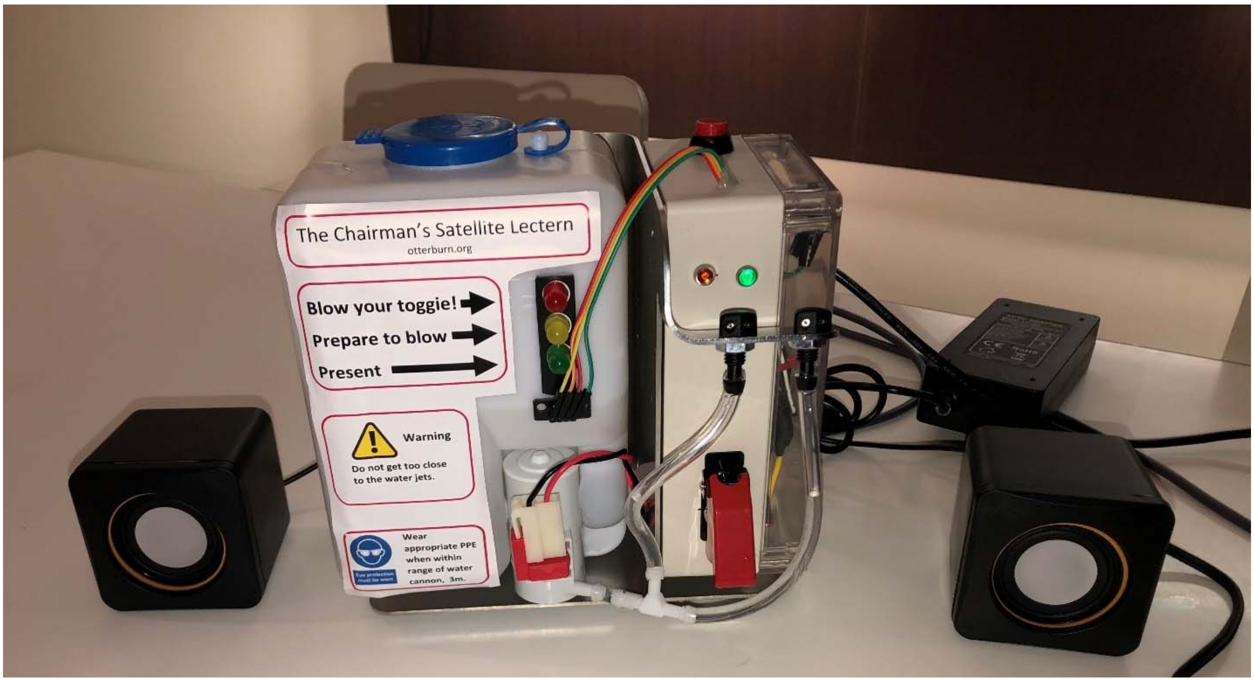
otterburn.org

Chairman’s Satellite Lectern Mk 1A

Operating Instructions


The Chairman’s Satellite Lectern
otterburn.org
Blow your toggie!
Prepare to blow
Present
Warning
Do not get too close to the water jets.
Eye protection must be worn
Wear appropriate PPE when within range of water cannon, 3m.

A message from Chairman, Randall Flack FMOS.

November 2020

Dear Member of the Otterburn Society,

Congratulations on receipt of your new personal Satellite Lectern.

I trust that this devise will enhance your enjoyment of our inaugural "virtual" Otterburn conference to be held later this month, and for other Otterburn conferences if necessary.

This device is intended to make your enjoyment of the conference a little more realistic, enabling you to enjoy the sensations as well as some of the sights and the sounds associated with Otterburn Conferences.

Operation of the Satellite Lectern will be familiar to members who have enjoyed the Beck Chairman's' Lectern over the years.

Despite this, please take a few minutes to familiarise yourself with these operating instructions to ensure your full enjoyment of this item and the virtual Otterburn conference experience.

Yours sincerely

Randall Flack,

Chairman,

Otterburn

Purpose

The Chairman's Satellite Lectern is a remotely operated Chairman's lectern. The various functions are controlled by the Chairman from the Otterburn Society Command and control centre located at o'Flack's Irish Bar, Wylam. For that "Otterburn" experience.

