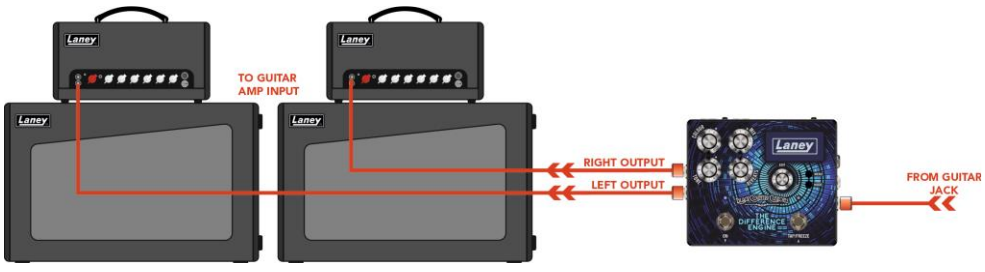

Figure 6

STEREO IN -> STEREO OUT

- Connect both LEFT and RIGHT inputs and both LEFT and RIGHT outputs.

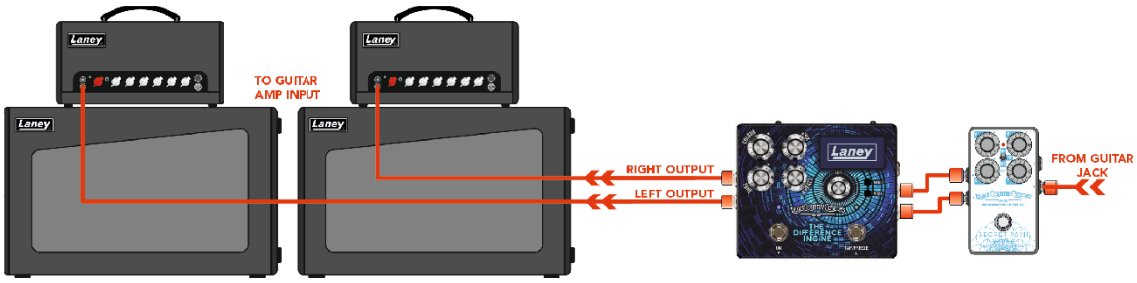

Figure 7

Note. Try to avoid using STEREO inputs and then only using the LEFT (MONO) output. Some settings will lose your RIGHT signal completely. If you need to use it in this way, make sure to set the routing & mix options accordingly.

CENTRE DRY AMP -> STEREO DELAYS

- For super large delay soundscapes, connect from a dry amp FX SEND into the LEFT input of the BCC-TDE. Then connect LEFT and RIGHT outputs to separate amps.

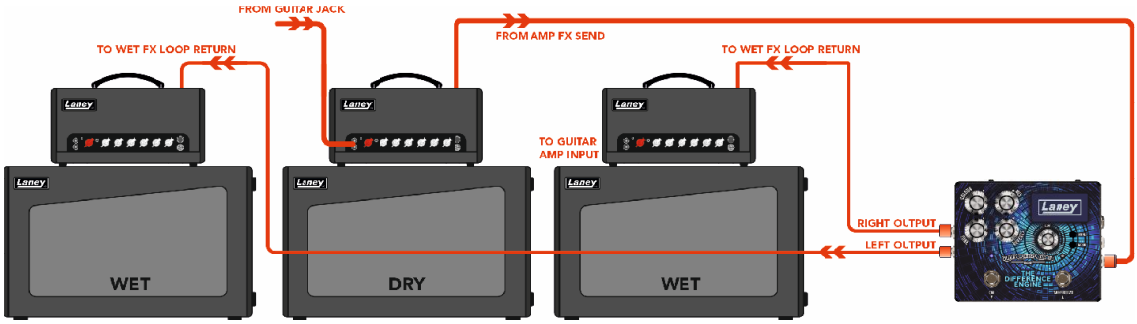

Figure 8

WARNING HUGE DELAY SOUNDS MAY CAUSE BRAIN MELTING!

WHATS ON THE SCREEN?

As soon as you turn on the pedal you are greeted with our wonderful LANEY logo. After the boot up has completed you'll see the home screen of the pedal.

VIDEO GUIDE

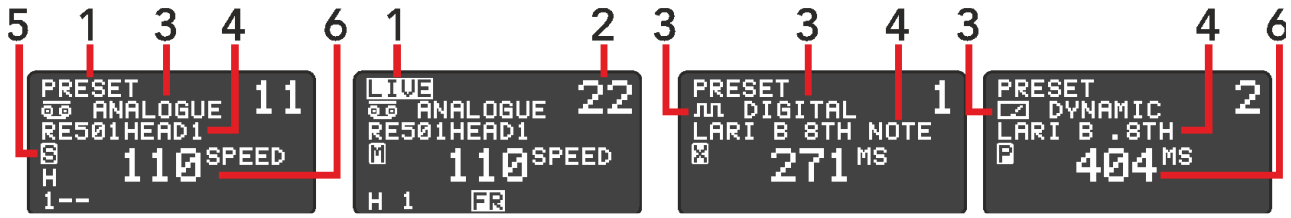

Figure 9

The aim of the home screen is to give you important information at a glance

1) PRESET / LIVE
    - This indicates the current footswitch MODE. In LIVE mode you'll also see a FR logo at the bottom indicating that the FREEZE function is available on the right footswitch.
2) PRESET NUMBER
    - The current preset number, we've got 100 preset slots to save your settings into.
3) DELAY ERA
    - Shows the current delay ERA selected. This can be ANALOGUE, DIGITAL or DYNAMIC.
4) PRESET NAME
    - Shows the name of the current preset. Check out the SCROLLING THROUGH PRESETS section for more information.
5) ROUTING MODE
    - The current routing mode displayed as an icon. See ROUTING 101 for more details.
6) DELAY TIME
    - Probably the most important value here, the current delay time of the pedal. This time display can be in ms, BPM or tape speed.

PRESET & LIVE MODE

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The home screen has two operating modes, **PRESET** and **LIVE.** These two modes control the main functions of the footswitches.

	PRESET MODE		***LIVE MODE***	
	Short Press	Long Press	Short Press	Long Press
Left Footswitch	Patch up	Scroll up	On/Off	NA
Right Footswitch	Patch down	Scroll down	TAP TEMPO	FREEZE

The pedal will always start in **PRESET MODE** on power up.

To switch between **PRESET** and **LIVE** mode you can press both footswitches together, or you can press the **MODE** button.

Note. You can alter the scroll speed of the PRESET MODE in the DISPLAY MENU.

PRESET MODE

- In this mode the two footswitches are used to scroll up and down the saved presets. Left switch goes down and the right switch goes up. Hold the switch to scroll faster.

