

KIOSC MANUAL



Revision History

Revision	Date	Author(s)	Description
1	07.06.2018	ME	Initial version.
2	14.06.2019	BZ	Added Kiosc Touch chapter, added info on elements, expanded the index section

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Chapter 1

Introduction

Thank you for choosing Kiosc. Kiosc (see figure 1.1) is a simple app for creating custom user-interfaces. These user-interfaces are typically used for controlling lighting and AV equipment. Kiosc communicates with the external equipment via OSC and UDP; protocols that run over the Ethernet network.

Kiosc is accompanied by the Kiosc Editor. This software tool enables you to design a simple control dashboard in a few minutes. While it also carries the features required to create complex multi-page interactive user-interfaces. Importantly, the Kiosc Editor allows you to personalise the dashboard; you are free to add logos, images and change colours.

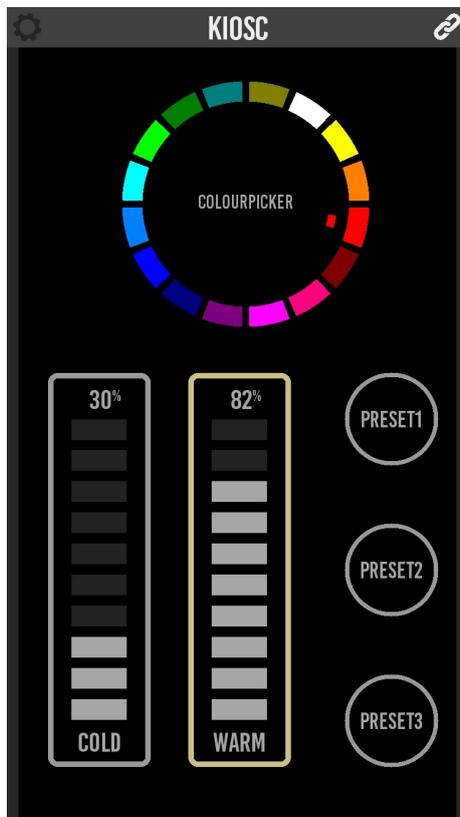


Figure 1.1: Kiosc

The Kiosc app works well with the Visual Productions range of lighting controllers, in fact, it is compatible with any OSC and/or UDP capable 3rd party device or software.

Kiosc is available on many operating systems: iOS, Android, Windows, macOS & Ubuntu Linux. The Kiosc Editor is available on Windows, macOS & Ubuntu.

This manual covers the functionality of the Kiosc app in chapter 2. The Kiosc Touch device is discussed in Chapter 3. Chapter 4 explains how to design custom layouts by using the Kiosc Editor. Finally, chapter 5 discusses the locations where the apps save and load the files on disk.

At the time of writing this manual the Kiosc app is at version 1.8.5, the Kiosc Editor is at version 1.8.0.

1.1 Features

Kiosc has the following features.

- Generic control elements like buttons, sliders and check-boxes
- Lighting control elements like colour wheels and spectrums
- Feedback

- Multiple pages
- Available on 5 operating systems
- OSC and UDP
- PIN lock

1.2 Compatibility

Kiosc is compatible with the following devices.

- Visual Productions CueCore2
- Visual Productions CueCore1
- Visual Productions QuadCore
- Visual Productions IoCore2
- Visual Productions IoCore1
- Visual Productions Cuety LPU-2
- Visual Productions B-Station
- Visual Productions TimeCore
- Any OSC or UDP compatible device

1.3 Further Help

If, after reading this manual, you have further questions then please consult the online forum at <http://forum.visualproductions.nl/forum/> for more technical support.

Chapter 2

Kiosc App

The Kiosc app will present the customised dashboard to the user, typically running on a touch screen device. The Kiosc app itself has no editing capability in order to prevent the user from making accidental changes.

2.1 Modes

The Kiosc app operates in two modes, *Remote* and *File*.

2.1.1 Remote

The *Remote* mode serves two purposes. It allows you to quickly connect to a Visual Productions device and control it directly. Secondly, in this mode, Kiosc can connect to a Kiosc Editor and receive live updates as the user works on his design. This way it provides a real-time preview on the actual target device.

Although quick to set up, a *Remote* connection to a CueCore2 or similar device does not enable the user to make elaborate designs. The editing capabilities inside the CueCore2 are basic. In order to create more demanding user-interface designs it is recommended to use the *File* mode.

