bluetooth creator kit instructions

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Thanks for ordering one of our kits!

To access the templates for A5, A4 and A3, please go to
http://bit.ly/1P0AMsN

You will need these so that you can design your graphics to fit to the hot spots.

Let's get started!

Create and laminate your graphic

Design your artwork to the supplied template making sure the touch hot spots are directly over the

black squares.

Have your printed graphic ready. Peel and fold back an inch or two of backing paper from the top of the conductive sticker (blank side).
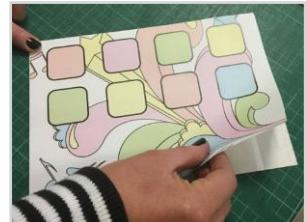
Gently place your graphic over the conductive sticker and line it up before pressing down over the top sticky strip.

Remove the remaining backing paper and laminate on the rest of your graphic taking care not to get any trapped bubbles.

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Assembly

Make sure you cut a hole in the substrate for the green control module to poke through.
Laminate the circuit side of the sticker to your chosen surface.
*The PrintedTouch conductive ink sticker is typically laminated onto a foam board or correx substrate.
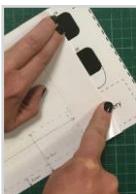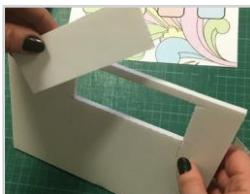
Use the corner and dot registration marks on the print to guide the placement of the control module onto the sticker.
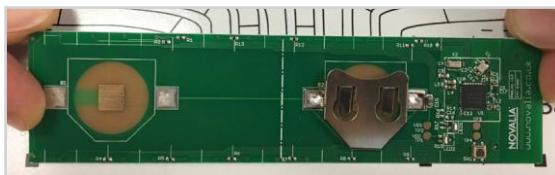
Lay
your work on a hard, flat surface with the control module facing you. Press firmly along the length of the control module to ensure a good connection to the printed sticker.

Creating your app

To create your app, you will need to use a combination of Novalia's web portal and Novalia's **Builder** app.
The web portal allows you to set up an account, create your app name and upload assets.
The Novalia builder app allows you to further define your app by assigning functionality and assets to each touch point on your print.
* Video must be in the mp4 format, audio in mp3 or wav, and image must be png or gifs

Web portal

Point your browser towards www.printedtouch.com and create an account by clicking **App sign in, Sign in,** and then **Sign up.**
Enter your name, email address and choose your password.

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First, you need to create an app name. Click **Create new app** on the home page. Add a name for the app and a version number. Select if the app is to have data capture or not and then click **Create App**.

Next, you need to create a group to hold your app assets. Click **Asset Groups** in the top menu bar.

Click on **Add Group** and continue to name your Asset group, choose access rights (recommended to select **Edit** which will allow you to make and save changes while you are still creating your app) and click **Create Asset Group** once finished.

To add assets to the group you just created, click on **Assets** in the top menu bar.

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Select the asset group you wish to add to. You are now able to add images, videos and Audio to your asset group.

Once you click on **Add image to group**, a window will pop up where you can browse and select your files. Once selected, click on **Create Content Image**.

Follow the same steps to add Audio and Video assets.

Now that you have created an app name, and a group to hold all of your assets, it is time to move over to the **Builder** app.

Using 'Novalia Builder' app

Download and install the Novalia Builder from the Apple App Store. *Builder v 1.3.3

Sign in and press **Apps**. Select your app.

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Connecting your print to the 'Builder' app

Make sure Bluetooth is on, and insert your coin cell battery into the green control module on your print.
*The battery goes in + side (with the writing on) facing you.

Tap **Connect device** on the app screen and then press the physical button on the PrintedTouch control module, its LED light will flash quickly.
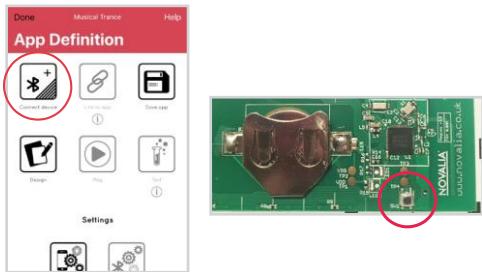

Tap Start Scan on the top right of the app; any nearby and available devices will then be seen on the screen. Select the device you wish to connect to.

