



Product User guide

For V2 Clocks

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Getting Started

Welcome

Thank you for purchasing a RetroElectroDesigns Clock. We hope you enjoy it and get many years enjoyment out of your new product.

Unpacking & initial testing

Please unpack the item carefully and check that it is complete and unbroken. Your item will be provided with a power supply, or a mains power cord.

Please only use the supplied power supply to power the item. Using any other power supply may damage the item or your power supply, and, will invalidate your product warranty.

Plug in the mains adaptor to a Main 240v 13A socket and then plug the wire into the black power socket on the back or underneath of your product.



Your Clock should start working and display the correct time.

Please contact us: info@retro-electro-designs.co.uk if you have any issues

Wi-Fi Connection

Wi-fi introduction

The system uses Wi-fi to allow you to gain access to the control panel where you can setup and configure your clock..

When the system is initially switched on it creates it's own Wi-fi Access Point – this Access Point is initially called “RetroElectroNNN” (where NNN is a number 001-999) and you can use this Wi-fi access point to connect to the system and then configure the system further.

Once you have initially connected, you can optionally link the system onto your normal home Wi-fi system. This then allows the system to be accessed from devices that are also connected to your home Wi-fi system – such as other mobile phones, laptops, pc's and tablets etc.

It Also allows the Clock to pick up the correct time from the internet

Note: You do not have to connect the system to your wi-fi network – you can just connect directly to it using its own “RetroElectroNNN” Wi-fi Access Point, but we would recommend you **DO** connect to your Wi-fi, to ensure it always picks up accurate internet time.

Connecting to the “RetroElectroNNN” Wi-fi Access Point

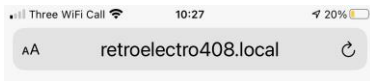
Switch the system on, and ensure it is working.

Open your smart phone and go into settings, Wi-fi – the list of available wi-fi access points is displayed, look for one called “RetroElectroNNN”, where NNN is a number 001 to 999. This is a screen shot from my iphone:



Select “RetroElectroNNN” (in my example above “RetroElectro20”)– you will be prompted for a password, type in the word “password” (lowercase)

You should then be taken to a page that looks like this:



Hello welcome to RetroElectro EM Clock

Go to [Display Patterns page](#) to change values.

Go to [Set Time page](#) to change values.

Go to [Configure Other Settings page](#) to change values.

Go to [WiFi configure page](#) to change the Wifi Settings.

MAC Address of Device=24:0A:C4:58:65:70

IP Address of Device=192.168.0.179

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If this page doesn't automatically open – then open your phones web browser – chrome, Safari, etc. and go to 192.168.4.1 (that is the web address of the page above, which should now be displayed)


The “Wi-Fi Configure Page” is covered next.

Wi-Fi Configure Page

Choose this option from the Main Welcome Page.

(If you are prompted for a user id and password – they are “admin” for the user id and the default password is initially set to “password”)

You will see a screen like this:



The screenshot shows a mobile interface for configuring a device. At the top, it displays '192.168.4.1 RetroElectro20' and a 'Log In' button. Below this is a form with the following fields: 'Thing name' (containing 'RetroElectro20'), 'AP password', 'WiFi SSID', 'WiFi password', and 'Startup delay (seconds)' (containing '30'). A blue 'Apply' button is at the bottom of the form. Below the form, there is a link for 'Firmware update' and the text 'Firmware config version '0.0''.

Thing Name: Defaults to “RetroElectroNNN” – If you wish you can change the default device name. Choose a name without any spaces.

Ignore the “AP Password” field – leave this blank.

Next, enter the Wifi SSID name and WiFi Password of your home Wi-fi System. You should know these already!

Finally, you can change the start-up delay – default is 30 seconds. This controls the time that the system initially stays in Wi-fi Access Point mode before attempting to connect to the Wi-fi using the name and password you have specified above. We recommend leaving the default of 30 seconds, this allows time to reconnect to the device, if you have incorrectly entered the wifi details, for example.

Click Apply and your settings will be saved.

In order for the system to attempt to connect to your Wi-fi, you must close the page you are currently on. The system will then attempt to connect to your wi-fi system (after the 30 seconds as mentioned above).

If it doesn't connect, try powering off and on, wait at least 30 seconds and see if it joins now. If it still doesn't connect, then connect to the device again within the first 30 seconds of power on, and then go into the wi-fi configuration page and re-enter the wi-fi SSID and wi-fi password again. (Note the passwords are never displayed, but they are there).



Once you have the system connected to Wi-fi you can now attempt to connect via wi-fi from your phone, laptop, tablet, pc etc.

Connecting to the device via Wi-fi

Ensure the device is powered on and wait approx. 30 seconds for it to connect to your wi-fi network. (Note if you change the Startup Delay setting as described above, you may need to wait a shorter or longer time).

From a web browser on your device enter the following url <http://thingname.local/> (note the "/" at the end of "local" and also the . "dot" before "local" – i.e. thingname "dot" local "forward slash").

Thingname should be replaced with the "Thing Name" you chose in the wi-fi configure page. The default is "RetroElectroNNN" where NNN is a number 001-999.

In my example above with a thing name of "RetroElectro20", you would enter the url :
<http://RetroElectro20.local/>

This should take you to the Main welcome page.

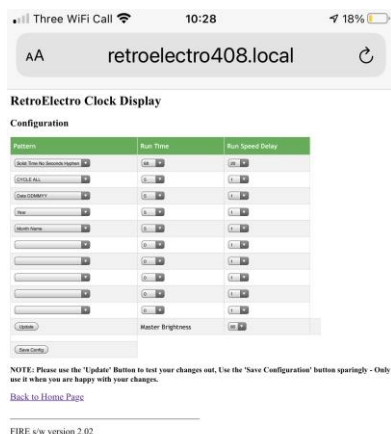
Congratulations, you can now access your system from your wi-fi network!

