iDP/4 User Manual

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Disclaimer

Delta Seven Kft. cannot be held responsible for any damage occurring while using the iDP/4 iPad app.

Although we are doing extensive testing with our own units and with our testers there's always a possibility of something going wrong.

Always use the latest firmware v1.15, see the [Under the hood](#) for more details.

Make sure you back-up your patches before using the app.

Introduction

The iDP/4 iPad app is a remote controller developed for the Ensoniq DP/4 signal processor originally released in the 1990s by Ensoniq.
The DP/4 features 4 Digital Signal Processor chips (DSP) and extensive routing capabilities between 4 mono audio inputs, the processing chips and 4 mono audio outputs. The routing is highly configurable and fully recallable via the patch system.
The DP/4 boosts nearly 50 unique audio processing algorithms each configurable with up to 30 unique parameters. With 4 algorithms loaded into the processing units there might be hundreds of parameters to play with at once.
The unique concept, the flexible routing capabilities and the quality of the built in algorithms garnered the DP/4 many fans from all types of music genres and is used to this day in professional and home studios alike.

To harness the full potential of the DP/4 we are pleased to present the iDP/4 iPad controller app.
The app features full access to every editable parameter, unique control layouts for each algorithm and full control of the routing capabilities. With the app connected any parameter is immediately accessible within a couple of touches.
Our goal was to bring the DP/4 up to par with modern effect units and hope to see users access the full potential of this beast.
Enjoy!

Under the hood

There are a couple of limitations that the DP/4 imposes on editor software.

Firmware versions

The app only supports the latest firmware version v1.15.
There are many reports of earlier versions of the firmware not working properly.
The firmware upgrade is an easy process involving exchanging 2 eprom chips in the DP/4 and cost around 10-20USD.
You can find the instructions online.

Real time editing limitations

The MIDI SysEx based communication implemented by the DP/4 was not designed for full real time editing. This means that you should not expect immediate and continuous change of parameters following value changes.
This is to prevent overflooding the internal processor of the DP/4 with control messages.
The editor respects this design choice by only sending parameter change messages when you release a pot or slider. Just keep in mind that for a change to take effect you should lift your finger first.

Editor Config User Preset #49

You can change algorithms in the 4 available units via iDP/4.
Under the hood the iDP/4 will configure a new Config preset with the new setup and send it to the DP/4 and save it to **Config User Preset #49** conveniently named **Editor Preset.**
This is the most reliable way to control the routing and algorithm selection aspect of the unit.
Just keep in mind that the Config User Preset #49 is reserved for the editor.

Setting up a MIDI connection with your iPad

There are a couple of ways to connect your iPad to MIDI devices. The simplest way is to directly connect to your device via a cable or Bluetooth. We prefer the latter for convenience but both are equally fine. You will find the setup procedure for both below.
If you have a more elaborate studio setup involving MIDI patchbays please read the advanced section further down.

Connecting with a MIDI cable via the Lightning or USB-C connector

You will need two cables to connect your iPad to MIDI devices with a 5-pin MIDI DIN connector:
- Apple USB adapter:
    - For iPads with lightning connector use the Apple Lightning to USB Camera adapter
    - For iPads with USB-C connector use the USB-C to USB Adapter
- An USB-to-MIDI cable like the ESI Midimate EX

Setting up the connection:
- Use the Camera adapter to connect to your lightning port on your iPad
- Connect the USB end of the USB-to-MIDI cable to the end of the Camera adapter
- Connect the MIDI end of the USB-to-MIDI cable to the DP/4 MIDI in and MIDI out connector
- Enable MIDI SysEx receive on the DP/4 under System -> Midi SysEx Receive (51)

Connecting with a Bluetooth-to-MIDI adapter

You can use a Bluetooth-to-MIDI adapter to connect wirelessly to your MIDI gear for greater flexibility and a wireless connection.
Some quality examples are:

You will need a Bluetooth-to-MIDI adapter to create a wireless connection.
 like the CME WIDI Master, Quicco mi.1, Yamaha MD-BT01.

Setting up the connection:
- Connect the Bluetooth-to-MIDI adapter to the DP/4 MIDI in and MIDI out connector. Make sure you follow your manufacturer's instructions about distinguishing in and out of the adapter

- Enable MIDI SysEx receive on the DP/4 under System → Midi SysEx Receive (51)
- Enable Bluetooth on your iPad under Settings → Bluetooth

Advanced setup with MIDI routing or MIDI patchbays

It's common to have multiple MIDI enabled devices in your studio and connecting the iPad to only one device as described above might be limiting.

