Dig Deep MK3 User Manual

opfxs.com

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Controls

Knobs

The Dig Deep MK3 comes with 5 control knobs, each knob can change two parameters depending on the SHIFT button state:

Dry: set the level of the dry signal
Sub Mix: set the overall level of the sub signal
–1 Oct: set the level of the –1 octave signal, the overall output level depends on Sub Mix
–2 Oct: set the level of the –2 octave signal, the overall output level depends on Sub Mix
Low Pass: set the cut point of the low pass filter on the sub signal. Turn it down to cut high frequencies; turn it up to pass more high frequencies

High Pass: set the cut point of the high pass filter on the sub signal. Turn it down to allow more low frequencies; turn it up to cut low frequencies. Turning it up can also help reduce unwanted noise from an acoustic guitar's body.
Range: adjust the range where the sub is tracking on the guitar fretboard. Turn it down to limit tracking on low notes; turn it up to expand tracking to higher notes.
1st Harmonic: set the level of the dominant frequency, the overall output level depends on Sub Mix
CTRL I [CTRL II]: this knob can be assigned to a parameter at choice from the application editor.

Buttons

Two control buttons are available, each button can change two parameters depending on the SHIFT button state:

Wave: sets the sub waveform. Each waveform offers a distinct bass sound
Split: when OFF, dry and sub are mixed on main OUT jack. When ON, dry goes through main output jack while sub goes through SUB output jack.
CTRL III & CTRL IV: can be assigned to a parameter at choice from the application editor

SHIFT button

The SHIFT button toggles between SHIFT ON and OFF. When shift is OFF the status LED is RED and the knobs/buttons control the primary parameters: Dry, Sub Mix, Low Pass, Range, CTRL I, Wave, Split.
When shift is ON the status LED turns GREEN and the knobs/buttons control the secondary parameters: –1 Oct, –2 Oct, High Pass, 1st Harmonic, CTRL II, CTRL III, CTRL IV.

LEDs

The central LED is a bi-color LED. When OFF the pedal is in bypass. When ON, either RED or GREEN, the effect is ON.
RED indicates that the pedal is not in SHIFT state.
GREEN indicates that the pedal is in SHIFT state.
The three ORANGE LEDs indicate the current preset.
The SX BLUE LED either indicates the status of SPLIT or CTRL III.
The DX BLUE LED either indicates the status of WAVE or CTRL IV.

PRIMARY and [SECONDARY] knob parameters

Secondary parameters can be distinguished from primary ones, as their names are enclosed in square brackets and printed in blue on the pedal enclosure. Primary parameters silkscreen color is black.

A parameter updates only when its associated knob is turned.

This is useful when toggling SHIFT status since the value of parameters are temporarily stored between changes.

EXAMPLE: SHIFT state is OFF (RED LED ON) and you set DRY knob to maximum. Then you press SHIFT to enter SHIFT mode (GREEN LED ON) and move OCT –1 to minimum. When SHIFT is pressed again to exit the SHIFT state, the dry signal remains at maximum, even if the knob is set at ominimum.

When the knob is turned the central LED blink once.

In bypass mode the knobs are disabled and parameters are not updated if you move the associated knob or press the associated button.

Connectors

Audio input: MONO jack input.
Audio output: main OUT and SUB (SUB is only active when SPLIT mode is selected).
MIDI IN: TRS 3.5mm mini jack, to receive MIDI messages
MIDI THRU: TRS 3.5mm mini jack, to route MIDI signal to other devices

Power Supply

USB-C: used to power the pedal and connect to devices
DC JACK: BOSS(TM) standard 9V DC 2.1 mm jack with negative center for applying power to the pedal

The pedal needs at least 150mA but 200mA is recommended. There's no conflict in using both USB and DC jack at same time. In this case the pedal will source current from the 9V DC jack.

Only use 9V DC power supplies with negative center. The pedal can tolerate a maximum of 12V DC but this may cause stress and overheating of some parts.

The Dig Deep MK3 is protected against over-voltage, polarity inversion and over-current. If an over-current event occurs, the internal resettable fuse will activate, putting the pedal into protection mode until power is removed.

Preset

The Dig Deep MK3 can store up to 3 presets. The selected preset is indicated by the associated LED.

When the pedal is powered on all the preset LEDs are turned OFF.

To enter preset mode long press footswitch and PRESET LED 1 will load if previously saved.

Preset Buttons

Long pressing these buttons handle the following preset functions:

SAVE: a long press of the central button saves the preset in the current position indicated by ORANGE LEDs I, II or III
SCRL: a long press of DX button scrolls the presets, this is useful for selecting a preset without loading and deleting if necessary.
DEL: a long press of SX button deletes the selected preset. If no preset was saved it will do nothing

Load a preset

In default mode a long press of the footswitch loads the next preset. At pedal power on no preset are loaded; to enter preset mode long press the footswitch to load preset I, the associated LED will turn on. If no preset was previously saved nothing will happen.