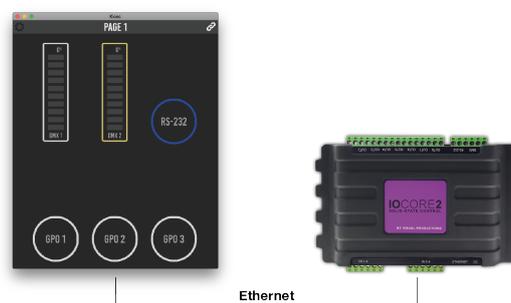
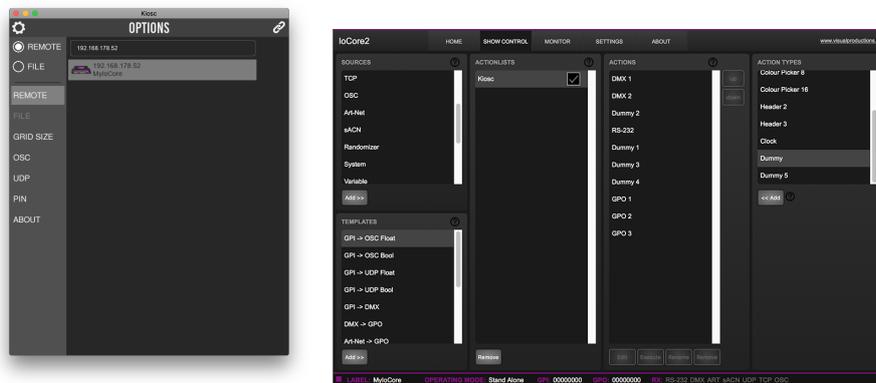


Figure 2.1: Kiosc connected to a IoCore2

Kiosc can only be connected to a single external device when using *Remote* mode. It is using a propriety protocol that is only supported by the Visual Productions range of devices. This protocol is uni-directional and thus provides no means for giving feedback to the Kiosc app. No OSC or UDP is used in this mode.

The *Remote* mode makes Kiosc compatible with VisualTouch, the previous-generation touch screen software from Visual Productions.

Figure 2.1 shows an example of Kiosc being connected to a IoCore2. By using the *Remote* mode, a simple dashboard can be created in a few mouse clicks. In this example Kiosc is used for setting DMX values, transmitting a RS-232 message and toggling GPO relays.



(a) Selecting the IoCore2 remote server

(b) Actions inside the IoCore2

Figure 2.2: Connecting Kiosc to an IoCore2

Figure 2.2 shows how to select the IoCore2 in the remote options. Once connected, the dashboard is created by adding a 'Kiosc' actionlist inside the IoCore's show control page. Buttons, sliders and other controls can be added to this actionlist. The order of the actions determines the position of the controls in the Kiosc screen. Empty positions can be created adding *Dummy* actions. If there are more controls than fits in the screen, then extra pages will be created automatically. How many controls do fit in the screen is dictated by the *Grid Size* setting.

Figure 2.2 displays the actions created for this example. Programming actions is discussed in more detail in the IoCore2's user manual.

2.1.2 File

In *File* mode Kiosc renders a layout designed with the Kiosc Editor. The file generated by the Editor needs to be stored locally on the device running Kiosc.

The Editor enables you to make custom control screens and personalise it with logos and colours.

In *File* mode it is possible to control multiple external devices on the network. By using OSC or UDP these devices can also send data back to the Kiosc app, providing it with feedback that could update the status of GUI controls.



Figure 2.3: Kiosk connected to a media player

Figure 2.3 shows an example of Kiosk controlling a Brightsign, a 3rd party media player. Kiosk is using UDP messages to trigger the playback of different media files inside the Brightsign.

2.2 Protocols

Kiosk can communicate with external equipment via two protocols, OSC and UDP. Both protocols run over the Ethernet network. This chapter describes these protocols.

2.2.1 OSC

Open Sound Control (OSC) is a protocol for communicating between software and various multi-media type devices. OSC uses the network to send and receive messages.

2.2.2 UDP

User Datagram Protocol (UDP) is a simple protocol for sending messages across the network. It is supported by various media devices like video projectors and Show Controllers. It does not incorporate error checking, making it an easy and fast protocol.

2.2.3 OSC vs UDP

There are many similarities between OSC and UDP. In fact, OSC uses UDP packets under the hood.

There is one difference between these protocols that is significant when choosing the right protocol for the job. OSC has a fixed syntax and UDP does not. Although UDP's technical characteristics are specified in the protocol, the syntax is not. This means that the UDP capable equipment from two different vendors will be able send each other technically correct UDP messages. What they write into the messages is left to the discretion of the developers. As it turns out, different developers come up with different syntaxes. Even though

the two devices say 'UDP' on the box, they might not be able to speak to each other.

This problem can be illustrated by an example. Let's assume a device from vendor X wants to send a message to a device from vendor Y. The message should set a parameter inside device Y to 50%. Device X could send something like:

- `parameter=50%` assuming a range from 0% to 100%
- `parameter=0.5` assuming a range from 0.0 to 1.0
- `parameter=128` assuming a range from 0 to 255
- `parameter=0x80` assuming a single hexadecimal byte

There are even more variations possible. The point being that whatever syntax vendor X has chosen, the chance that vendor Y choose the same is not that great.

OSC solves this problem by incorporating rules on syntax in its protocol specification. Each OSC compatible device uses exactly the same syntax. This is a strong reason to prefer OSC over UDP when possible. Of course, there are many devices out there that do not support OSC, leaving UDP an important asset inside your protocol toolbox.

2.3 Options

The options screen presents a few settings for customising the Kiosc behaviour.

2.3.1 Modes

The modes selector allows you to choose between *Remote* and *File* mode. Modes are discussed on page 8.

2.3.2 Remote

This menu (see figure 2.4) is only enabled when in *Remote* mode. It allows you to select the remote server. E.g. a CueCore or Kiosc Editor.