LIVE MODE

- Press and release the left footswitch to turn on and off the delay effect.
- Two (or more) short presses of the right footswitch will set the delay time using tap tempo.
- Pressing and holding the right footswitch will enable the **FREEZE** function. The Freeze function operates as a looper, constantly repeating the contents of the delay buffer while the footswitch is being held.

SCROLLING THROUGH PRESETS

VIDEO GUIDE

The BCC-TDE can store and recall up to 100 PRESETS, we've preloaded each pedal with factory presets to get you started and to show you some of the capabilities of the BCC-TDE.

Note. We're really proud of our presets, we've worked with a lot of great artists and people in the industry to give you the best selection available!

RECALLING A PRESET

Recalling a preset is easy! In the PRESET MODE you can use the two footswitches to scroll up and down the saved presets. A short press will move 1 preset at a time, whilst holding the footswitch will scroll up/down presets until you release.

PRESET
- ↳ NUMBER
- ↳ NAME
- ↳ SAVE
- ↳ COPY

You can also change preset via the PRESET submenu. To access the PRESET submenu from the home screen.

- Press MENU.
- Use EDIT to scroll to the PRESET sub-menu.
- Press MENU / EDIT to enter the sub-menu.

From the PRESET submenu you can then recall patches:

- Use EDIT to select the patch number "NO:"
- Press MENU / EDIT to enter the patch number selection.
- Use the EDIT to scroll through patches.
- Press MENU / EDIT / MODE to exit.

EDITING A PRESET

Once a PRESET has been edited, a ***** will appear next to the preset name.

Warning! If you power off the device, all unsaved changes will be lost.If you switch patches before saving you will also lose any changes.

QUICK EDITING

Editing a PRESET is a breeze, when the PRESET is recalled, you can adjust PARAMETERS within the PRESET via the Surface controls on the pedal surface. These surface controls allow you to quickly adjust the following PARAMETERS:

- COLOUR
- MIX
- TONE
- REPEATS

Also adjusting the **EDIT** control will adjust the delay time. Pressing the edit encoder will select with unit of time to be adjusted. Making it easy to adjust from long to short delay times.

DEEP EDITING

The surface controls are just the surface (excuse the pun) of the power of the BCC-TDE. If you're willing to go deep, then the sonic possibilities are expansive! To access additional parameters, you'll need to use the EDIT submenu. To access the EDIT submenu from the home screen:

- Press MENU
- Select EDIT submenu
- Press MENU / EDIT

Use **EDIT** to navigate to each of the required submenus to be edited and press **MENU / EDIT** to enter these. Use **EDIT** to adjust the selected parameter value or to navigate further submenus. To return to a previous menu press **MENU**, to exit to the home screen continue to press **MENU** until the home screen is visible.

Note. For more information on what each menu does, check out the MENUS section.

STORING A PRESET

Now you've dialled in your sound, you'll want to make sure it's saved so you can easily recall it later. To save the changes you have made to your preset, first enter the PRESET submenu.

Use EDIT to navigate to the SAVE and press EDIT / MENU to save your preset.

Note. The screen will display *CHANGES* if there are currently unsaved changes to your preset, and display *SAVED* to confirm your preset is now safe!

COPYING A PRESET

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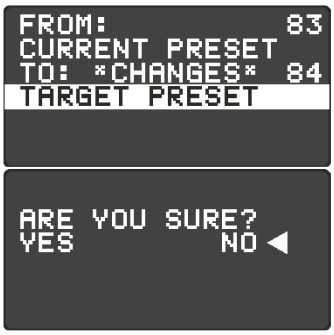
If you want to make changes to a preset but don't want to overwrite the original settings, you can make a copy of the preset into another location. Then you're free to edit the copy without worrying about overwriting any settings.

- First recall the preset you want to copy.
- Press Menu and navigate to the Preset option, press menu, and then navigate to copy. Press menu again to bring up the copy screen.
- Use EDIT to navigate to the preset number you wish to copy to. The preset name currently stored at that location will be displayed in the highlighted area.
- Press MENU / EDIT to copy the preset to this selected location. You will be prompted with a warning message.
- Select YES to confirm the copy. The pedal will also switch to the new preset position. WARNING: This will overwrite any existing preset at the "TO:" number.



CHANGING A PRESET NAME

Now that you've edited and customised some of the presets to suit your needs, you can further customise your preset by giving it a name. This is the final step in making the preset your own!

A preset name can be up to 16 Characters in length and contain CAPS, LOWERCASE, NUMBERS & SPECIAL CHARACTERS.

In the PRESET submenu, navigate to the existing preset name you wish to change. Scroll down to the name and press EDIT / MENU to begin editing the preset name.

Whilst changing the name, use **EDIT** to scroll to the desired new letter. Once the new letter is reached, press **MENU / EDIT** to move to the next letter in line. Once you're happy with the new name, press **MODE** to return to the PRESET submenu. After editing the preset name, remember to save your changes!

ROUTING 101

ROUTING

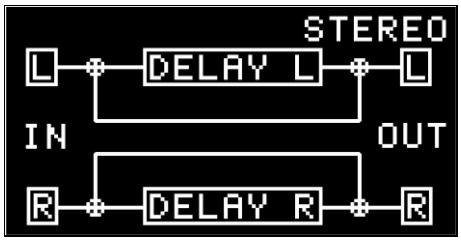
VIDEO GUIDE

You may set the routing mode globally, or for each preset. Routing controls the internal signal routing within the BCC-TDE. Each routing option has different characteristics and outcomes so be sure to choose the correct routing mode you require, thinking about what outcome you would like to achieve.

The different routing options are as follows.

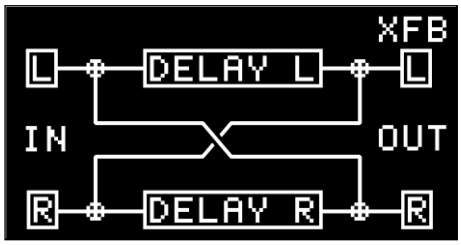
STEREO

The routing of the pedal is split equally between the left and right outputs. If a mono input is used, then the output is split equally left and right. If a stereo input source is used, then the stereo integrity of the input signals is maintained through the pedal. Any panning applied to the stereo inputs pre the pedal, will pass through the pedal unaltered.



XFB

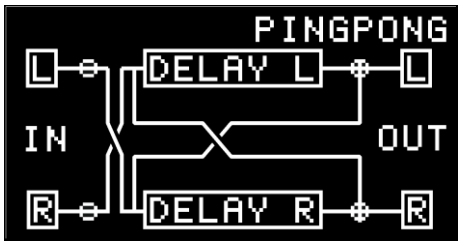
A tap off from the feedback from delay 1 is sent to the input of delay 2 whilst a tap off the feedback of delay 2 is sent to the input of delay 1.