The Dig Deep Editor allows to change the mode how a preset can be loaded in 3 different ways:

- Footswitch long press
- Footswitch short press
- Remote switch

Presets can also be loaded via MIDI by sending a Program Change message.

Save a preset

Select the preset, by scrolling to it with footswitch long press or by long press of SCRL. Long press the SAVE button; the associated ORANGE LED will flash a couple of times.

What's the difference between scroll (SCRL) and load it through the footswitch long press? Scroll will just select the preset without loading it. Useful for selecting the preset and delete it.

Selecting the preset with footswitch long press will also load the preset.

Delete a preset

Select the preset, by scrolling to it with footswitch long press or by long press of SCRL. Long press the DEL button; the associated ORANGE LED will flash a couple of times.

Editor

Pedal detection and connection

The application can detect the pedal in two different ways:

- Connect the pedal via USB and open the editor. If the pedal is detected the “Device” label will display Dig Deep MK3. Go to Connection menu now and click Connect. The label will show “Dig Deep MK3 connected”.

- Open the editor and connect the pedal to USB once the application has started. Go to Connection menu and click SCAN. If the pedal is detected the “Device” label will display Dig Deep MK3. Go to Connection menu and click Connect. The label will show “Dig Deep MK3 connected”.

Algorithm Effect upload

To upload a new algorithm:

1. Open the Dig Deep editor, go to Connection menu and click Connect
2. If connection is successful the label “Dig Deep MK3” will display “Dig Deep MK3 connected”
3. Select the desired algorithm in the right list
4. Click Upload and confirm.
5. The pedal will now enter in bypass and preset LEDs will turn ON in sequence from 1 to 3, RED LED will blink a few times. The pedal will now exit from bypass and RED LED will turn on. The status will display “Upload Complete” if successful.

Upload is fast, it should take no more than 3 seconds. If upload fails the status label will show “Upload failed”. Click Upload Button again and if it fails again try repeating the procedure. Eventually disconnect the pedal from USB and close the editor.

Request

The Request button gets all settings currently stored on the pedal:

- parameters
- assignments
- footswitch mode
- current tuning

If FX window is open move a knob on the pedal (except CTRL if not assigned) and click Request. You will see the parameter update on the application.

Assignments

The Dig Deep MK3 allows to assign CTRL I, CTRL II, CTRL III and CTRL IV to different parameters. It’s also possible to assign the Remote input either to Preset selection or Bypass.

To assign a parameter to a control select the desired parameters in the drop-down boxes and click the Assign button.

Footswitch Mode

The footswitch mode function allows to configure which action the footswitch will perform for short and long press. You can choose if short or long press will handle Bypass toggle or Preset selection.

Footswitch short press:
- Bypass
- Preset

Footswitch long press:
- Bypass
- Preset

Note that you can also set the footswitch to perform one function only, for example you can set that short press and long press will both handle bypass toggling.

Once you have checked the desired selection click Set Footswitch Mode button. The red LED will blink a couple of times indicating that the message was succesfully received by the pedal.

Tracking Functions

The Tracking Functions allow to set advanced tracking features on the pedal.

- **DOMINANT NOTES CUT (DNC):** improves tracking on lowest chord (E-open chord in standard tuning) with high RANGE settings.

- **HIGH NOTES CUT (HNC):** reduce tracking on undesired notes on the first guitar frets and open strings from the 3rd string (G string in standard tunings).

Both **DNC** than **HNC** can be assigned to the CTRL III or CTRL IV button, like other assignable parameters, or stored on the pedal.

When assigned to CTRL buttons you can toggle them via the associated CTRL button. When saved to the pedal they will be stored permanently (until removed).

Setup Tracking Functions

To allow Tracking Functions to do their trick you need to tell the pedal in which tuning are you playing. This can be done from the tuning choice box where you can select one of the major tunings and eventually adjust the semitones setting.

For example:
- if you are playing in standard tuning with capo on 3rd fret select Standard Tuning and +3 Semitones.
- if you are playing in Drop-D and tuneed a half-step down select Drop-D tuning and –1 Semitones.

To store a tuning on the pedal:

- select the tuning in the choice box in the parameter window
- click Set Tuning button in the main window. The bypass LED will blink a few times.

Store Parameters Settings

This function stores on the pedal the current status of the application parameters. For example if you want to set a different INPUT LEVEL adjust the knob to the desired position and click Store Parameters Settings button. The new setting will be stored on the effect permanently until you change them again. Uploading the algorithm again will restore them too.