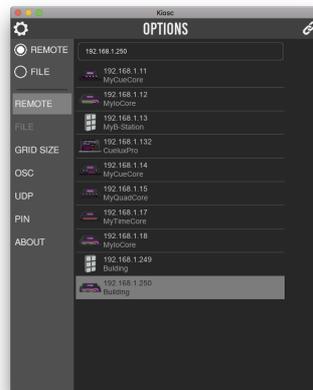


Figure 2.4: Remote options

2.3.3 File

This menu is only enabled when in *File* mode. It presents a list of the layout files. It also has buttons for saving, deleting and renaming files.

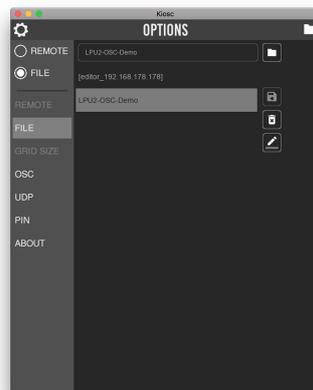


Figure 2.5: File options

The *Folder* buttons opens a file browser at the path where the files are stored.

2.3.4 Grid Size

In *Remote* mode the size of the buttons and other controls are determined by the *Grid Size* setting. A smaller *Grid Size* results in larger controls. A larger *Grid Size* will allow more controls to fit on one page.

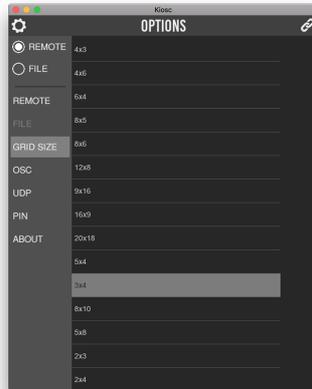


Figure 2.6: Grid Size options

The *Grid Size* menu is only available in *Remote* mode.

2.3.5 OSC

The settings in this screen (see figure 2.7) determine to which IP addresses the OSC messages are sent to. Multiple IP addresses can be added to the list. With each IP address there also needs to be specified a port number. Add the port number in the following fashion: `XXX.XXX.XXX.XXX:PORT`. Where the XXXs denote the IP address and PORT is a decimal number.

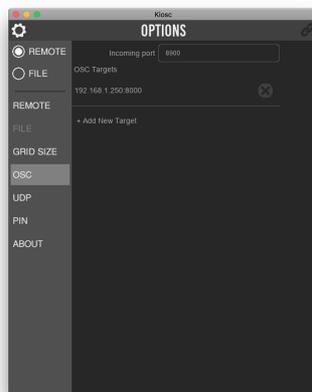


Figure 2.7: OSC options

The incoming port field specifies the port number on which Kiosc will receive OSC messages. External equipment that will send feedback information to Kiosc need to know this incoming port number. By default this port number is set to 8000.

2.3.6 UDP

The settings in this screen (see figure 2.8) determine to which IP addresses the UDP messages are sent to. Multiple IP addresses can be added to the list. With each IP address there also needs to be specified a port number. Add the port number in the following fashion: `XXX.XXX.XXX.XXX:PORT`. Where the XXXs denote the IP address and PORT is a decimal number.

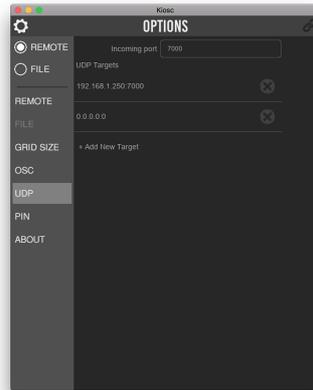


Figure 2.8: UDP options

The incoming port field specifies the port number on which Kiosc will receive UDP messages. External equipment that will send feedback information to Kiosc need to know this incoming port number. By default this port number is set to 7000.

2.3.7 PIN

Although the Kiosc app has no editing capabilities (all editing is done in the Kiosc Editor), it does have several settings that, if erroneously changed, can stop the system from working. To restrict access to the settings a PIN code can be engaged. See figure 2.9.

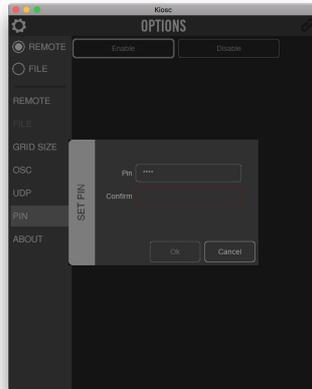


Figure 2.9: Enabling the PIN

2.3.8 About

Apart from the ubiquitous copyright notice, the about screen in figure 2.10 indicates the current software version.

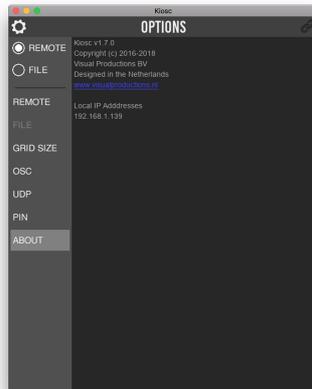


Figure 2.10: The About screen

Furthermore, it also details a list of local IP addresses used by the device running Kiosk. This information can be useful when trouble shooting network issues.