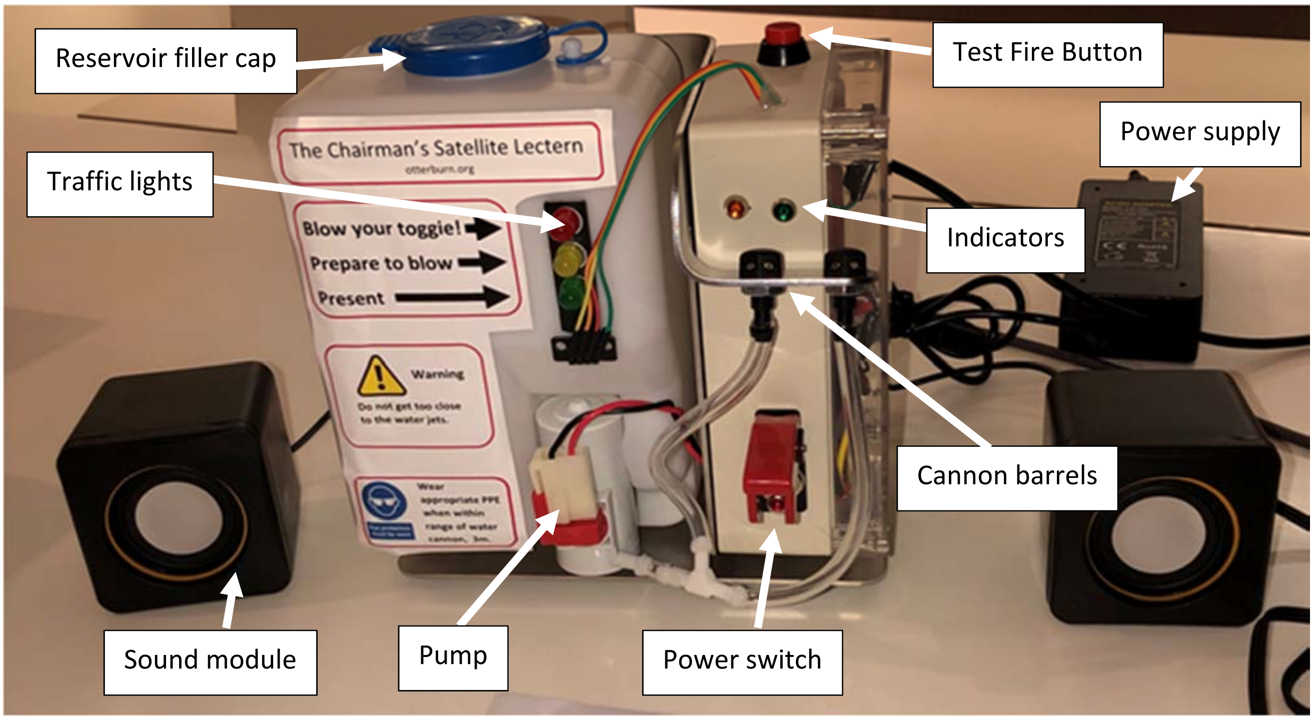
Contents

What's in the box:

- The Satellite Lectern assembly
- Power transformer, 12V 6A
- Sound module
- USB A to B cable
- Operating Instructions

Understanding your Satellite Lectern

Features of your satellite lectern are identified below.



How to set up your Satellite Lectern for the ultimate Otterburn conference experience:

Setup of your Satellite Lectern is readily achieved by following this simple 10 step process.

1. Carefully remove the Satellite Lectern from its packaging.
2. Place the Satellite-Lectern upright i.e. with the filler cap at the top, on your desk, about 600mm away from where you will be participating in the Otterburn Society Conference.
3. Using a funnel (not supplied) fill the reservoir with cold water to a level indicated on the side of the Lectern. Do not exceed the maximum recommended fill level.
4. Ensure that the Satellite Lectern is located so that the water jets are directed towards you but to a part of your body where the water sprayed from them will not cause damage or injury.

⚠	**Warning.** The Satellite Lectern emits high pressure water jets that may be fired remotely, for example, by the Chairman without warning. Do not point the Satellite lectern at anything that might become damaged or injured as a result of the operation high kinetic energy water jets.

5. Carefully remove the sound module from its packaging and place the speakers on your desk.
6. Connect the USB from the speaker cable to a convenient USB port on your computer. This cable is used to power the amplifier in the sound module.
7. Connect the plug of the headphone cable from the sound module to the socket on the headphone lead from the Satellite Lectern.