PING PONG

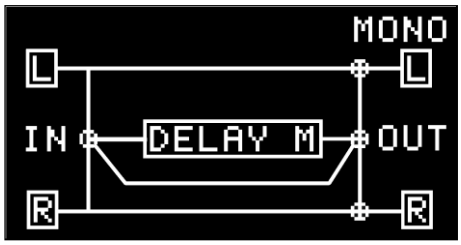
The delay repeats alternate between the left and the right channels giving the impression of bouncing from one side to the other.

Note. This will only be heard if both the left & right output jacks are connected.



MONO

The routing of the pedal sums the inputs from the left and right inputs and effects them equally and then routes them to both outputs.



WET/DRY

Designed to be used in a dual amp application. In Wet/Dry mode the DRY signal is sent to the amp connected to the LEFT output. The WET (delayed) signal is sent to the amp connected to the RIGHT output. In Wet/Dry mode you always have a dry, unaffected guitar sound which helps maintain the clarity and integrity of your guitars tone.

MENUS

I see you've braved the manual so far and are wanting to learn the hidden secrets of the Difference Engine. From here on out it's a deep dive into all the settings and tweakable options available to dial in your own customised sound.

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NAVIGATION OF THE MENUS

If you haven't pressed it already, pressing the MENU button from either LIVE or PRESET mode will open the menu and display it on the screen.

Note. While browsing the MENUs you can still use the footswitches, but the 4 rotary controls are disabled.

You can use the EDIT ENCODER to scroll up and down the menu selection. Pressing down on the encoder or pressing the MENU button will enter or select the MENU function. Pressing the MODE button at any point will exit the current function, go back a MENU, or exit the MENU completely.

The menu structure is shown below, with descriptions on the following pages

EDIT
- MODE
- TIME
  - SPEED
  - H1
  - H2
  - H3
- TIME
  - LINK
  - TIME
- TAPE
  - WOW DEPTH
  - WOW RATE
  - FLUTTER DEPTH
  - FLUTTER RATE
- MULTIHEAD
  - TIME
  - LEVEL
- DYNAMIICS
  - THRESHOLD
  - BOOST
  - RATIO
  - ATTACK
  - RELEASE

EDIT
<CONTINUED>
- MIX
- REPEATS
- COLOUR
- TONE
- ROUTING
  - MODE
  - DRY L
  - DRY R
  - DLY L
  - DLY R
  - PHASE L
  - PHASE R
  - INPUT MODE
- MODULATION
  - DEPTH
  - RATE
- COMPRESSOR
  - ENABLED
  - THRESHOLD
  - BOOST
  - NOISE GATE

PRESET
- NUMBER
- NAME
- SAVE
- COPY

SETTINGS
- GLOBAL
  - GLOBAL ROUTING
  - ROUTING
  - START PRESET
  - TRAILS
  - FREEZE TOGGLE
- DISPLAY
  - SCROLL SPEED
  - TIME DISPLAY
  - BPM DIV
  - CONTRAST
  - AUTO DIM
- EXPRESSION
  - ENABLED
  - MODE
  - INVERT
  - CALIBRATE
- TAP TEMPO
  - ENABLED
  - TIME OUT
- VERSION
- RESET SETTINGS

MIDI
- ENABLED
- CHANNEL
- THRU
- PC
- CC
- DUMP PRESET

EXPRESS YOURSELF

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You can connect an expression pedal to the BCC-TDE for parameter control with your feet. The following parameters can be controlled via an expression pedal:

- VOLUME
- TAILS
- TIME
- REPEATS
- COLOUR

The BCC-TDE supports a TRS style expression pedal. See the diagram below:

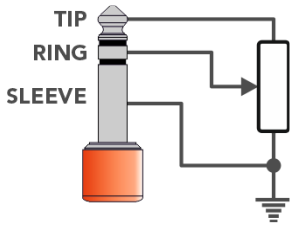


Figure 10

Note. You'll need to purchase an expression pedal separately. Most 3rd party TRS expressions pedals will work well.

CONNECTING THE EXPRESSION PEDAL

Connect the TRS expression to the EXPRESSION ¼" input.

Figure 11

EXPRESSION PEDAL MENU

Now you have connected the expression pedal, it's time to configure the pedal to your needs. All expression pedal settings can be found in the EXPRESSION PEDAL menu. To access the menu from the home screen:

- Press **MENU** >
- Using EDIT scroll to **SETTINGS** >
- Press MENU / EDIT to enter the SETTINGS MENU >
- Use EDIT to scroll to **EXPRESSION PEDAL**
- Press MENU / EDIT to enter the EXPRESSION PEDAL menu

CALIBRATION

To make sure the BCC-TDE is compatible with as many pedals as possible it is possible to calibrate the BCC-TDE to use the full range of your expression pedal.

To CALIBRATE your expression pedal from the EXPRESSION PEDAL MENU screen:

- Use EDIT to scroll down to the **CALIBRATE** option

- Press MENU / EDIT to begin the expression pedal **CALIBRATION**

Figure 12

Rock your expression pedal from min to max a couple of times to set the end stops. Press **MENU** when finished. Congratulations your expression pedal is ready to go.

EXPRESSION MODES

- VOLUME
  - Controls the input volume into the delay. This allows tails to continue even when the pedal is at minimum.
- TAILS
  - Very similar to the VOLUME mode but controls the output of the delay. This setting will also affect the tails, meaning when the expression pedal is at minimum the entire delay will be muted.
- TIME
  - Maps the expression pedal to control the delay time. It will ramp from minimum time to current preset time.
- REPEATS
  - Maps the repeat amount to the expression pedal.
- COLOUR
  - Map the expression pedal to control the colour of the current preset. This is mapped 0% ~ 100%.

INVERT

This option allows you to swap the direction of the expression pedal. Prefer the maximum time to be toe down sure!

Note. If MIDI is your thing, there are even more parameters you can control externally, check out the MIDI section.

THE EDIT MENU

The edit menu is where the magic happens. This is where all the settings for the current preset are available in menu form. Whilst you can access some of these from the LIVE or PRESET screens, if you want full control of the BCC TDE this is it.

In this section, we'll go through each of the sub menus in the EDIT MENU.

MODE

The core of this pedal is the 3 unique delay eras at your disposal. The three modes of operation change how the pedal behaves and gives some unique settings to play with. The options are available are:

 ANALOGUE

 DIGITAL

 DYNAMIC

Selecting one of these will also change the EDIT MENU layout. See MODE SPECIFIC SETTINGS section further in the manual.