2.4 Installation

The Kiosk app is available on a wide range of operating systems, both mobile and desktop.

The software is distributed through app-stores; there are no stand-alone installation packages (e.g. EXE, APK, DMG or DEB files) available. One of



Figure 2.11: Kiosk on macOS, Windows and Ubuntu

the major advantages of installing an app via an app store is to receive future software updates automatically.

- iOS Kiosk can be downloaded from the Apple iOS app-store at: <https://itunes.apple.com/us/app/kiosc/id1131605366>.
- Android Kiosk can be found on the Google Play store at <https://play.google.com/store/apps/details?id=nl.visualproductions.kiosc>.

Android 5.0 or higher is required.

- Windows Kiosk can be downloaded from the Microsoft store at: <https://www.microsoft.com/store/apps/9nblggh4s74f>.

Windows 10 or higher is required.

- macOS Visit the Apple macOS app store at: <https://itunes.apple.com/us/app/kiosc/id1131605497>

macOS 10.13 is recommended.

- Ubuntu You can acquire the Kiosk app from the snap store: <https://snapcraft.io/kiosc>.

Alternatively, it can be installed by using the command-line:

```

snap find kiosc
snap install kiosc

```

To update the apps later on via the command-line type:

```

snap refresh kiosc

```

Ubuntu 18.04 LTS is recommended. The app is only available for the amd64 architecture.

Chapter 3

Kiosc Touch

The Kiosc Touch is a Touch screen solution created by Visual Productions. It is a standalone PoE-powered device running the Kiosc app.



Figure 3.1: Kiosc Touch

3.1 Specifications

The Kiosc Touch has the following specifications.

- PoE (Power-over-Ethernet) Class III.
- 7 Inch full colour display
- Viewable screen size: 155mm x 86mm
- Capacitive multitouch

- Resolution of 800 x 480 pixels
- Wall mountable
- VESA 75
- 460 gram (1 lbs)
- Operating temperature -20C to +50C (-4F to 122F)
- Compliance EN55103-1 EN55103-2

3.2 Mounting

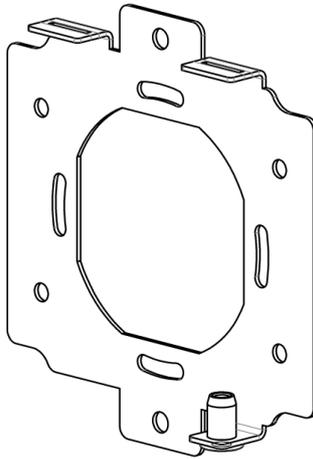


Figure 3.2: Kiosk Touch mounting bracket

The Kiosk Touch is wall-mount, it is compatible with European and American gang boxes. If no gang box is available then the Kiosk Touch can also be surface mounted. The mounting bracket of the Kiosk Touch suggests where you can create a hole for the cable to enter.

3.3 vManager

A free-of-charge software tool called vManager has been developed to manage the devices. vManager allows for:

- Discovering any Kiosk on the Network
- Perform firmware updates

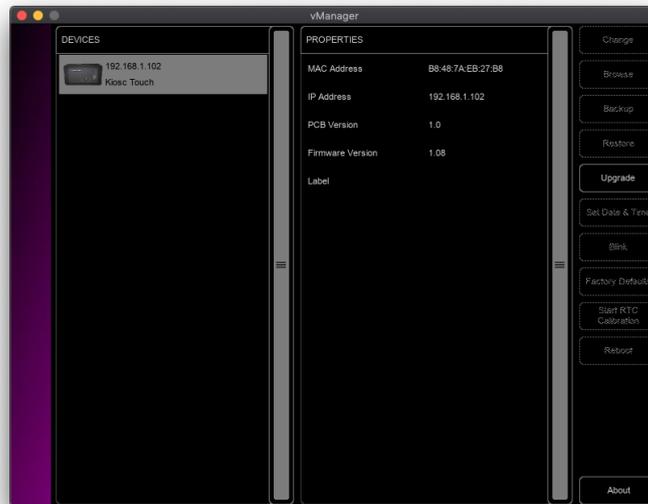


Figure 3.3: vManager

3.4 Network

The Kiosc Touch is a network device. A network connection between between a computer running Kiosc Editor and the unit is required to program the Kiosc Touch. More information on this can be found in chapter 4.

There are multiple arrangements possible for connecting the computer and the Kiosc Touch. They can be connected peer-to-peer, via a network switch or via a Wi-Fi bridge device. Figure 3.4 illustrates these different arrangements.

