First Steps with Super Magic 6 and the Magic Dongle

Object of this document.

This document is intended for people who are already familiar with Magic Timers and have used Super Magic 4 on a Palm Pilot to set a Magic Timer using the serial connection. It does not have an explanation of what the different fields mean. They are explained in a different document, but they are generally identical to the same items on the Super Magic 4 screen.

Load Magic Dongle on the Android

In the initial phases of the project Super Magic is not available in Google Play but is download from a Google Docs link. When downloading it will ask you if you want to install , …. Which you clearly do. This process is known as side lpoading.
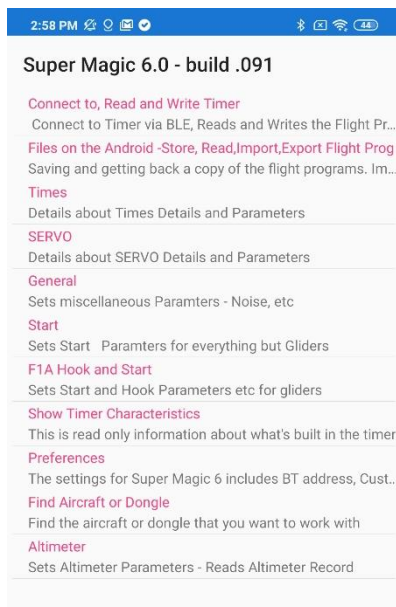
 The BLE part of Super Magic requires location and file permissions and will ask you approve this the forst time you run the App.

Start Super Magic

Your Android will have an App Icon
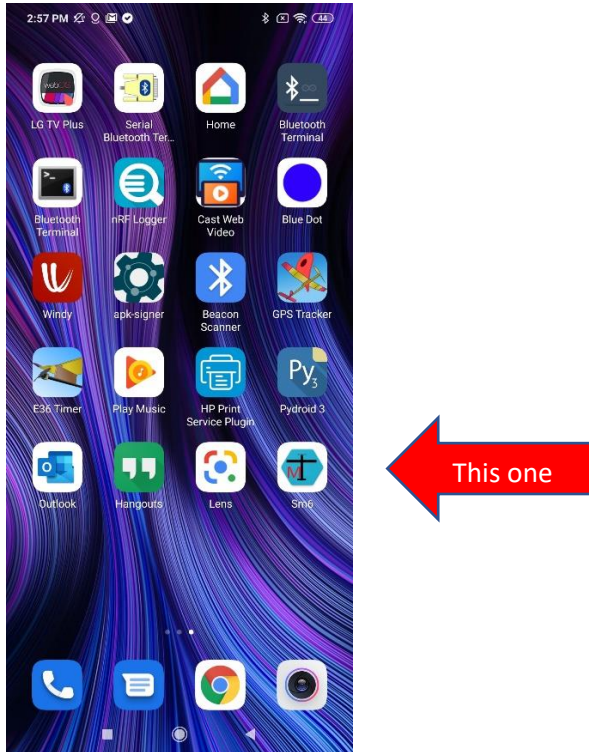
The first screen is like this. It is the menu that lets you get to different functions on Super Magic 6. The top line connects to a timer and lets you read and write it. The second is to do with save the timer data on the Android and exporting and importing it. Most of the rest let you on different parts of the timer data.

Turn on the Dongle and Plug into the timer

Now your turn on the Dongle and timer. You can power the timer from either a USB power source or from an internal LiPo battery.

The Blue switch has 3 positions Left most is power from USB, Centre is Off and Right most, as in this photo is power from the internal battery.

Bottom left is the BLE indicator LED. When the LED is dim there is power to the BLE Radio, but it is not running. When it is bright with a very slow blink it is running waiting for a connection. One the connection is made the blink rate speeds up to a much faster.