TIME

ANALOGUE

Vintage tape echo unit usually has a record head, a playback head, and a loop of tape. As the loop of tape travels past the record head, the input signal is written to the tape. It takes a few milliseconds for the tape to travel to the play head. And thus, a delay is created!

- SPEED (40 – 2000)
  - Represents the speed at which the tape loop in an echo unit over the playback heads, normally measured in inches per second (IPS). The faster the tape speed, the shorter the delay time and vice versa.

Note. Because our emulation doesn't have any moving parts, you can set tape speeds which would never be possible in real life!

- H1, H2, H3
  - Each H represents a specific playback head and combination of available on Vintage Tape Echo Units. Unlike the original tape echo units of the past, not only can you select which head is enabled, but also select the individual levels and distance of each head.
  - ENABLED (ON / OFF)
    - Enable or disable the playback head.

Note. Disabling all 3 heads will result in no delayed signal!

  - LEVEL (0 ~ 100%)
    - Sets the volume of the individual playback head.
  - DISTANCE (20 ~ 100)
    - Represents the emulated distance of playback head from the record head. The higher the value, the greater the distance between the record head, thus a longer delay time.

DIGITAL

- LINK (ON / OFF)
  - Links both the left and right delay times to provide a stereo repeat. Turning the LINK off allows you to set different delay times for the left and right delays.
- TIME (1 ~ 2500ms

- Represents the selected delay time in milliseconds (ms).

DYNAMIC

- LINK (ON / OFF)
  - Links both the left and right delay times to provide a stereo repeat. Turning the LINK off allows you to set different delay times for the left and right delays.
- TIME (1 ~ 2500ms)
  - Represents the selected delay time in milliseconds (ms)

MODE SPECIFIC SETTINGS

TAPE

The TAPE menu is visible only when in the ANALOGUE mode. In Vintage Tape Echo Units, the tape loop would stretch and wear over time, mechanical parts will warp and move slower. These imperfections are what give those vintage tape echo units their characteristic sound. We've spent a lot of time and effort into re-creating these sonic characteristics in the BCC-TDE. We've also provided an additional pair of user editable parameters which allow you to dial in your own unique characteristics!

WOW

WOW is a slow form of pitch variation caused predominately by stretches or wear in the tape. The two parameters for WOW give options for subtle to extreme tape degradation:

- WOW DEPTH (0 ~ 100%)
  - Controls the intensity of the WOW effect. At 0 there will be no WOW effect applied to the delay.
- WOW RATE: (0 ~ 100%)
  - Controls the pitch modulation speed of the WOW effect. The speed range is approximately 0.1Hz ~ 6Hz

FLUTTER

Flutter is faster pitch fluctuations caused by mechanical issues, usually a bent capstan or wear on the motor. Again, the BCC-TDE gives to option to go from subtle to extreme.

- FLUTTER DEPTH (0 ~ 100%)
  - Controls the intensity of the FLUTTER effect. At 0 there will be no FLUTTER effect applied to the delay.
- FLUTTER RATE (0 ~ 100%)

Controls the speed of the pitch flutters. The speed range can approximately be set from 4Hz ~ 100Hz.

MULTIHEAD

The MULTIHEAD menu option is only available in digital mode.

- MULTIHEAD (ON / OFF)
  - Engages the additional delay line option.
- TIME (1 ~ 2500 ms)
  - Sets the delay time of the additional delay line in milliseconds (ms)
- LEVEL (0 ~ 100%)
  - Sets the LEVEL of the additional delay line.

DYNAMICS

The DYNAMICS menu option is only available in Dynamic mode

- THRESHOLD (0 ~ -128)
  - Sets the threshold point above which the Dynamic Ducker will begin attenuating the delay signal. Until the input signal reaches this level the delay signal will not be affected.

- BOOST (0 ~ 18 dB)
  - Controls the amount of gain added back to the original input signal once the Dynamic Ducker is released. Allows you to control the level of the released delay.
- RATIO (1:1 ~ 10:1)
  - Controls the amount of gain reduction for a given input signal level. The higher the ratio the more compressed the signal becomes.
- ATTACK (0 ~ 120 ms)
  - Controls how quickly the Dynamic Ducker will attenuate the delay signal when an incoming signal exceeds the threshold.
- RELEASE (15 ~ 6000ms)
  - Sets the length of time it takes for the muted delay signal to return to its original level after the signal falls below the threshold point.

MIX

- MIX (0 ~ 100%)
  - Sets the amount of the wet (delayed) signal in the overall mix

REPEATS

- REPEATS (0 ~ 100%)
  - Sets the number of repeats of the delayed signal.

COLOUR

- COLOUR (0 ~ 100%)
  - Sets the overall level of modulation applied to the repeats of the delay.

TONE

- TONE (0 ~ 100%)
  - Sets the overall tonality of the delayed signal. This needs to be adjusted accordingly as it will affect the character of the repeats particularly in the ANALOG mode.

ROUTING

- MODE (Stereo, XFB, Ping Pong, Mono, Wet/Dry)
  - Choose the routing mode for the preset. Check out the ROUTING 101 section for additional information.
- DRY L (0 ~ 100%)
  - Sets the overall level of the unaffected left had side of the signal.
- DRY R (0 ~ 100%)
  - Sets the overall level of the unaffected left had side of the signal.
- DLY L (0 ~ 100%)
  - Sets the overall level of the delayed left had side of the signal.
- DLY R (0 ~ 100%)
  - Sets the overall level of the delayed left had side of the signal.
- Phase L (0 ~ 1)
  - Allows the phase of the Left channel to be reversed. Reversing the phase of one side of the delayed signal produces a super wide, psychoacoustic delay sound. The delay appears to come from behind your guitar rather than in front.
- Phase R (0 ~ 1)
  - Like above. allows the phase of the right delay channel to be reversed.
- Input Mode (L & R or L)
  - Sets which input jack(s) are active. Should be set to L if XFB & Ping Pong routings are desired, otherwise set to L&R

Note. Even when running in mono, swapping the phase on one of the delay channels will influence the sound. We encourage you to experiment with different settings and listen to the effects they have!

MODULATION

Modulation in the form of chorus can be added to the repeats of the delayed signal.

Subtle amounts of modulation can help add an organic feeling to delay repeats. Mild modulation can add a lushness to delay repeats which many find appealing. Extreme modulation settings can create chaotic and other worldly sonic landscapes.

- DEPTH (0 ~ 100%)
  - Controls the insanity of the modulation sweep. At a setting of 0, no modulation will be applied to the delay repeats.
- RATE (0 ~ 100%)
  - Sets the speed of the sweep of the modulation. The higher this is set, the faster the modulation will oscillate back and forth.