Note that the sound module may produce a timbre that members may find un-familiar. An alternative sound amplifier may be used if required however connection of an alternative amplifier is made entirely at the member’s risk.

8. Connect the separate A to B USB cable at one end to the port on the back of the control box of the lectern and to the other end to a convenient USB port of your computer.
9. Remove the power pack from the packaging and connect the 5mm plug into the 12V IN port at the back of the Satellite-Lectern.
10. When you are ready to activate the satellite Lectern, plug the mains power lead of the power pack into a mains supply.

⚠	**Warning. Risk of Death.** Be sure to locate the mains cables and power pack away from where they might come into contact with water emitted from the water jets of the Satellite Lectern. Do not allow the power pack to become wet.

How to turn on your Remote Lectern

When activated the Satellite Lectern incorporates a high kinetic energy water cannon and it is essential that appropriate personal protective equipment (PPE) is used.

Eye protection must be worn	**Warning. Risk of injury.** This Satellite Lectern is fitted with high kinetic energy water jets that may fire without warning and cause injury. Wear appropriate personal protective equipment at all times. Suitable eye protection is mandatory when using this device.

Before activating the Satellite Lectern, connect the various elements as described in the "Setup" section above.

To activate the Satellite-Lectern, lift up the missile arming shield to reveal the toggle power switch.

Use the switch to turn ON the Satellite Lectern.

The power lamp illuminates when the power pack is available and there is power to the lectern.

To initiate connection to the server at the Command and control centre at o'Flacks, run the script provided from the computer to which your lectern is connected.

For more information on how to set up and run the script for your satellite lectern from your computer see Appendix 1.

The "connected to server" lamp illuminates continuously when connected to the server. The lamp illuminates intermittently (flashes) if it subsequently becomes disconnected

It is possible to test fire the water canon using the red "Fire" button located on the top surface of the junction box of the control box on the lectern. The test fire button only operates when the power is on and the connection to the network has been successfully made.

⚠	**Warning.** Be sure to direct the water canon the Satellite-Lectern, in a direction were it will not cause damage or injury. Do not leave the satellite lectern unattended when connected. Disconnecting the satellite lectern from your computer and remove the power pack from the mains supply before leaving it unattended.

When both lights are illuminated the Chairman is able to control the functionality of the lectern that includes,

1 Traffic light to indicate:

- Red Blow your toggie
- Amber Start thinking about winding up
- Green Make your presentation

2 Various audio files, that will be played through the audio companion (when connected).

3 Water cannon, traditionally used during toggie blowing but can also be used to wake a member up !

⚠	**Warning.** Be sure not to leave your satellite unattended. Disconnect your satellite lectern from your computer and disconnecting the power pack from the mains supply before leaving the lectern unattended.

Emergency stop. In case of emergency you can shut down your Satellite-Lectern by isolating it using the Arm toggle switch. You are encouraged to practice this “emergency stop” scenario before using your Satellite-Lectern for operations.

Important. Always disconnect the Satellite Lectern from your computer and remove the power pack from the mains supply when not in use.

Maintenance

Your Satellite – Lectern requires minimal maintenance. Use a dry cloth to remove any dust that has built up.

As soon as the Otterburn conference has finished, disconnect the power supply and earphone jack from the device and empty the reservoir.

⚠	**Warning. Risk of Death.** To mitigate risk of contracting Legionella disease**,** do not keep water in the Satellite-Lectern for more than 1 day. Ensure that filler lid is left open to dry the fluid passageways. When using the Satellite-lectern for the first time after storage, flush through for 2 minutes using the “Fire” button.

Appendix 1. How to enable your satellite lectern to access the internet.

Despite the best efforts of the Otterburn Special Projects division, it has not been possible to enable full “plug & play” functionality for the Mk 1 Version of the Satellite Lectern.

This is easily overcome however and it should only take you a couple of minutes to set up your satellite lectern to enable your satellite lectern to access the internet.

In order to enable your Satellite Lectern to communicate with the network via your computer it needs run a script.