The connected device name will turn green to indicate it has been connected. Click **Back** in the top left corner to go back to the main window. The connected device name and it's MAC address will be visible at the bottom of the home screen.

Link to app
Selecting this icon will link the connected device MAC address to the app, this is used so that the Novalia 'Player' app (available on the app store) can auto pair and download the app you have just created for this specific device. You can also add device MAC addresses to the app using the Novalia app builder website.

Save app
This will save the app to the cloud.

Design
Tap on this icon to configure and create your app.

Play
Selecting this will run your app.

Test
This will run your app in a debug mode. It shows the number of the touch point that has been pressed.

Settings: App is used to enable additional app features such as data capture and social sharing.

Setting: Device - These settings are used to configure the paired device, such as touch point sensitivity levels, sleep modes and MIDI settings.

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Set button sensitivity

Once you have connected your interactive print to the app, you will need to recalibrate the sensitivity levels of each touch point.
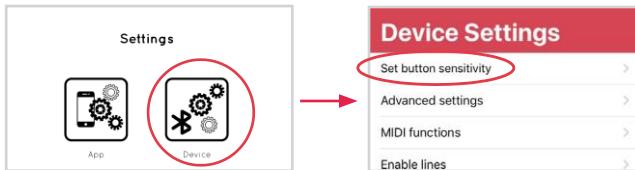
Under **Settings**, tap on the **Device** symbol. In the next window, select **Set button sensitivity**.

Tap **Recalibrate** on the top right corner of the window.
(See image a)

After recalibration, the base level of all buttons should adjust to sit before the white line and be coloured blue. This indicates that the buttons are below the trigger threshhold when untouched. (See image b)

Touch a hot spot on your print to view the sensitivity on the app screen.
The bar should fill up to orange, this indicates that the touch point is sensitive enough to trigger when touched
(See image c)

The magenta colour shows the peak level that buttons have reached after being touched.

a.   b.   c.

*If none of the touch points react then check the device is paired.

Design window

At the top of this page you can set the background image by tapping **Set background image**

Choose from your list of image folders then select an image.

Once you select your chosen background image, you will be taken back to the app definition screen automatically.
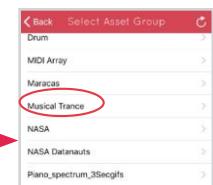
*Images can be uploaded using the website.

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Tapping on a touch point on a paired device highlights that touch point on the screen.
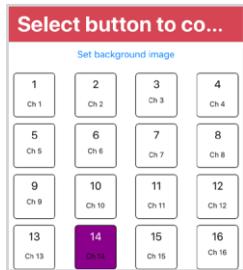
After selecting a touch point you reach the page to set the button actions.

*Be aware that touching any touch point on your printed touch device causes this window to change to that touch point, this is useful to check the setup for each touch point.

Add an image to your touch point

Tap on *Image* and press the '*+'* sign.
Browse through your image folder and select an image.
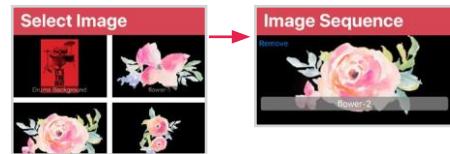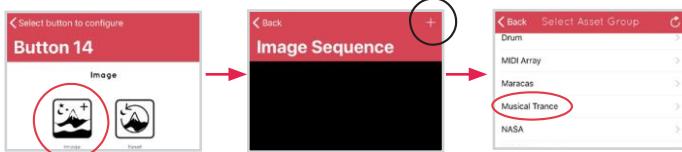
You can add multiple images to a touch point, each image will be displayed sequentially with each press of that touch point.

Reset removes any images from that touch point.

Add audio to your touch point

Tap on *Audio* and press the '+' sign,
Browse through your audio folder and select an audio file.
Once selected, it can be previewed.