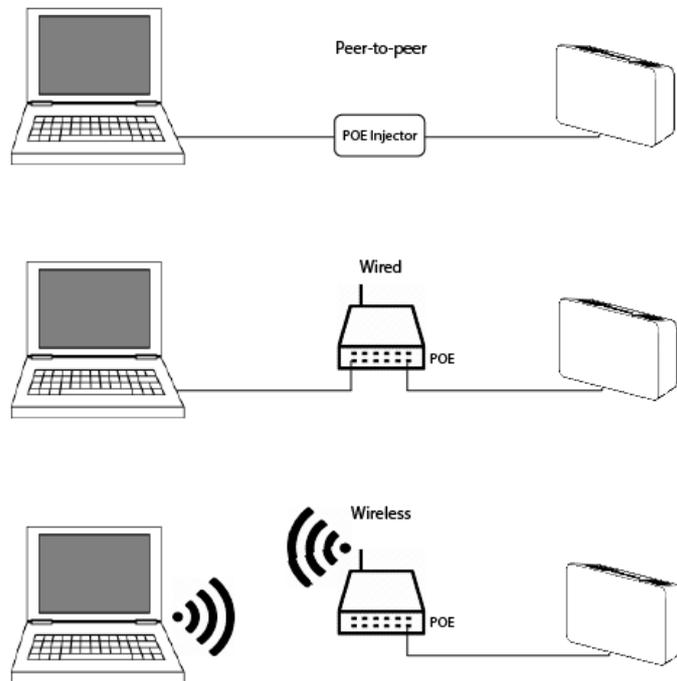


Figure 3.4: Network arrangements

The Ethernet port on the Kiosk Touch is auto-sensing; it does not matter whether a cross or straight network-cable is being used.

3.5 IP Address

The Kiosk Touch supports both static IP addresses and automatic IP addresses. By default, the Kiosk Touch is set DHCP in which it will be automatically assigned an IP address by the DHCP server in the network. The 'DHCP server' is typically part of the router's functionality.

Static IP addresses are useful when there is no DHCP server in the network, for instance when there is a direct peer-to-peer connection between a Kiosk Touch and a computer. It is also useful in permanent installations where the IP address of the Kiosk Touch is known by other equipment and therefore should not change. When using DHCP there is always the risk of automatically being given a new IP address in the event that the DHCP server is replaced. When using static IP addresses make sure that all equipment on the network have unique IP addresses.

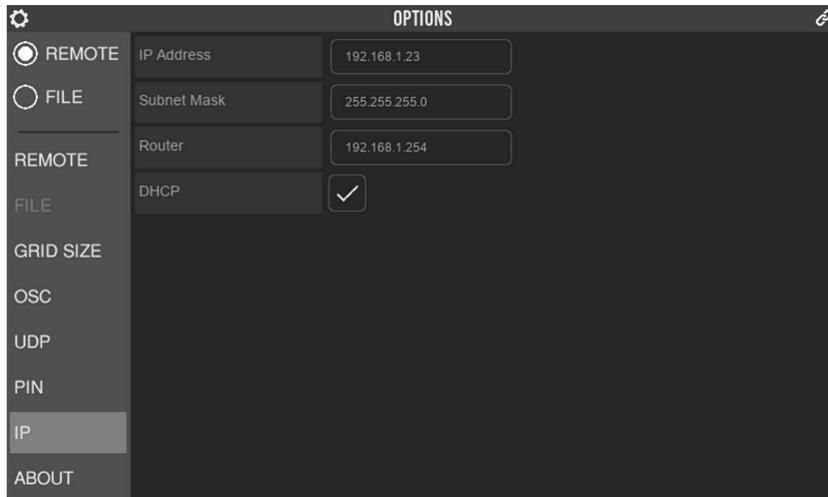


Figure 3.5: IP Settings

The IP address or DHCP mode of the Kiosc Touch can be set in the 'IP' tab in the settings menu, as shown in figure 3.5. The 'IP Address' field is also where the current IP is shown.

Note: This only applies to the Kiosc Touch, not the Kiosc App.

Chapter 4

Kiosc Editor

The Kiosc editor is a software tool for designing Kiosc layouts.

4.1 Installation

The Editor is available on Microsoft Windows, Apple macOS and Ubuntu Linux. The software is distributed through app-stores; there are no stand-alone installation packages (e.g. EXE, APK, DMG or DEB files) available. One of the major advantages of installing an app via an app store is to receive future software updates automatically.

- Windows Kiosc can be downloaded from the Microsoft store at:
<https://www.microsoft.com/store/apps/9nblggh4s74f>.

Windows 10 or higher is required.

- macOS Visit the Apple macOS app store at:
<https://itunes.apple.com/us/app/kiosc/id1131605497>

macOS 10.13 is recommended.

- Ubuntu You can acquire the Kiosc app from the uApp Explorer:
<https://uappexplorer.com/snap/ubuntu/kiosc>.

Alternatively, it can be installed by using the command-line:

```
snap find kiosc
snap install kiosc
```

To update the apps later on via the command-line type:

```
snap refresh kiosc
```

Ubuntu 18.04 LTS is recommended. The app is only available for the amd64 architecture.