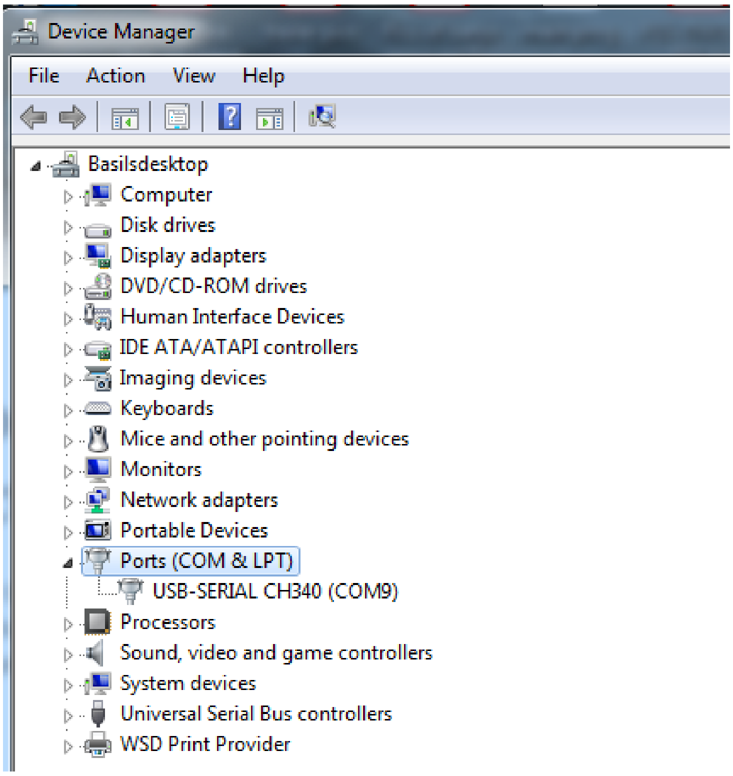
1 The files that you will need are “port specific”, that is to say that they needs to be configured for the particular port at which your Lectern has been connected.

2 To determine at which port at which your satellite lectern is connected:-

  a. Plug your Satellite Lectern into a convenient USB port of your computer using the USB cable provided.

  b. Select the windows prompt on the lower left hand side of your screen and type <device manager> and then press enter. It may take your computer 2-3 minutes to detect your satellite lectern so please be patient.

  Your computer will display a screen something similar to this:



- Basilsdesktop
  - Computer
  - Disk drives
  - Display adapters
  - DVD/CD-ROM drives
  - Human Interface Devices
  - IDE ATA/ATAPI controllers
  - Imaging devices
  - Keyboards
  - Mice and other pointing devices
  - Monitors
  - Network adapters
  - Portable Devices
  - Ports (COM & LPT)
    - USB-SERIAL CH340 (COM9)
  - Processors
  - Sound, video and game controllers
  - System devices
  - Universal Serial Bus controllers
  - WSD Print Provider

Using your mouse, move your cursor to over <Ports> and double left click. This will reveal which port your Satellite Lectern is connected to. It will be called CH340. In my case (shown above) the Lectern is connected to COM9.

The two files you will need will be provided by the DCPA on request.

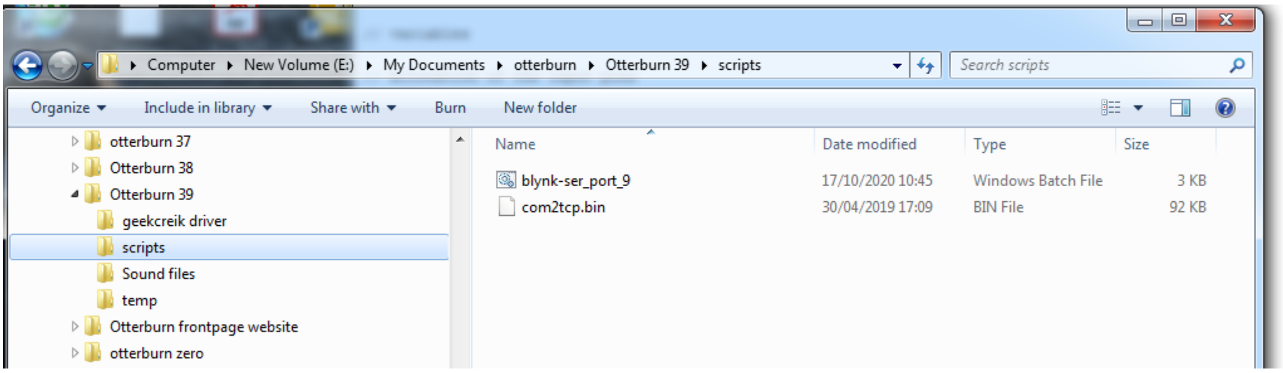
The (2) files that will be sent to you are:

blynk-ser.txt

com2tcp.bin

When you download the (2) files, put them into a new folded on the same computer that you have connected your satellite lectern to.