Configuring the Clock display Settings

Display Pattern Page

Choose the “Display Patterns Page” option from the Home Page.

You will get a screen like this:



Here you can configure what date/time features are displayed. You can have up to 10 different ones that are displayed in sequence. Each field on the screen is described below:

Pattern

Choose the pattern from the drop down list. There are two special patterns

Pattern	Description
CYCLE ALL	This pattern is very useful, it cycles through all the other patterns in order. Try adding this pattern in amongst some of the other patterns, it adds a bit of variety to your Clock
Random	This selects a random display pattern

It is best to experiment with each of the patterns.

Run Time

The time in seconds this pattern will run for. Note a quick way to ‘switch off’ a pattern row is to just set the time to 0 seconds, the system then skips it. This is quite handy as you can leave all the other settings as they are, but very quickly switch patterns on and off. If the run time is more than 10 seconds and no colour palette is specified (see above) then the colour palette is changed at random every 10 seconds.

Run Speed Delay

1 is the fastest run speed, the larger the value selected, the slower the pattern will run and change.

Global Settings

At the bottom of the page there is a “Master Brightness” Setting. The higher the value, the brighter the display will be. Note this only works on Colour LED clocks and not on Flip Digit Clocks or on the Numitron LED Clocks (which have a separate manual brightness control).

Update and Save Config

There are two buttons at the bottoms of the screen

Update

This is used to update the system with the current set of settings you have selected on the web page. You must press update to send the setting to the controller. It will then pick these up and begin to use them.

Save Config

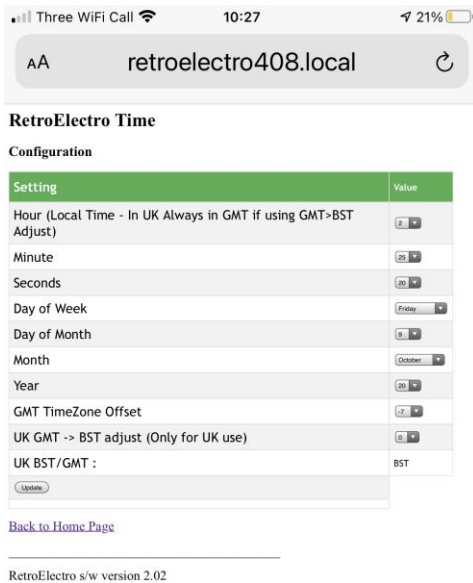
Once you have a set of patterns that you like, you can save these into permanent memory, they will be retained if the power is switched off. Please use this option sparingly as the system has a limited life in terms of how many saves it can handle. This is hardware related, it is several 1000's, so no real need to worry about it, but I mention it for completeness. (I have yet to hit the limit, even on my development system that has had many 1000s of saves done).

Configuring the TIME Settings

Time Settings Page

Choose the “Time Settings Page” option from the Home Page.

A page like this will be shown:



Three WiFi Call 10:27 21%

AA retroelectro408.local

RetroElectro Time

Configuration

Setting	Value
Hour (Local Time - In UK Always in GMT if using GMT>BST Adjust)	2
Minute	25
Seconds	25
Day of Week	Friday
Day of Month	5
Month	October
Year	20
GMT TimeZone Offset	-7
UK GMT -> BST adjust (Only for UK use)	0
UK BST/GMT :	BST

[Back to Home Page](#)

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Here You can manually set the Time. Set it to Local Time usually. (In UK Set it always to GMT, and then use the Auto GMT to BST feature).

You can also choose how many hours to advance or delay between GMT, if you are in another part of the World. Set the “GMT TimeZone Offset” to the correct value.

UK Daylight saving time is handled. Set the “UK GMT -> BST” to +1 to handle this correctly if you are in the UK.

Note, we will implement other countries Daylight Saving Time in a future release.

Configuring Other Settings

Other Settings Page

Choose the “Configure other Settings Page” option from the Home Page.

A page like this will be shown:



Here you can setup a “Quiet Time” – the clock will not function during this time. E.g. set start to 23 and End to 6 would mean the clock will stop between the hours of 11 pm at night an 6 am the following morning.

This is really useful for those clocks which make a noise, e.g. Flip Digit Clocks. For LED clocks, the display will be blanked during any quiet time.

Set both values to the same value (e.g. both to zero) to switch off any “quiet time” – the clock will function 24 hours a day.

Software Updates

The system has the ability to be updated with new software releases. We will make these available in the future for bug fixes, new features and new patterns.

If you receive a software update from us, you can use the “Firmware Update” option at the bottom of the Wi-fi Config page:



07:09 192.168.4.1 RetroElectro20
Log In Cancel

Thing name
RetroElectro20

AP password

WiFi SSID

WiFi password

Startup delay (seconds)
30

Apply

Firmware update
Firmware version: 0.0

Selecting this takes you to a page :



07:09 192.168.4.1 RetroElectro20
Log In Cancel

Hello welcome to Firmware Update

Choose File no file selected Update

Here you use the “Choose File” button to locate the new software file I will have emailed to you, which you need to download to your computer.

Once a file is selected, click on “update” button to transfer the file up to the system.

WARNING: Do not upload any file other than a file that we have provided to you. Uploading any other type of file will render your RetroElectro system unusable. It will then have to be returned to us for repair.