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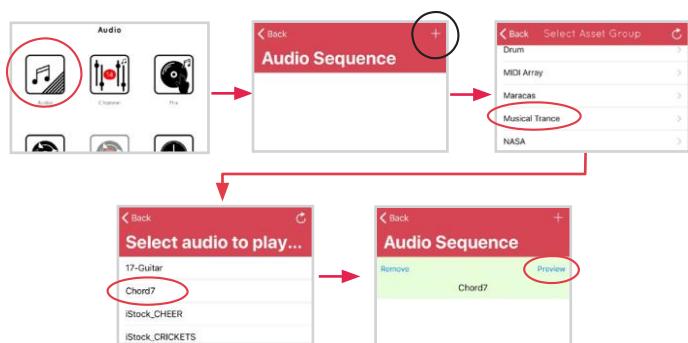
Set audio actions

Channel allows you to specify a channel for the audio. By default every touch point has its channel set to the touch point number. By putting touch points on the same channel then audio played when one touch point is pressed is interrupted by audio when another touch point in the same channel is pressed. For example, putting drums in the same channel as other drum sounds and vocals in the same channel as other vocals is useful to create a remix type experience.

Mix - Select this if you want the audio played when this touch point is pressed to play over the top of any presently playing audio.

Loop causes the audio to be looped.

Loop count is used to specify the number of loops or set looping to infinity

Quantise - Use this to specify that the selected audio is the reference sound for quantisation timing. Onl y one touch point can have this activated. It assumes that the audio file is a fraction or multiple of a one bar of a track. For it to be effective all audio that is to be quantised must be at the same bpm and also in multiple or fractions of a bar of music in length.

Quantisation - Use this to specify the depth of quantisation, ie 1 bar, 1/4 bar etc. Audio will start in time to other quantised audio rather than when the touch point is pressed, for example the start of the audio will be delayed to match the beat of the other quantised audio.

Reset will reset the audio settings for that touch point.

Add a video to your touch point

Tap **Select**, browse through a video folder and select a video

Reset video will reset the video settings for that touch point.
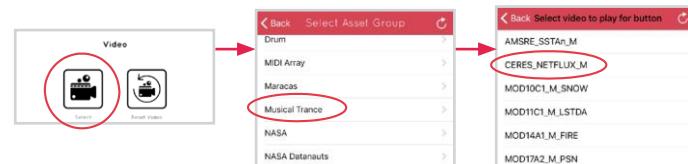
Enable Data Capture

Activating the **Enable data capture** icon will register every time a touch point is pressed. The time, date and MAC address of the connected device will be logged to the cloud. This data can be viewed using the web portal.

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We recommend assigning images/audio/video to a few buttons and trialling the app to get a feel for it, and then repeating and configuring until you're happy with your project.

Test your app

Tap the *Test* icon and touch the hot spots on your print to play your project.

If you are happy with your app so far, go back to the home window by tapping on the screen, and press *Save app*.

Continue editing your app if needed.

Settings: App
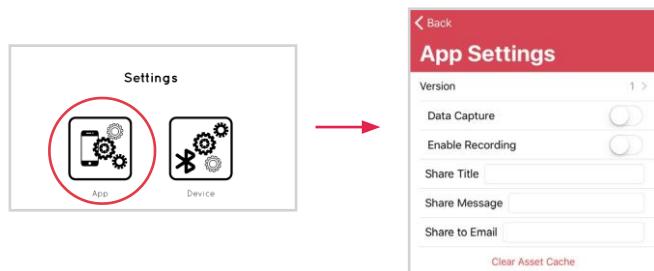
Version sets the version number of the app.

Data capture enables data capture for the app.

Enable recording adds a 'Record' button to the app when played. Pressing this allows the user to record a video consisting of the static background image and all the audio as it unfolds. Pressing stop brings up a dialogue to enable the user to share the video via email.

Share title pre populates the subject line of the share email.

Share message pre populates the message.

Share to Email pre populates the send address.

Clear asset cache removes all locall y stored assets ensuring that onl y new assets are download from the server.

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Settings: Device

Set button sensitivity shows live capacitive touch signals for all the touch points.

It is advised that you always view and recalibrate the sensitivity levels when you connect your interactive print to the app. The process of doing this is outlined on page 6.

Recalibrate - Pressing this will reset all the base levels of the touch points.