You can see below that I have downloaded the files into a folder called scripts.



Name	Date modified	Type	Size
blynk-ser_port_9	17/10/2020 10:45	Windows Batch File	3 KB
com2tcp.bin	30/04/2019 17:09	BIN File	92 KB

It will be necessary for you to edit the blynk-ser.txt file. To do this you will need to use a text editor called notepad ++.

If you don't already have it on your computer you can download Notepad++ from the internet at the following link:

https://notepad-plus-plus.org/downloads/v7.9.1/

To edit the blynk-ser.txt file, open Notepad ++ and go to file>open and then navigate to the scripts directory where you stored the file and open the blynk-ser-txt.

The line you need to edit is line 6:

```
6          set COMM_PORT=COM9
```

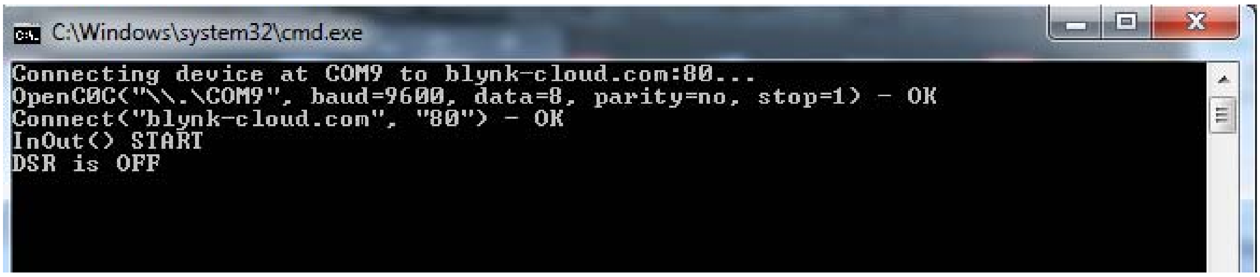
In the above example you can see that the port selected is 9.   Change the figure 9 to whatever port you have discovered that your lectern is on.

And that's it. All you have to do is save the file, but please save it as a batch **.bat** file eg blynk-ser.bat so that it will run. To do this from notepad++ go to File > Save As… then in the drop down menu at the bottom of the window *Save as type* > *Batch file(*.bat,*.cmd;*.nt)*

You can delete the .txt version of the file as it is no longer required.

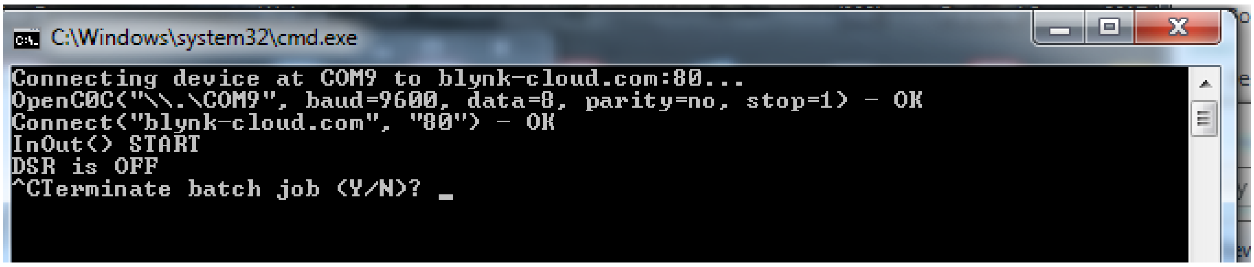
To run the script, simply place your curser over the blynk-ser.bat file and double left click.

If the script has run successfully you will get this message in a terminal window.



```
Connecting device at COM9 to blynk-cloud.com:80...
OpenC0C("\\.\COM9", baud=9600, data=8, parity=no, stop=1) - OK
Connect("blynk-cloud.com", "80") - OK
InOut() START
DSR is OFF
```

If you need to terminate (cancel) the script, move your cursor to the terminal window (black) then left click to move to that window then press Ctrl & C simultaneously. You will see the following message.



```
Connecting device at COM9 to blynk-cloud.com:80...
OpenC0C("\\.\COM9", baud=9600, data=8, parity=no, stop=1) - OK
Connect("blynk-cloud.com", "80") - OK
InOut() START
DSR is OFF
^CTerminate batch job (Y/N)? _
```

Where it says "^CTerminate batch job (Y/N)?" press Y for yes then Enter to cancel the script.