COMPRESSOR

- ENABLE (ON / OFF)
  - Engages the compressor.
- Threshold (0 ~ -128 dB)
  - Sets the minimum input level at which compression will engage. As the threshold is lowered, the compressor engages at a lower input level, causing the apparent output level to reduce.
- BOOST (0 ~ 18 dB)
  - Controls the overall output level of the compressor.
- NOISE GATE (ON / OFF
  - Engages the noise gate.

SETTINGS MENU

GLOBAL

- GLOBAL ROUTING (ON / OFF)
  - Allows you to override all routing settings of each preset. This means the preset routing mode will be ignored and instead a single routing type will be applied to all presets. Useful if you only need one type of routing and don't want to edit a load of patches. Default is **OFF.**
- ROUTING (Stereo, XFB, Ping Pong, Mono, Wet/Dry)
  - Selects the routing mode of the GLOBAL ROUTING override. See ROUTING 101 for more information. Default is STEREO.
- START UP PRESET (0 ~ 100)
  - Determines the preset recalled when the pedal is powered up. Setting the value to 0 will load the last used preset on power up. Default value is **0**.
- TRAILS (ON / OFF)
  - Sets whether the delayed signal spill over when bypassing the delay effect. When on any repeats will continue and die out naturally when bypassing the BCC-TDE. When off any repeats will mute abruptly. Default value is **ON**.
- FREEZE TOGGLE (ON / OFF)
  - Changes the behaviour of the FREEZE function. When FREEZE TOGGLE is OFF you must hold the FREEZE footswitch down to enable the freeze. When FREEZE TOGGLE is ON the freeze will continue even after the footswitch is released. To stop the freeze function holding the footswitch again is required. Default value is **OFF**.

DISPLAY

- SCROLL SPEED (1 ~ 10)
  - Determines the speed at which the presets scroll through the display when holding either of the footswitches in PRESET mode. 1 is slow scroll and 10 is fast scroll. Default value is **5**.
- TIME DISPLAY (MS / BPM)
  - Sets the mode in which time is displayed on the display for all presets. MS shows the time in milliseconds. BPM shows the time in beats per min. BPM is useful for Keyboard players or in situations where a sequencer is being used.
- BPM DIV (1/4, 1/8, 1/16, 1/4D, 1/8D, 1/4T, 1/8T)
  - Allows you to select the correct BPM division to achieve the desired delay effect for the part you are playing. This is stored in each preset, so you can have different presets set to different divisions. D = Dotted & T = Triplet. Default value is **1/4**.
- DISPLAY CONTRAST (1 ~ 10)
  - Sets the brightness of the OLED display. The higher the value the brighter the display. You can adjust this setting to suit your needs. Default value is **5**.
- AUTO DIM (ON / OFF)
  - The AUTO DIM function will dim the screen after approximately 30 seconds of inactivity. This helps to extend the lifetime of the screen and reduce power draw. Editing any control or setting will un-dim the screen. If you want the screen to always be fully lit, then you can disable this control. Default value is **ON**.

EXPRESSION PEDAL

- ENABLED (ON / OFF)
  - Enables or disables any expression pedal control. **If you are not using an expression pedal, make sure this is set to OFF**. Default value is OFF.

Note. If you unplug the expression pedal, be sure to disable this setting again.

- MODE (NONE / VOLUME / TAILS / TIME / REPEATS / COLOUR)
  - Selects the parameter controlled by the expression pedal.
- INVERT (ON / OFF)
  - In its normal state the value sent from an expression pedal to the unit increases as the toe of the pedal is depressed. The invert option allows you to reverse this situation meaning that the value sent from the expression pedal decreases as the toe of the pedal is depressed.
- CALIBRATE
  - Allows for the calibration of a connected EXPRESSION PEDAL. It is important that the minimum and maximum values for the expression pedal are set before first use. Check out the EXPRESS YOURSELF section for more details on calibrating your expression pedal.

TAP TEMPO

- ENABLED (ON / OFF)
  - Enables / Disables the TAP TEMPO function when in LIVE mode. Repeatedly pressing the TAP switch in time with the music you are playing to will adjust the time of the selected delay to match the tempo of the music. Making your delay times match the music.
- TIME OUT (0 ~ 10)
  - When TAP TEMPO is used, the LED above the switch will flash in time to the tempo set. TIME OUT sets the number of times the LED will blink to give a visual indication of the selected tempo. Setting the value to 0 means the LED will never stop blinking. The default value is **4**.

VERSION

Gives information about the current software version loaded onto the pedal.

New firmware updates will be released to the Laney website, see UPDATING YOUR FIRMWARE

RESET SETTINGS

Resets the pedal settings backed to the factory shipped status. This cannot be undone.

- Option ARE YOU SURE – YES or NO

Note. This only resets the pedals settings. It does not reset any presets you have edited!

MIDI

The BCC-TDE comes with a robust set of external MIDI controls allowing you to change presets, control parameters, and more.

Note. We use the ranges 0~127 in all our MIDI messages and in our displays. This follows the MIDI specification however there are some MIDI controllers use the values 1 ~ 128. When this happens remember to subtract 1, A value of 1 from this type of MIDI controller will actually be 0 and so on.

MIDI CONNECTIONS

Below are some connection diagrams for connecting your BCC-TDE to various midi devices. You can use almost any MIDI compliant controller, interface, or device.

Figure 13

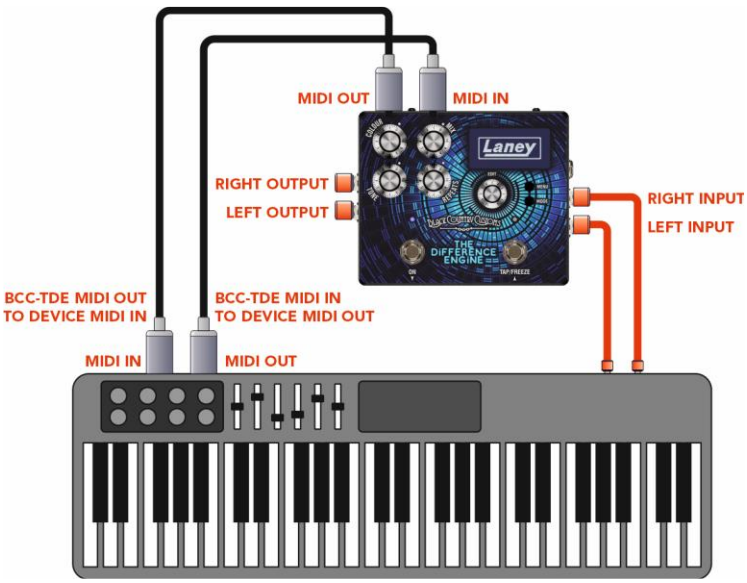


Figure 14

MIDI MENU

- ENABLED (ON / OFF)
  - Enables / Disable MIDI on the device. When set to OFF no MIDI functions will operate on the pedal. Default is ON.
- CHANNEL (0 ~ 15)
  - Sets the MIDI channel the pedal is receiving & transmitting on.
- THRU (ON / OFF)

    - The MIDI THRU option is used to pass along MIDI information received at the MIDI IN socket to the MIDI out socket
- PC (ON / OFF)
    - Enables the PROGRAM CHANGE facility allowing the pedal presets to be switched via MIDI.
- CC (ON / OFF)
    - Allows the pedal to receive MIDI CC (Continuous Controller) messages. Which can be assigned to control a desired parameter on the pedal. Please see the PRESET SELECT AND OTHERS chart for the correct control values.
- DUMP PRESET
    - Allows you to send a DUMP via SYSEX on the current preset to a connected librarian or a storage device.