Application Parameters

For application parameters we mean every knob, switch etc. available on the application that will change the actual functions of the effect.

Application parameters are divided into:

- standard parameters (those available on the pedal too, like Dry, Sub Mix, etc.)
- assignable parameters

Assignable parameters are those that are not physically available on the pedal itself but can be modified from the application and/or assigned to the 4 controls (CTRL).

When you open the FX setting by clicking on the algorithm the window will display both standard and assignable parameters. If the pedal is connected and you click Request all the parameters will update to the current effect settings.

Standard parameters are initially “disabled” (you can enable them in Settings menu)
Any change you do to parameters it will be updated in real time on the pedal but they won’t be stored until you click Store Parameters Settings button.

Settings menu

Look
Allows to change the aspect of the editor.

MIDI channel
Allows to set the receiving MIDI channel from 1 to 16 or set it to OMNI mode. In OMNI mode the pedal will listen to all the channels. When the channel is selected the configuration is immediately stored on the pedal.

Upload Tuning Data
This uploads all the tuning data requested by Tracking Functions to work. They are factory loaded before shipping the pedals so there is no need to upload them again.

Firmware upgrade

To upgrade the firmware keep SHIFT button pressed while connecting the USB cable to the Dig Deep MK3 (the pedal has not to be powered from DC jack PSU). In firmware upgrade mode everything is disabled. Preset LED II will be ON (just very dim).

1. Open the Dig Deep editor, go to Upgrade menu and check Firmware Upgrade.
2. Go to Connection menu and click Connect
3. If connection is successful the message “connection to bootloader success” will appear.
4. Go to Upgrade menu and click Start Upgrade, a new windows will appear.
5. Select the desired firmware and click the Upgrade button.
6. Once the upgrade is complete a message will appear, click OK and the Dig Deep will exit firmware upgrade mode.

File menu (save and load presets)

Save and Load preset menu allow to save files locally to be recalled later.

Save preset will store the values of the current controls status on editor. To get the actual configuration stored on the pedal it’s essential to click Request button before saving the preset. You can give the preset a name at your choice and save as many as you want. Presets are stored in the user document folder in “/OPFXS/Dig Deep MK3/Preset/” folder.

Preset files are simple text files and you can copy, rename, delete them or move to any other location outside the Dig Deep editor.

When a preset is loaded through Load Preset the editor parameters will update and if the pedal is connected it will update its parameters too. This action won’t overwrite the presets stored on pedal. If you want to store the Editor preset in one of the 3 preset positions on the pedal simply scroll to the desired preset with SCRL button and long press SAVE button.

INFO menu

The info menu displays the following entries:

- Support: will redirect to a form on our website where you can email us to ask for support, report any bugs or request features

- Editor Version: the current version of the editor

- If there's any new version of the editor available or not

- Device serial number: the serial number of the pedal if connected

- Show update message: you can select if you want to display the update message at startup or not, by default it's checked to ON

MIDI

List of MIDI messages

Control Change

CC number	CC data	Function	Description
0	0-127	Bypass	Toggle bypass. 0=bypass ON; 1-127=bypass OFF
1	0-127	Dry	Set level of dry signal
2	0-127	Sub Mix	Set level of sub mix
3	0-127	-1 Oct	Set level of -1 octave level signal
4	0-127	-2 Oct	Set the level of -2 octave level signal
5	0-127	Wave	Toggle Wave type. 0 or 1-127
6	0-127	LPF	Set the Low Pass Filter
7	0-127	HPF	Set the High Pass Filter
8	0-127	1st Harmonic	Set level of 1st Harmonics signal
9	0-127	Split	0=Split OFF; 1-127=Split ON
10	0-127	Range	Set Range value
11	0-127	Input Level	Set the Input Level
12	0-25	1st Harmonics Pitch	Set the pitch of 1st Harmonic in semitones from -12 to +12: 0 = -12; 1 = -11; 2 = -10 …… 13 = In pitch; 14 = +1; 15 = +2 ….. 25 = +12;
13	0-127	Clip	Add clipping to the sub signal
14	0-127	Dominant Notes Cut	0 = OFF; 1-127 = ON MAKE SURE TO SET THE TUNING BEFORE ASSIGNING THIS MESSAGE (CC 127)
15	0-127	High Notes Cut	0 = OFF; 1-127 = ON MAKE SURE TO SET THE TUNING BEFORE ASSIGNING THIS MESSAGE (CC 127)
16			
17			

18			
19			
….			
127	0-1	Select Tuning	0 = No tuning selected 1 = Standard Tuning

Program Change

Program Change Number	Description
0	Set Preset 1
1	Set Preset 2
2	Set Preset 3