On the right is the "Traffic Signal" Green, Yellow, RED LED. When the dongle is powered up these 3 LEDS will go through a sequence of flashes, finally stopping with all 3 LEDs on, indicating it is ready for action.
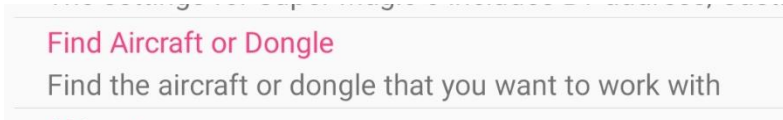

This picture shows Dongle plugged into a USB power source and connected to a 3 servo VR Magic Timer using the 2.5mm Stereo type cable. It is very important to make sure the connecting cable is fully plugged in at both ends.

Both the Dongle and the timer should be powered up.
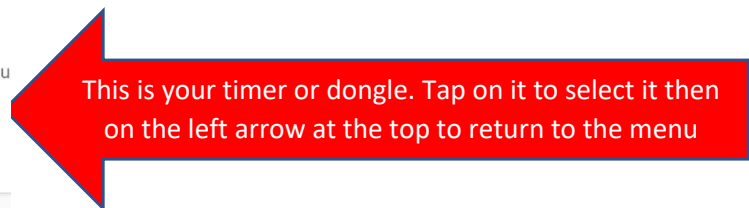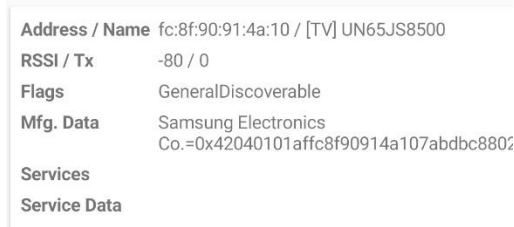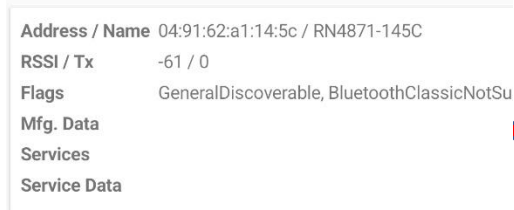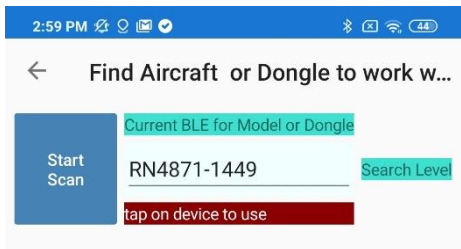
Find the Dongle with Super Magic

The next thing to do is to connect the Super Magic on the Android to Dongle or a Timer. If you have just one Dongle or timer you only have to do this scan one time because it remembers where it connected last time.

Find Aircraft or Dongle
Find the aircraft or dongle that you want to work with

Pick this from the menu

You will get this screen

Tap to scan

This will show a List of nearby BLE devices that have a "name". All Magic Dongle names begin with the letters RN. There could be quite a number here to start the, in rare cases a second scan might be needed to find your Dongle or timer

2:59 PM

Find Aircraft or Dongle to work w...

Current BLE for Model or Dongle

Start Scan   RN4871-1449   Search Level

tap on device to use

2:59 PM

Find Aircraft or Dongle to work w...

Current BLE for Model or Dongle

Start Scan   RN4871-1449   Search Level

tap on device to use

Address / Name	04:91:62:a1:14:5c / RN4871-145C
RSSI / Tx	-61 / 0
Flags	GeneralDiscoverable, BluetoothClassicNotSu
Mfg. Data	
Services	
Service Data	

This is your timer or dongle. Tap on it to select it then on the left arrow at the top to return to the menu

Address / Name	fc:8f:90:91:4a:10 / [TV] UN65JS8500
RSSI / Tx	-80 / 0
Flags	GeneralDiscoverable
Mfg. Data	Samsung Electronics Co.=0x42040101affc8f90914a107abdbc8802
Services	
Service Data	

Start with the Magic Dongle

Now you are ready to connect to Dongle or Timer and start work in with it

Firstly, you tap on the Start Button. This does 2 things. It will make a BLE connection between the Android device and the Dongle or Timer with the name you selected. It does a simple security check after completing the BLE connection. Then when the link is connected it will read the characteristics of the timer and fill out the bottom part of the screen. For example, it says it is Timer Version 600 with 3 servos etc.