PROGRAM CHANGES

You can recall any of the 100 presets on the BCC-TDE with the power of MIDI Program Change (PC) messages. Most MIDI controllers will be able to send PC messages by standard. See the table below for more details:

Preset Change

- PC 000 -> 0xC0 0x00 -> Preset 1
- PC 000 -> 0xC0 0x01 -> Preset 2
- …
- PC 100 -> 0xC0 0x63 -> Preset 100
    - (0x63 Hex is 99 decimal but preset 1 starts at zero so remember 99 will be preset 100)

CONTROLLING PARAMETERS

The BCC-TDE also supports MIDI Continuous Controller (CC) messages for even more real-time parameter control.

What is a MIDI CC you might ask? MIDI CC is just a bunch of messages that are assigned to various parameter controls. Have a look at the table below to see what is controllable via MIDI CC messages.

MIDI CC CHARTS

PRESET SELECT AND OTHERS

CC	FUNCTION	CC VALUE	DESCRIPTION
0	PRESET SELECT	0 ~ 100	An alternative to using Program Change Messages.
1	ENABLE	0 ~ 1	0 = Bypass the BCC-TDE 1 = Enable the BCC-TDE
56	FREEZE	0 ~ 1	0 = Disable Freeze 1 = Enable Freeze
10	DELAY MODE	0,1,2	Set the current delay mode 0 = ANALOGUE MODE 1 = DIGITAL MODE 2 = DYNAMIC MODE

SURFACE CONTROLS

CC	FUNCTION	CC VALUE	DESCRIPTION
11	REPEAT	0 ~ 100	
12	TONE	0 ~ 100	
13	COLOUR	0 ~ 100	
14	MIX	0 ~ 100	

ANALOGUE CONTROLS

CC	FUNCTION	CC VALUE	DESCRIPTION
7 & 39	TAPE SPEED	40 ~ 2000	MSB & LSB control. CC 7 = MSB CC 39 = LSB
49	HEAD ENABLE	0 ~ 7	Use to select which tape Heads to enable. See Table for head enable below, for values.
50	HEAD 1 DISTANCE	20 ~ 100	
51	HEAD 2 DISTANCE	20 ~ 100	
52	HEAD 3 DISTANCE	20 ~ 100	
53	HEAD 1 LEVEL	0 ~ 100	
54	HEAD 2 LEVEL	0 ~ 100	
55	HEAD 3 LEVEL	0 ~ 100	

Table for HEAD enable CC 49.

CC VALUE	HEAD 1	HEAD 2	HEAD 3
0	OFF	OFF	OFF
1	ON	OFF	OFF
2	OFF	ON	OFF
3	ON	ON	OFF
4	OFF	OFF	ON
5	ON	OFF	ON
6	OFF	ON	ON
7	ON	ON	ON

TAPE SETTINGS

CC	FUNCTION	CC VALUE	DESCRIPTION
22	WOW RATE	0 ~ 100	
23	WOW DEPTH	0 ~ 100	
24	FLUTTER RATE	0 ~ 100	
25	FLUTTER DEPTH	0 ~ 100	

DIGITAL AND DYNAMIC TIME CONTROL

CC	FUNCTION	CC VALUE	DESCRIPTION
15	TIME LINK	0 ~ 1	0 = Unlink left and right delay times. 1 = Link left and right delay times. ***Note. When time linked only TIME L affects delay time.***
3 & 35	TIME L	1 ~ 2500	MSB & LSB control. CC 3 = MSB CC 35 = LSB
4 & 36	TIME R	1 ~ 2500	MSB & LSB control. CC 4 = MSB CC 36 = LSB

MULTIHEAD

CC	FUNCTION	CC VALUE	DESCRIPTION
16	ENABLE	0 ~ 1	0 = MULTIHEAD DISABLED 1 = MULTIHEAD ENABLED ***Note. Only available in DIGITAL mode.***

5 & 37	TIME LEFT	1 ~ 2500	MSB & LSB control. CC 5 = MSB CC 37 = LSB
6 & 38	TIME RIGHT	1 ~ 2500	MSB & LSB control. CC 6 = MSB CC 38 = LSB
18	LEVEL LEFT	0 ~ 100	
19	LEVEL RIGHT	0 ~ 100	

DYNAMICS CONTROL

CC	FUNCTION	CC VALUE	DESCRIPTION
29	THRESHOLD	0 ~ 120	Sets the threshold. The CC value is negative e.g., sending a value of 120 will result in a threshold of -120
30	RATIO	1 ~ 10	
31	BOOST	0 ~ 18	
8 & 40	ATTACK TIME		MSB & LSB control. CC 8 = MSB CC 40 = LSB
9 & 41	RELEASE TIME		MSB & LSB control. CC 7 = MSB CC 39 = LSB

ROUTING

CC	FUNCTION	CC VALUE	DESCRIPTION
42	ROUTING MODE	0 ~ 4	Sets the current routing mode 0 = STEREO 1 = CROSS FEEDBACK (XFB) 2 = PING PONG 3 = MONO 4 = WET / DRY
43	PHASE LEFT	0 ~ 1	
44	PHASE RIGHT	0 ~ 1	
45	DRY LEFT LEVEL	0 ~ 100	
46	DRY RIGHT LEVEL	0 ~ 100	
47	DELAY LEFT LEVEL	0 ~ 100	
48	DELAY RIGHT LEVEL	0 ~ 100	

MODULATION

CC	FUNCTION	CC VALUE	DESCRIPTION
20	RATE	0 ~ 100	
21	DEPTH	0 ~ 100	

COMPRESSOR

CC	FUNCTION	CC VALUE	DESCRIPTION
26	ENABLE	0 ~ 1	
27	THRESHOLD	0 ~ 120	
28	BOOST	0 ~ 18	
32	GATE ENABLE	0 ~ 1	

MSB & LSB PARAMETERS

Some controls need more than 128 values available in a stand MIDI CC message. Luckily for us the MIDI stand allows parameters to be split into 2 CC messages, called MSB and LSB.