You can then try to run the script again to see if it connects better.

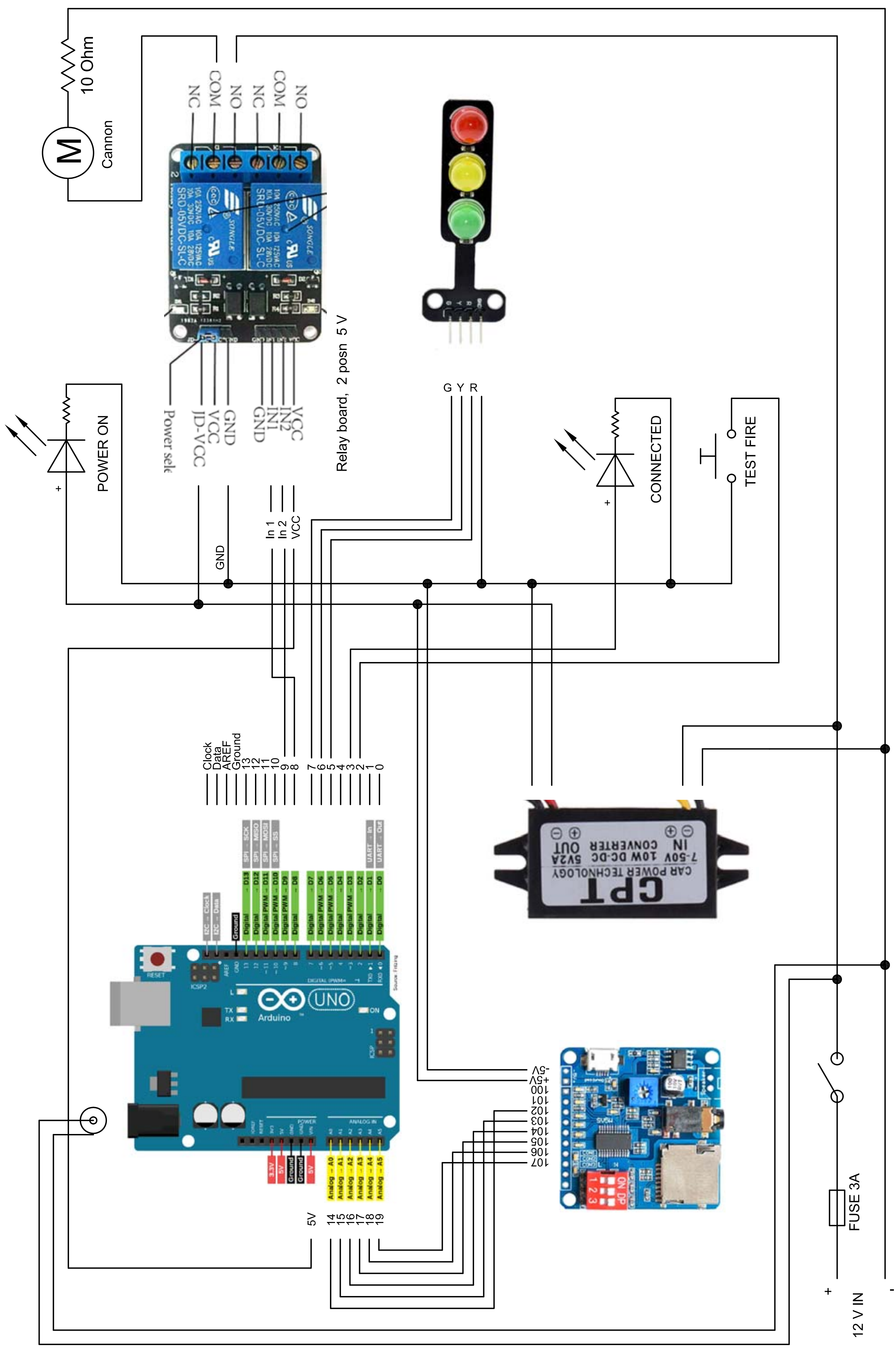
To run the script again, navigate to the folder where the script files are saved and double left click on this scripts file each time you need to connect your lectern to the network.