4.2 The Editor

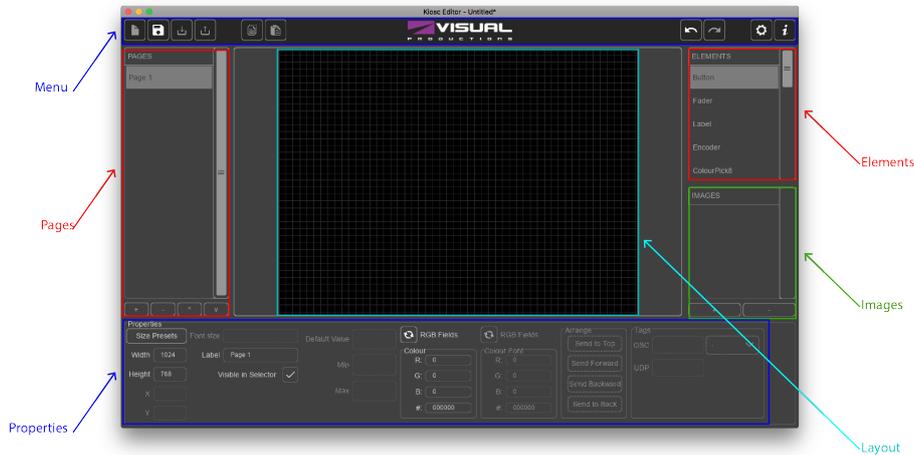


Figure 4.1: Kiosk Editor user-interface

Figure 4.1 shows the different sections in the Editor's user-interface. Each section is discussed in detail below.

4.2.1 Menu Bar

At the top of the Editor screen there is a menu bar. Reading from left to right, it contains buttons for New File, Save, Save As and Open. There are clipboard buttons for Copy and Paste. Next buttons are Undo and Redo. Finally, there are buttons to open the Options and About dialogs.



Figure 4.2: Menu bar

4.2.2 Pages

Your design needs at least one page. Add more pages by pressing the + button in figure 4.3. The *Up* and *Down* buttons allow you to change the order of the pages.

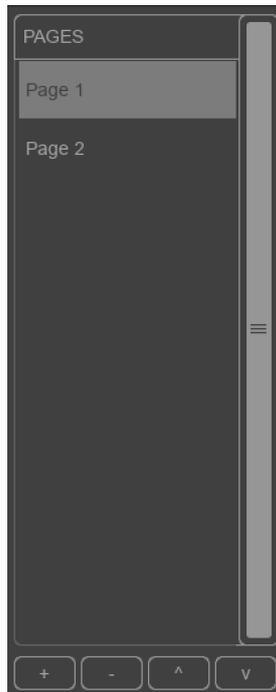


Figure 4.3: Pages

You can rename the page by selecting it and then changing the *Label*.

4.2.3 Elements

Controls like buttons, faders, encoders, etc. are called *Elements* (see figure 4.4). A layout is basically created by dragging several *Elements* into the *Pages*.

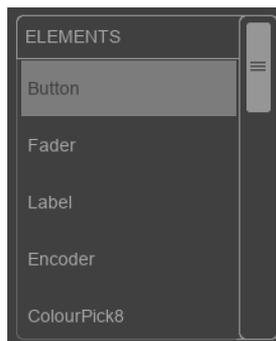
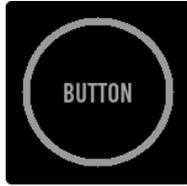


Figure 4.4: Elements

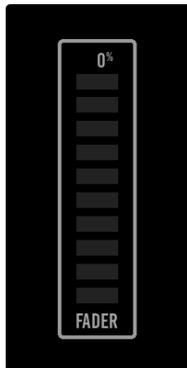
The available Elements include:

Button



The button can be used to send a bool value (ON/OFF) or integer value (0 or 1). The Button sends ON or 1 when pressed, and OFF or 0 when released.

Fader



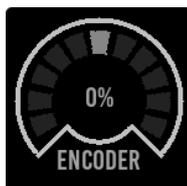
The fader can send a range of values. The range can be set using the Min and Max values. The type of value can be set to a float or an integer. A fader can simply be resized to get a horizontal fader.

Label



The label element is for creating a clear, easy to use layout. It has no function when pressed.

Encoder



The Encoder sends a float value of -1.0 to 1.0.

Colourpicker 8



The Colourpicker 8 has eight colours to choose from. These are send as OSC colour value, or UDP #RRGGBB.

Colourpicker 16



The Colourpicker 16 has sixteen colours to choose from. These are send as OSC colour value, or UDP #RRGGBB.

ColourSpectrum



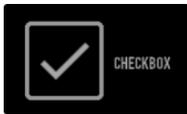
The Colourspectrum has many colours to choose from. These are send as OSC colour value, or UDP #RRGGBB.

Text



The text element is a simple textbox. You can type text here and send it as a OSC or UDP message. It can also receive and display text.

Checkbox



A checkbox element can be used as a button. It will send ON or 1 when checked, and OFF or 0 when unchecked.

Image



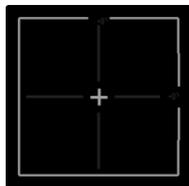
The image element is perfect for adding your own logo to your Kiosk layout.

Clock



The clock displays the current time of the system. It has no other functions when pressed.

Axis



The Axis element is for controlling XY values, like a moving head's pan and tilt.

4.2.4 Images

A *Page* can have a background image. Also, there is a *Image Element* that can display an image. To use images in your design, you first have to import them into the images list (see figure 4.5). Add images by pressing the + button. Images are read from a specific folder. The import dialog allows you to browse this folder by clicking on the *Folder* button.