Most significant byte (MSB) and least significant byte (LSB) might sound scary, but they really aren't. All you must do is take the value you want and split it into two parts with a little bit of math.

- Take your VALUE you want, divide it by 128.
- The integer value (the number before the decimal point) is your MSB.
- Now multiply the fractional part (the number after the decimal point) by 128 to get the LSB.

For example, if you want to set TIME L to 2000ms: (Time L uses CC3 for MSB & CC35 for LSB control)

- 2000 / 128 = 15.625 MSB = 15
- 0.625 * 128 = 80 LSB = 80

MIDI messages to send:

- CC 3 15 (MSB)
- CC 35 80 (LSB)

Note. We've even helped by providing a simple to use calculator. Available on our website, www.laney.co.uk.

USB TO MIDI ADAPTOR

The included USB to midi adaptor may be used to interface to your existing midi gear, download new presets, backup your existing presets or to update the BCC-TDE firmware. No additional drivers are required and it is fully plug and play compliant. Refer to your Midi software / Operating system notes for correct usage.

The USB housing contains a status led. Blue indicates normal operation, green is data input, and red is data output.

Figure 15

DOWNLOADING NEW PRESETS

As new artist presets are developed, we will occasionally add them to the Laney website. Be sure to check the Laney website for any updates on the product page.

https://www.laney.co.uk/effects/guitar-effects/bcc-pedals/bcc-tde#downloads

Detailed instructions on how to update are included within the new presets download.

UPDATING YOUR FIRMWARE

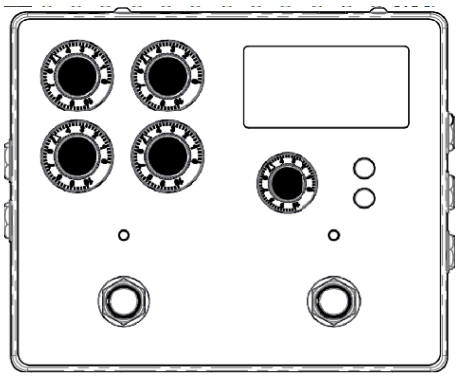
Be sure to check the Laney website for any firmware updates to your BCC-TDE on the website product page.

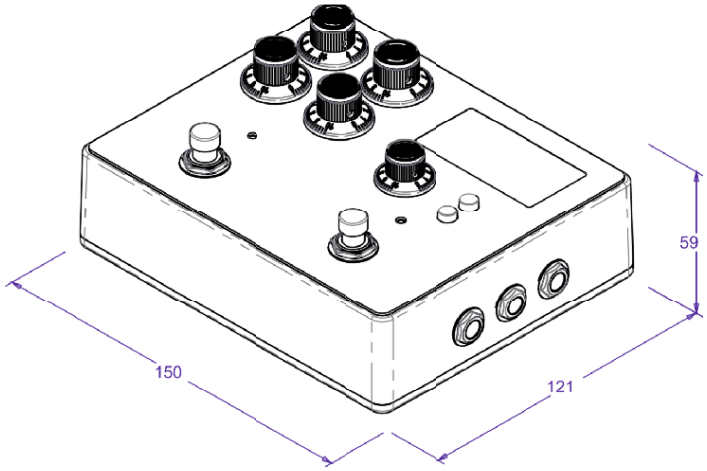
https://www.laney.co.uk/effects/guitar-effects/bcc-pedals/bcc-tde#downloads

Detailed instructions are included within the new firmware download

SPECIFICATIONS

Model	BCC-TDE (The Difference Engine)
FX Type	Stereo Delay
Input Impedance	1MΩ
Output Impedance:	100Ω
Signal to Noise	115 dB typical
Frequency Response	20Hz to 20kHz
Max Input Level	+8dBu
Power Supply	Regulated 9V DC PSU (Not Included): centre negative, 2.1 x 5.5 x 10mm connector type
Current Consumption	~100mA (150mA PSU recommended)
Controls	Colour, Mix, Tone, Repeats, Edit/Menu/Mode, On/Bypass, Tap/Freeze
Inputs	Left, Right, Expression (6.3mm Jack), Midi In (5 pin DIN)
Outputs	Left, Right (6.3mm Jack Socket) Midi out (5 pin DIN)
Unit dimensions (HWD)	59 x 150 x 121mm, (2.3" x 5.9" x 4.8")
Unit weight	0.6Kg, (1.3 lbs)
Carton dimensions (HWD)	80 x 210 x 150mm, (3.1" x 8.3" x 5.9"), 0.003 M3
Packed Weight	0.93Kg, (2.1 lbs)
EAN Code (Single)	5060109457681
Master Carton Dimensions (HWD)	120 x 440 x 335mm, (4.7" x 17.3" x 13.2"), 0.018 M3
Master Shipping Carton Weight	4.2Kg, (9.3 lbs)
EAN Code (Shipping)	5060109457698 (4 pcs)





SAFETY AND WARNINGS

In order to take full advantage of your new product and enjoy long and trouble-free performance, please read this owner's manual carefully, and keep it in a safe place for future reference.

1) Unpacking: On unpacking your product please check carefully for any signs of damage that may have occurred whilst in transit from the Laney factory to your dealer. In the unlikely event that there has been damage, please re-pack your unit in its original carton and consult your dealer. We strongly advise you to keep your original transit carton, since in the unlikely event that your unit should develop a fault, you will be able to return it to you dealer for rectification securely packed.
2) Amplifier Connection: In order to avoid damage, Generally it is advisable to establish and follow a pattern for turning on and off your system. With all system parts connected, turn on source equipment, mixers, effects processors etc, BEFORE turning on your amplifier. Many products have large transient surges at turn on and off which can cause damage to your speakers. By turning on your amplifier LAST and making sure its level control is set to a minimum, any transients from other equipment should not reach your loud speakers. Wait till all system parts have stabilised, usually a couple of seconds. Similarly when turning off your system always turn down the level controls on your amplifier and then turn off its power before turning off other equipment.
3) Cables: Never use shielded or microphone cable for any speaker connections as this will not be substantial enough to handle the amplifier load and could cause damage to your complete system. Use good quality shielded cables everywhere else.
4) Servicing: The user should not attempt to service these products. Refer all servicing to qualified service personnel.
5) Heed all warnings.
6) Follow all instructions.
7) Do not use this apparatus near water.
8) Clean only with a dry cloth.
9) Do not block any of the ventilation openings. Install in accordance with manufacturer's instructions.
10) Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
11) An apparatus with Class I construction shall be connected to a mains socket outlet with a protective connection. 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 third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
12) Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point they exit from the apparatus.
13) Only use attachments/accessories provided by the manufacturer.
14) Use only with a 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.
15) The mains plug or appliance coupler is used as the disconnect device and shall remain readily operable. The user should allow easy access to any mains plug, mains coupler and mains switch used in conjunction with this unit thus making it readily operable. Unplug this apparatus during lightning storms or when unused for long periods of time.
16) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when 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.
17) Never break off the ground pin. Connect only to a power supply of the type marked on the unit adjacent to the power supply cord.
18) If this product is to be mounted in an equipment rack, rear support should be provided.
19) Note for UK only: If the colours of the wires in the mains lead of this unit do not correspond with the terminals in your plug, proceed as follows:
    - The wire that is coloured green and yellow must be connected to the terminal that is marked by the letter E, the earth symbol, coloured green or coloured green and yellow.
    - The wire that is coloured blue must be connected to the terminal that is marked with the letter N or the colour black.
    - The wire that is coloured brown must be connected to the terminal that is marked with the letter L or the colour red.
20) This electrical apparatus should not be exposed to dripping or splashing and care should be taken not to place objects containing liquids, such as vases, upon the apparatus.
21) Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures: According to OSHA, any exposure in excess of the above permissible limits could result in some hearing loss. Earplugs or protectors to the ear canals or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss, if exposure is in excess of the limits as set forth above. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels such as this amplification system be protected by hearing protectors while this unit is in operation.