You will then get a message indicating the timer is connected.

Connect

connect all done

OK
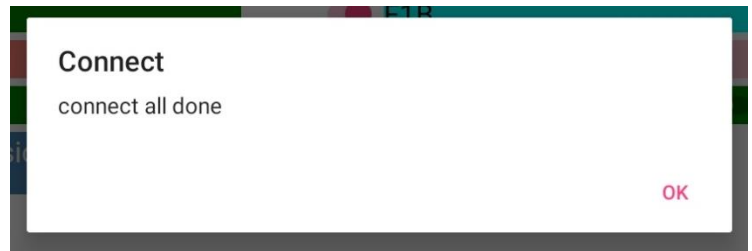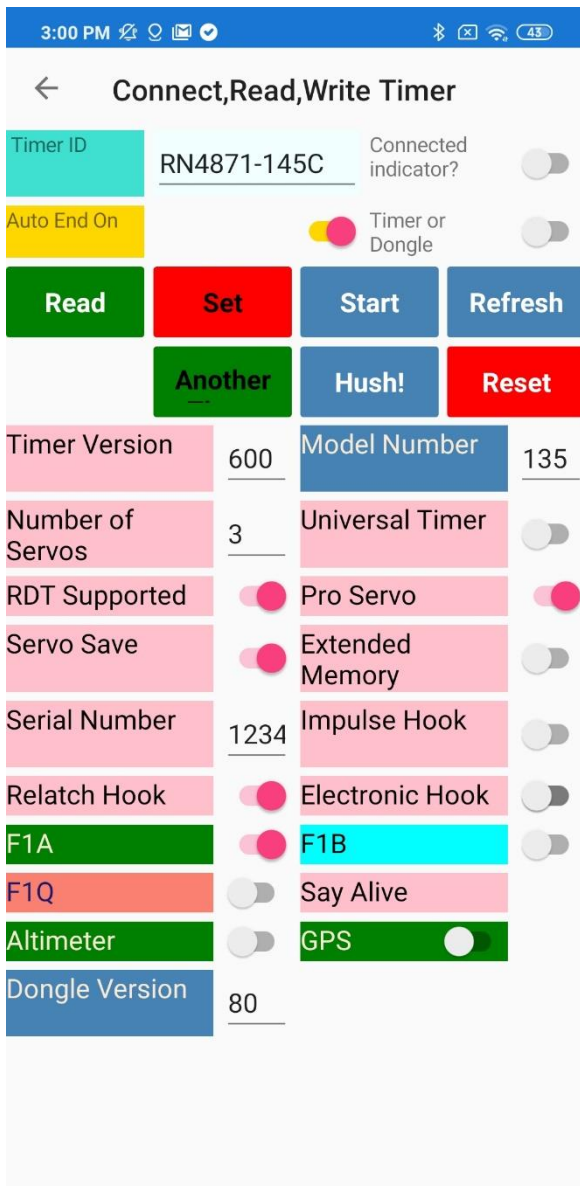
Read the Timer