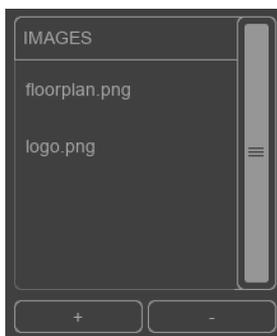


Figure 4.5: Images

To set a background image for a *Page*, select the *Page* and click on one of the images from the list. You can clear the background image clicking on an empty position in the list.

Setting an *Image Element* is done in a similar way. Add the *Image Element*, make sure it is selected, then click on one of the images from the list.

4.2.5 Properties

This section allows you to change various properties of the selected *Elements*.

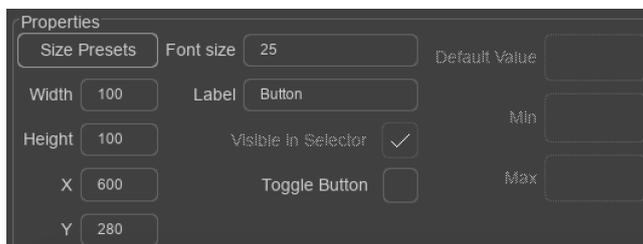


Figure 4.6: Properties

Size Presets

When no element is selected, the size affects the size of the canvas. Presets can be chosen by pressing the *Size Presets* button, and selecting the target device. When an element is selected, Size Presets is disabled. The size of the element is decided by setting a desired *Width* and *Height*. The placing of the element can be done either via drag&drop, or by setting the *X* and *Y* values.

Fontsize and Label

This decides the label and the font size for the selected element. When a page is selected, the label of the page can be set here.

Toggle Button

When a button is selected, it is optional to convert it into a toggling button by selecting *Toggle Button*. The change is purely visually, the commands send by the button will not change.

Values

Some *Elements* (e.g. faders) allow you to specify the minimum, maximum and default value.

Colours

The colour of the *Element* can be changed by setting the RGB fields in figure 4.7. It also features RGB fields for changing the *Element's* font colour. A different colourpicker for selecting the colour is possible by pressing the button next to *RGB Fields*.

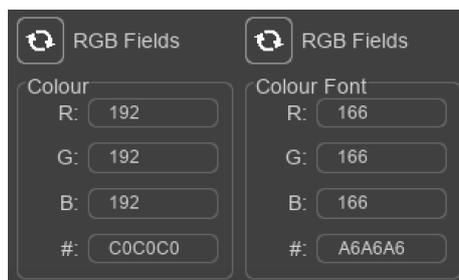


Figure 4.7: Colour properties

Arrange

When *Elements* overlap, you can use the *Arrange* buttons to control which *Element* lies at the top (see figure 4.8).



Figure 4.8: Arrange buttons

Tags

When the user clicks on a button in Kiosk, or controls any other element, it typically sends an OSC or UDP message to an external device. Which message is sent out is determined by the *Tags* fields (see figure 4.9).

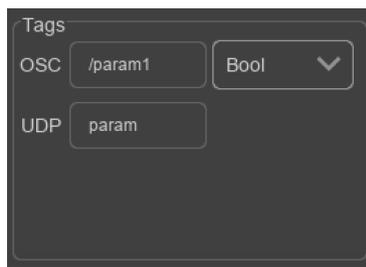


Figure 4.9: Tags

An OSC tag should always start with a '/' prefix. For some *Elements* it is possible to specify the data type that will be sent in the OSC or UDP message. For instance, for a button you can specify *Bool* (true/false) or *Unsigned* (1/0).

4.2.6 Layout

This is where you can view and edit the currently selected page. After dragging in an element from the Elements menu on the right, it can be resized by selecting the element, and dragging the small square located at the corner of the element. It can be removed by dragging it back to the Elements menu or pressing Delete on your keyboard.

4.2.7 Options

The Editor only has a few options, see figure 4.10.

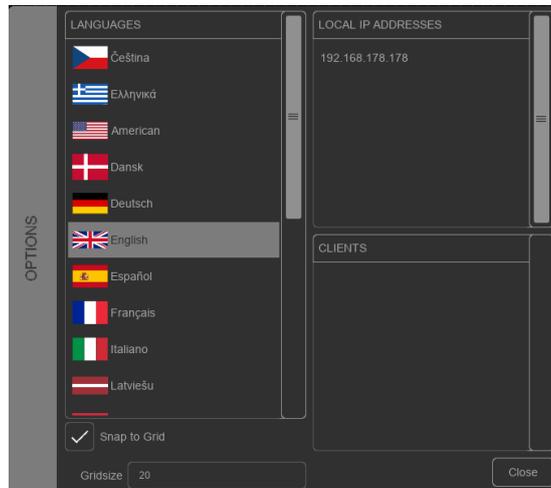


Figure 4.10: Options

Language

There are various languages available.

Snap to Grid

Enable the *Snap to Grid* to have an aid in aligning Elements. The size of the grid can be specified in the *Gridsize* field.

Local IP Addresses

A list with local IP addresses used by the computer running the Kiosk Editor. This information can be useful when trouble shooting network issues.