Duration Per Day in Hours	Sound Level dBA, slow response
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ ou inférieur	115

22) If your appliance features a tilting mechanism or a kickback style cabinet, please use this design feature with caution. Due to the ease with which the amplifier can be moved between straight and tilted back positions, only use the amplifier on a level, stable surface. DO NOT operate the amplifier on a desk, table, shelf or otherwise unsuitable non-stable platform.
23) Symbols & nomenclature used on the product and in the product manuals, intended to alert the operator to areas where extra caution may be necessary, are as follows:

 **CAUTION:**	Intended to alert the user to the presence of uninsulated 'Dangerous Voltage' within the products enclosure that may be sufficient to constitute a risk of electrical shock to persons. Ce symbole est utililise pur indiquer a l'utilisateur de ce produit de tension non-isolee dangereuse pouvant etre d'intensite suffisante pour constituer un risque de choc electrique. Este simbolo tiene el proposito de alertar al usuario de la presencia de '(voltaje) peligroso' que no tiene aislamiento dentro de la caja del producto que puede tener una magnitud suficiente como para constituir riesgo de corrientazo. Dieses Symbol soll den Anwender vor unsolierten gefahrlichen Spannungen innerhalb des Gehauses warnen, die von Ausrichender Starke sind, um einen elektrischen Schlag verursachen zu konnen.
 **WARNING:**	Intended to alert the user of the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the product. Dieses Symbol soll den Anwender vor unsolierten gefahrlichen Spannungen innerhalb des Gehauses warnen, die von Ausrichender Starke sind, um einen elektrischen Schlag verursachen zu konnen.

	Este simbolo tiene el proposito de la alertar al usario de la presencis de instrucccones importantes sobre la operacion y mantenimiento en la literatura que viene conel producto. Dieses Symbol soll den Benutzer auf wichtige Instruktionen in der Bedienungsanleitung aufmerksam machen, die Handhabung und Wartung des Produkts betreffen.
CAUTION:	Risk of electrical shock - DO NOT OPEN. To reduce the risk of electrical shock, do not remove the cover. No user serviceable parts inside. Refer servicing to qualified personnel.
ATTENTION:	Risques de choc electrique - NE PAS OUVIRIR. Afin de reduire le risque de choc electrique, ne pas enlever le couvercle. Il ne se trouve a l'interieur aucune piece pouvant etre reparee par l'utilisateur. Confier l'entretien a un personnel qualifie.
PRECAUCION:	Riesgo de corrientazo - no abra. Para disminuir el risego de carrientazo, no abra la cubierta. No hay piezas adentro que el pueda reparar. Deje todo mantenimiento a los tecnicos calificadod.
VORSICHT:	Risiko - Elektrischer Schlag! Nicht offen! Um das Risiko eines elektrischen Schlages zu vermeiden, nicht die Abdeckung enfernen. Es befinden sich keine Teile darin, die vow Anwender repariert werden Konnten. Reparaturen nur von qualifiziertem Fachpersonal durchfuhren lassen.
WARNING:	To prevent electrical shock or fire hazard, do not expose this appliance to rain or moisture. Before using this appliance please read the operating instructions for further warnings.
ADVERTISSEMENT:	Afin de prevenir les risques de decharge electrique ou de feu, n'exposez pas cet appareil a la pluie ou a l'humidite. Avant d'utiliser cet appareil, lisez les advertissments supplentaires situes dans le guide.
ADVERTENCIA:	Para evitar corrientazos o peligro de incendio, no deja expuesto a la lluvia o humedad este aparato Antes de usar este aparato, lea mas advertcias en la guia de operacion.
ACHTUNG:	Um einen elektrischen Schalg oder Feuergefahr zu vermeiden, sollte dieses Gerat nicht dem Regen oder Feuchtigkeit ausgesetzt werden. Vor Inbetriebnahme unbedingt die Bedienungsanleitung lesen.
FC	This device complies with Part 15 of the FCC rules Operation is subject to the following two conditions: 1) This device may not cause harmful interference 2) This device must accept any interference received, that may cause undesired operation. Warning: Changes or modification to the equipment not approved by Laney can void the user's authority to use the equipment. Note: This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures. Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help.
CE	This product conforms to the requirements of the following European Regulations, Directives & Rules: CE Mark (93/68/EEC), Low Voltage (2014/35/EU), EMC (2014/30/EU), RoHS (2011/65/EU), ErP (2009/125/EU) SIMPLIFIED EU DECLARATION OF CONFORMITY Hereby, Laney Electronics Ltd. declares that the radio equipment is in compliance with Directives 2014/53/EU, 2011/65/EU, 2009/125/EU. Full text of the EU declaration of conformity is available at the following internet address: http://support.laney.co.uk/approvals
UK CA	The object of the declaration described above is in conformity with the relevant statutory requirement Electrical Equipment (Safety) Regulations 2016, Electromagnetic Compatibility Regulations 2016, The Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012, The Ecodesign for Energy-Related Products and Energy Information, (Amendment) (EU Exit) Regulations 2012
	In order to reduce environmental damage, at the end of its useful life, this product must not be disposed of along with normal household waste to landfill sites. It must be taken to an approved recycling centre according to the recommendations of the WEEE (Waste Electrical and Electronic Equipment) directive applicable in your country.

BLACK COUNTRY CUSTOMS

HANDCRAFTED IN THE UK

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