The device will self recalibrate when a battery is added (power cycled) or if the device is set to *calibrate on connect*.
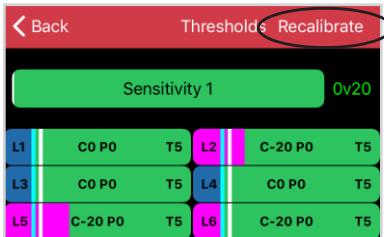
Settings – Device - Advanced settings
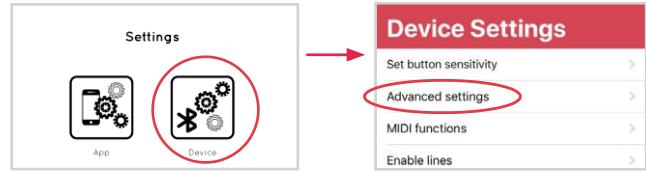
The lower half of the screen shows device information.

How to change the name of your device

The device name that is shown before the MAC address can be adjusted. You may want to do this so it becomes easier to identify the device you are trying to connect to the app.

On the window shown above, tap on the device name and type in a new name.

Press **Done** when you are finished.

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Wake up settings

Light detect turns on device light detection, the device will only wake up if light is detected by the device or the hardware reset button is pressed.

One of the following two sleep modes can be selected:

Deep sleep - On disconnection the device can only be woken up by pressing the small hardware reset button on the control PCB.

Continuous Advertising - In this mode the device does not actually go to sleep. On disconnection it will re advertise and continue to do so until paired. This will consume a significant amount of battery power. It is used in an installation environment and preferably when a larger battery pack is used.

Captouch Long Sampling - This setting will allow your interactive print to wake up more quickly from sleep when touched, however, it also uses significantly more battery power

Captouch Short Sampling - Choosing this setting will mean that your interactive print will be more slow to wake up from sleep when touched. This option will allow the battery life to last longer.

Calibrate on connection - In this mode all the cap touch points are scanned at the moment of connection to a smart device and the base levels for touch are reset. This can be useful to reset the touch, however, if a touch point is being pressed or the printed touch is on a conductive surface then the touch points may become inactive until re calibrated.

Disconnect on Inactivity - The device will disconnect after 5 seconds of inactivity. The default disconnection timeout of 5 seconds can be changed to be from 2 to 60 seconds.

Audio settings

Octave selection - In this mode a note is sent whenever the octave shift activated touch point is pressed.

MIDI channel - Used to set the MIDI channel of the device (1 to 16)

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How to re-name your app

Tap on your app name at the top of the screen and type in a new name.
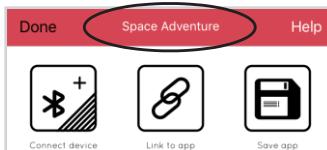
Press **Done** when you are finished.

Features and functions on web portal

To view your apps select **Apps** or **My apps** from the menu. From here you can select an app you wish to modify.

Set app functionality

Select your app from **My Apps**. To set app functionality press **Set functionality.** It is easiest to set functionality through the **Builder** app and use this page to view all the app settings.

Creating groups

Groups are used to set access permissions. Assets, apps and data can all be associated with a group. Permissions can be set to use, edit or copy.

Use will let anyone in that group use/run an app. **Edit** will allow you to modify an app and save it. **Copy** will allow you to open the app, use it and save with a new name.

To create a permission group select **App Groups**, **Asset Groups** or **Data Groups** from the menu at the top of the page, from the selected tab you can create a new group or modify an existing group by changing permissions or adding users.

Uploading assets

Refer to instructions.

Set data capture & view data

Click on **Data groups** to create a new group.
To activate data capture, in the **Apps** tab, click **edit**.
Tick the **Data capture** box and **Up date app**.
Scroll down the window to find your group under 'Other Data Groups' and click **Add**.

View Data is located in the top **App Definition** box.
You can only view data once your app has data in it, or at least you have set it to collect data.

Good luck with your creations!

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FCC Caution

§ 15.19 Labeling requirements.

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

§ 15.105 Information to the user.

Note: This equipment has been tested and found to comply with the limits for a 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 to 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.

§ 15.21 Information to user.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The device has been evaluated to meet general RF exposure requirement. The device can be used in mobile or portable exposure condition without restriction

The modular can be installed or integrated in mobile or portable devices. This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: Contains FCC ID: 2AQBQ-PEGLEG

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