One solution is to use a MIDI patchbay to route incoming and outgoing MIDI messages between different MIDI enabled devices such as your iPad, synthesizers, sequencers and computer.

We collected a list of MIDI patchbays and included our own recommendation where possible based on our own or our users testing.

Model	Recommendation
iConnectivity Mio10	Recommended
MOTU MIDI Express XT	Not recommended, there are known issues the unit corrupting MIDI sysex messages

The setup of MIDI routing exceeds the scope of this document, please refer to your manufacturer's recommendations on the subject.

Using the app

Getting started

In order to communicate with the DP/4 the editor has to be set up to find the MIDI input and output ports that are connected to the DP/4 as well as get general information about the DP/4 like the device ID.
To configure these settings head over to the **Settings Page**.

Settings Page

When you open the app it will open the **Settings Page**. You can always navigate back to the **Settings Page** by pressing the gear button.

On the settings page you should configure the followings:

- **MIDI source**: select the MIDI source that you use to send MIDI messages from the DP/4 to the iPad

- **MIDI destination:** select the MIDI destination that you use to send MIDI messages to the DP/4

- **Detected DP/4 units**: once you set up the MIDI source and MIDI destination the iPad app will send a device inquiry via MIDI to all connected devices. If your DP/4 is connected properly it should appear here. The app will automatically select the first one in the list.

  (*Tip: If you have multiple units you can select which one you want to edit here. Make sure you set a different SysEx device ID for each unit. Go to System → MIDI SysEx ID (50)*)

- **System Parameters:** once you have MIDI source, MIDI destination and a DP/4 unit selected the app will attempt to load the system parameters from the device. This is required for the operation of the app. A status indicator will show the current state, green means the Edit Buffer has been successfully loaded.

- **Edit Buffer:** if everything goes well the content of the Edit Buffer will be loaded and the app is ready to be used. You can refresh the Edit Buffer any time using the Refresh button here or on the top with the Refresh button. A status indicator will show the current state, green means the Edit Buffer has been successfully loaded.

Top Navigation

On the top bar you can find the following buttons:

- **Settings page button:** you can always open the Settings page by pressing this button

- **Refresh button:** the refresh button reloads the Edit Buffer from the DP/4. There might be cases when you edit some parameters on the DP/4 itself, these changes will only appear in the editor after a refresh.
  (tip: if you feel the editor is out of sync with the device it's a good practice to do a refresh in case any parameter value has gone out of sync)

- **Config button**: used to access the **Config Page**.
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- **Unit buttons**: buttons **A**, **B**, **C**, **D** are used to access the **Unit Page** of each processing unit

- **Mute buttons**: each unit has a dedicated mute button to either bypass or kill the given unit. Bypass/Kill is configurable on the **Config Page** for each unit.

- **Preset buttons:** on the top each unit has a display for the currently loaded algorithm. By tapping on the display you are presented with the **Patch Selection List** compatible with the given unit

Config Page

Routing between the units, input and output selection and bypass/kill settings can be configured

Unit Pages

Each unit can load up to 50 different algorithms. Each algorithm has two types of parameters:
- **General parameters**: these are parameters that all algorithms implement. These include Mix, Volume and Modulation parameters.
  For user interface consistency these have the same placements in the editor interface.

- **Algorithm specific parameters:** each algorithm has its own unique parameters. Whenever possible we arranged the controls in logical groups following the audio signal flow from left-to-right

Patch Selection List

You can load, save and select patches in the patch selection list.
The patch selection list exclusively available for the full version of the app once the full version In-App Purchase has been acquired.

You can open the **Patch Selection List** for each unit by pressing the **Preset Buttons**.
The patch selection list can have multiple tabs:
- **1 Unit Presets:** These presets only contain information about one algorithm loaded into one unit
- **2 Unit Presets**: These presets contain information about 2 units. This tab is only available if your current configuration contains units that are grouped together such as in 2unit - 2unit, 1unit - 1unit - 2unit.
- **4 Unit Presets:** These presets contain information about 4 units. On selection the app will load a new algorithm into all 4 units
- **Config Presets**: These presets contain algorithms for all 4 units plus the information about the routing between the units