Now To read the actual flight program you …
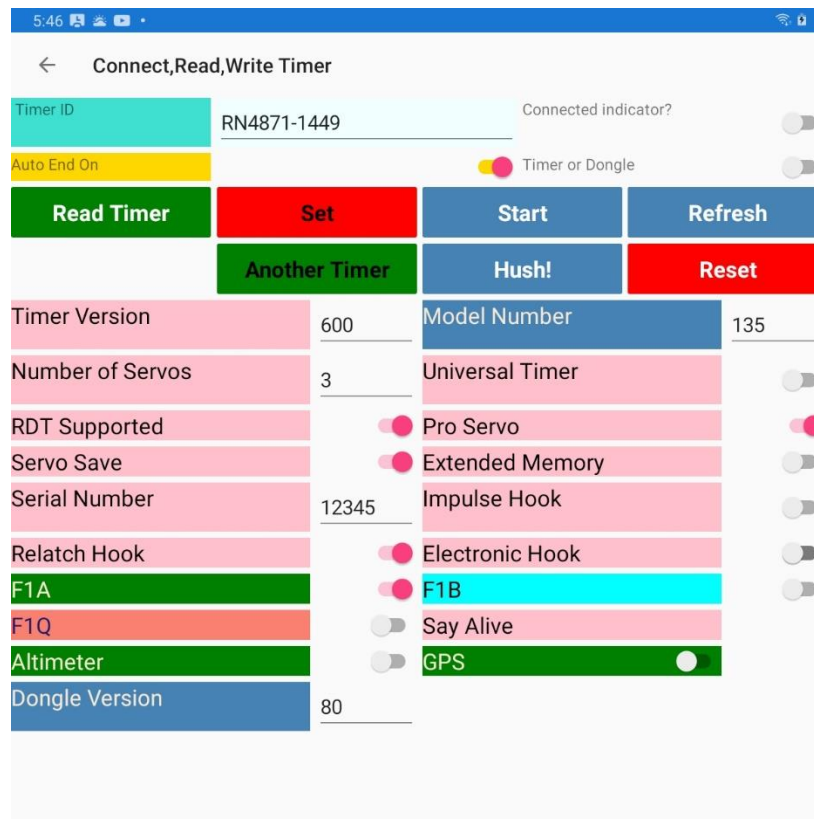
Tap on the green Read Timer button and it will read the flight program from the timer. This has the timer steps with servo movement, servo parameter setting, and numerous other options.

The timer will make a noise and you will get a message say the timer has been read.

You may notice that in the previous page the Read Button ha Just the word READ, and this has READ Timer and is wider. This is because the first was on a mobile phone and the second on a tablet. The Screens adapt automatically to the different size screen, but there are two choices of text labels e.g. Read and Read Timer that the user can select via the preferences screen.

Work with the Timer data

Here some examples of how to change various Timer Flight program settings

This refers to hook and start option for F1A times

Note that this screen has the word Finish in the top right hand corner. When you change items on the screen they are validated. For example, the Tow Fly Away Step must be a valid step number which is between 1 and 10. This will be checked as you enter it. But there are some checks that involve more than one field on the screen. Those check are done when tap on the word Finish, this means I have finished my changes on this screen, do those extra checks and return to the main menu.

This is servo configurations settings

Servo   Finish

Servo Settings

Config Servo Settings	Servo 1	Servo 2	Servo 3	Servo 4
Base Point	20	19	17	19
Mult	411	422	500	444
Speed	1	1	1	1
Reverse	○	○	○	○
Park	255	255	255	255
Label/use	'	'	'	'

And this one the timer steps

3:09 🖼 🗔   🛜 🔋
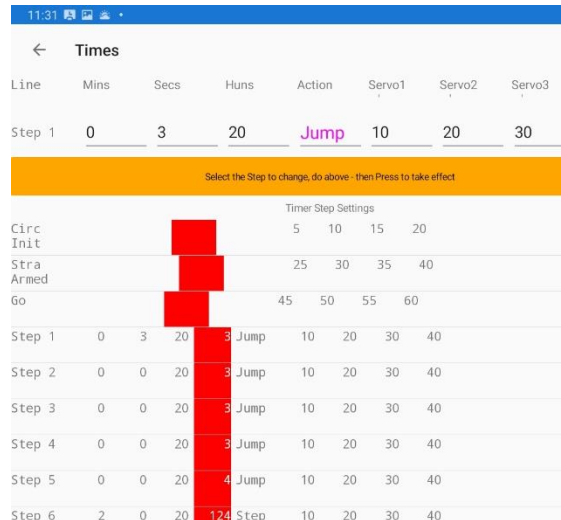
← **Times**

Line	Mins	Secs	Huns	Action	Servo1	Servo2	Servo3	Servo4

Action |

Select the Step to change, do above - then Press to take effect

Timer Step Settings

Line	Mins	Secs	Huns	Action	Servo1	Servo2	Servo3	Servo4
Circ Init					5	10	15	20
Stra Armed					25	30	35	40
Go				45	50	55	60	
Step 1	0	3	20	3 Jump	10	20	30	40
Step 2	0	0	20	3 Jump	10	20	30	40
Step 3	0	0	20	3 Jump	10	20	30	40
Step 4	0	0	20	3 Jump	10	20	30	40
Step 5	0	0	20	4 Jump	10	20	30	40
Step 6	2	0	20	124 Step	10	20	30	40
Step 7	0	0	20	124 Step	10	20	30	40
Step 8	0	0	20	124 D/T	10	20	30	40
Step 9	0	0	20	- D/T	10	20	30	40
Step 10	0	0	20	- D/T	10	20	30	40