Clients

A list of all Kiosk clients currently connected to this Editor.

4.3 Screen Size

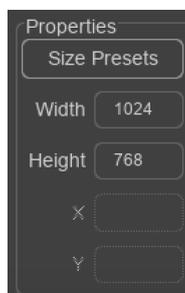


Figure 4.11: Setting the Screen Size

Before starting to design your dashboard it is recommended to set the screen size for your layout. To change to screen size of your layout, make sure no Elements are selected, then set the desired width and height in the fields as shown in 4.11.

For your convenience, there is a popup dialog with size presets for common mobile devices. Press the *Size Presets* button to open this dialog.

4.4 Feedback

Feedback in the Kiosk app is created by having the external equipment sending messages back Kiosc. The messages should match the *Tags*.

Chapter 5

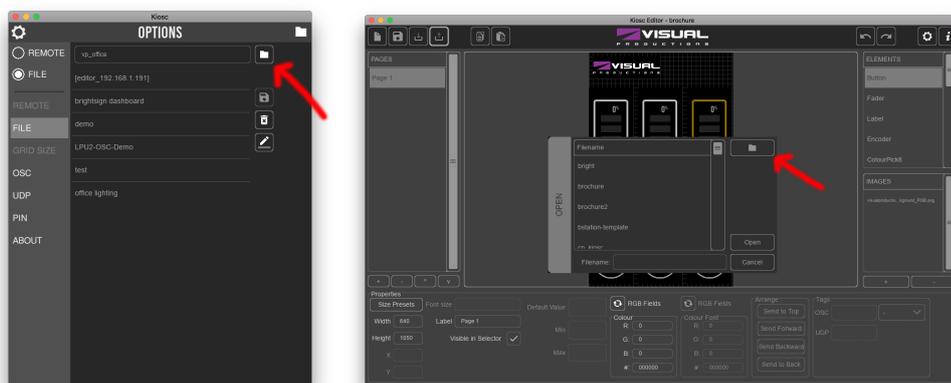
File Locations

When Kiosc is running in *Remote* mode then there are no files involved, however, when running in *File* mode then Kiosc must open a file that has been created by the Editor.

Apps distributed by app stores are not allowed to access files outside this designated location. Even apps made by the same developer like Kiosc and Kiosc Editor are not allowed to reach each other files.

Therefore, it is important to know where Kiosc and Kiosc Editor are storing their files, as you will need to transfer the Editor's file to the Kiosc app's location.

The designated file location differs per operating system and is likely to be a long and obscure path. For this reason, Kiosc and the Editor provide you with a shortcut to the correct file location. A *Folder* button can be found in the file related dialogs in both softwares. Clicking this button will open a file browser at the appropriate folder.



(a) Kiosc

(b) Kiosc Editor

Figure 5.1: Folder shortcut button

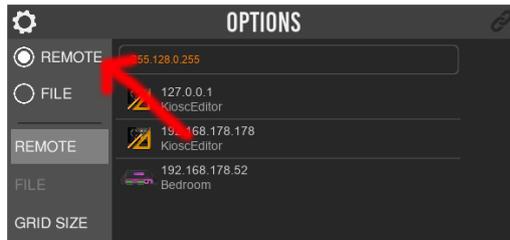
The layout file created by the Editor will have the `.kiosc` file extension.

Transferring files from the Kiosc Editor running on a desktop OS to the Kiosc app running on a mobile OS can be done with a tool for copying files to

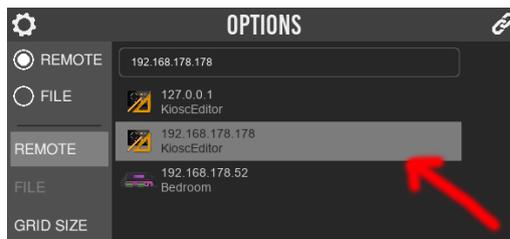
the mobile device. E.g. Apple iTunes can copy files to an iOS device.

To make copying files to Kiosk on a mobile device more convenient, Kiosk is capable to connect to a Kiosk Editor under *Remote* mode and subsequently save it as a local file in *File* mode. Follow these steps:

1. Activate *Remote* mode.

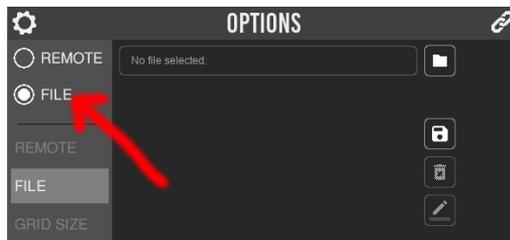


2. Connect to the Editor.

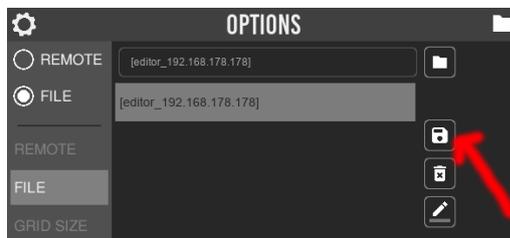


The layout is now loaded into Kiosk's memory.

3. Activate *File* mode.



4. Save the file by pressing the *Save* button.



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