||| ○   <

Changing times

One of most important modifications to you flight program is changing the times and servo positions on each timer step. The process is done in a such a way that you can see all the timers just to help avoid making an error.

In this example we are changing the second time for step 1

Touch on the line containg Step 1 in the lower part of the screen below the oragnge bar.
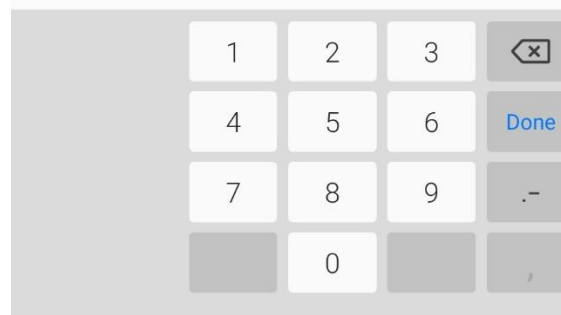
It will be copied into the top part of the screen

Now touch the line you want to change. You can see the cursor line appear under the 3 seconds

And a key board will appear at bottonm of the screen for you to make the corrections
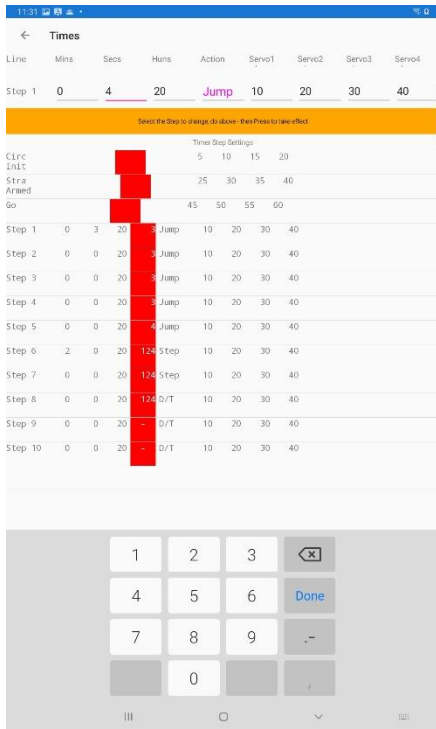
Now you can see that the 3 has been changed to 4

Make sure your change is right

Now tap on the Orange bar
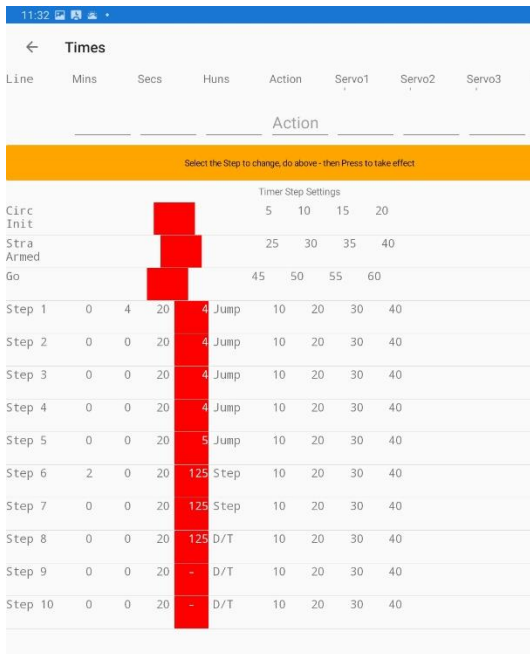
And you will see your change reflected below

Write the program back to the timer

When the changes are done you use the Set Button to write the Flight program back to the timer. Note that this process takes longer than reading the timer. This is to do with te internal workings of the timer itself

Big Screen – Little Screen

Above you saw example the different textlength. To set those. You take this menu choice.

Preferences
The settings for Super Magic 6 includes BT address, Cust..

You will a dialog box like this that let you select the long or short form of the text.

When it comes un-glued

When working with the Dongle and a legacy Magic Timer you have 3 different "boxes" working together. The original connection between the Magic Timer and the Palm Pilot depended on some special features of the Palm Pilot. To have replicated this in the Dongle would have been quite expensive. This means that it is possible for the "conversation" between the Dongle and the timer to get out sync. This is rare but it can happen. It also could have been improved by changing the legacy timer firmware but that would have also destroyed the object of the exercise.

On the Read Timer screen the Reset Button
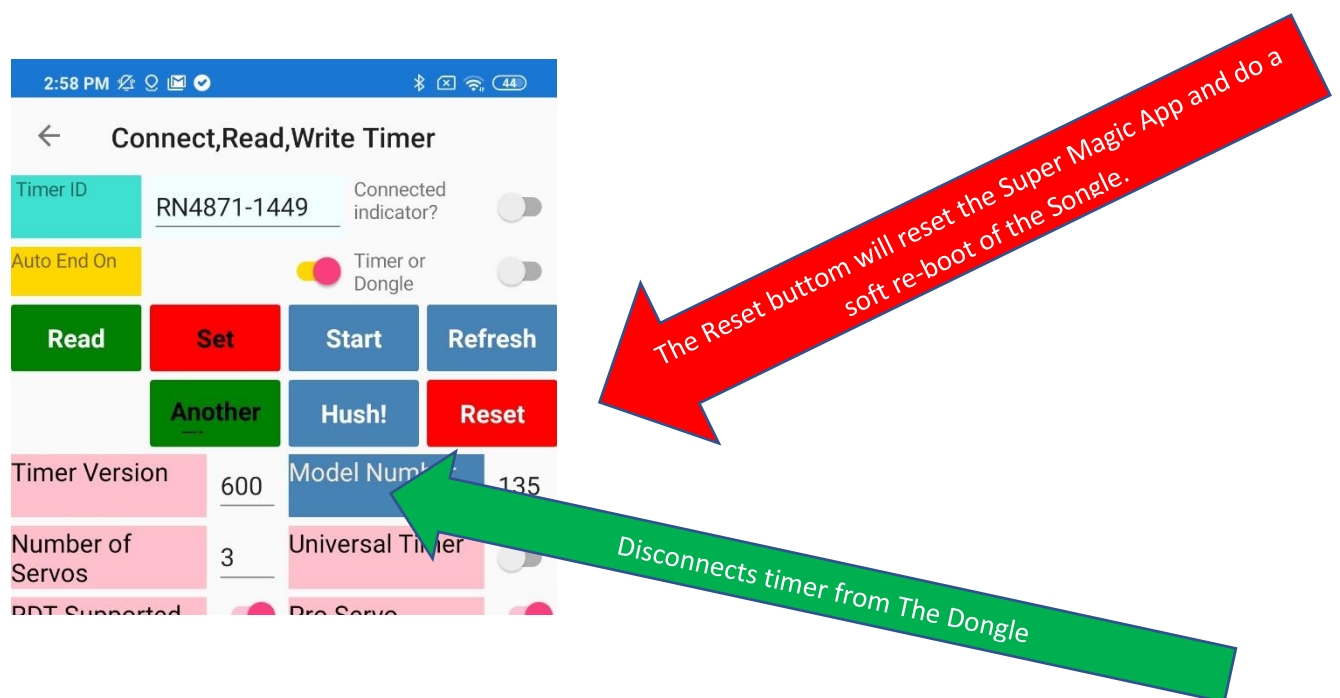
Most operations between the Dongle and the timer, disconnect the timer at the end of each operations. Sometimes this does not work and the timer might keep on Buzzing, the Hush button will try and disconnect.

If all fails

Just turn off and on the Dongle and Timer and restart the Android App.

END