Now you know how to configure your Satellite Lectern

Have a great Otterburn Conference.

The Otterburn Special Projects team.

Appendix 2, Circuit Diagram



Circuit Diagram,   Chairman's Remoe Lectern Mk 1a

Appendix 3 Arduino code

```
/*************************************************************
  Download latest Blynk library here:
    https://github.com/blynkkk/blynk-library/releases/latest

  Blynk is a platform with iOS and Android apps to control
  Arduino, Raspberry Pi and the likes over the Internet.
  You can easily build graphic interfaces for all your
  projects by simply dragging and dropping widgets.

    Downloads, docs, tutorials: http://www.blynk.cc
    Sketch generator:           http://examples.blynk.cc
    Blynk community:            http://community.blynk.cc
    Follow us:                  http://www.fb.com/blynkapp
                                http://twitter.com/blynk_app

  Blynk library is licensed under MIT license
  This example code is in public domain.
To terminate the script hit Ctrl + C then Y then press Enter.

*************************************************************/
/* Comment this out to disable prints and save space */

#define BLYNK_PRINT DebugSerial
#include <SoftwareSerial.h>
SoftwareSerial DebugSerial(18, 19); // RX, TX
#include <BlynkSimpleStream.h>

// You should get Auth Token in the Blynk App.
// Go to the Project Settings (nut icon).
char auth[] = "[redacted]";
// Serial no 02, Alastair

// variables
// Allocation of the input pins
int cannon_test_btn_pin=2;
int connection_made=3;
// pin 4 not used
// allocating the three LEDs in the traffic light
int TL_pin_red=5;
int TL_pin_amber=6;
int TL_pin_green=7;
// allocating pins for the (4) relays
int relay_1_pin=8;
int relay_2_pin=9;
int cannon_led=12;

// Allocating the pins for the sound outputs
int pin_000=14; // A0   I 02
int pin_001=15; // A1   I 03
int pin_002=16; // A2   I 04
int pin_003=17; // A3   I 05

// The following pins not required for onlty 7 songs
```

```
//int pin_002=18;  // A2    I 02
//int pin_003=19;  // A3    I 03

// Tunes to be labled 00004.mp3,  0008.mp3...12, 16 20 24 28 etc

int count=0;
int windup=0;
int count2=0;

int cannon_fire_btn;
int cannon_fire;

// V1 Cannon,  V2 Sound  V3 Trafic lights

void setup()
{
  // Debug console
  DebugSerial.begin(9600);

// Set the input pins

//  the test switch pin in

pinMode(cannon_test_btn_pin, INPUT_PULLUP);

// Set the output pins

// The traffic light pin outs
pinMode(TL_pin_red,OUTPUT);
pinMode(TL_pin_amber,OUTPUT);
pinMode(TL_pin_green,OUTPUT);

// Make sure traffic lights are OFF
digitalWrite(TL_pin_red,LOW);
digitalWrite(TL_pin_amber,LOW);
digitalWrite(TL_pin_green,LOW);


// the sounds pin outs
pinMode(pin_000,OUTPUT);
pinMode(pin_001,OUTPUT);
pinMode(pin_002,OUTPUT);
pinMode(pin_003,OUTPUT);

digitalWrite(pin_000,HIGH);
digitalWrite(pin_001,HIGH);
digitalWrite(pin_002,HIGH);
digitalWrite(pin_003,HIGH);

// the relay pins
pinMode(relay_1_pin,OUTPUT);
pinMode(relay_2_pin,OUTPUT);

//tsting
pinMode(cannon_led,OUTPUT);
```

```
//Set relay i high to prevent the canon firing.  When turned off not  activated
either
digitalWrite(relay_1_pin,HIGH);
digitalWrite(relay_2_pin,HIGH);
// note that the way the relays are wired mean that only one function can be
switched at a time.
// this is because the relay module is pull nown and needs NOT to send a signal to
the canon
// when initiating or at rest.
//  Flashing function dosent need to be through relay.

pinMode(connection_made,OUTPUT);

pinMode(13, OUTPUT);

//
******************************************************************************************
*****



  // Blynk will work through Serial
  // Do not read or write this serial manually in your sketch
  Serial.begin(9600);
  Blynk.begin(Serial, auth);

}

//Get the number of the sound to be played
BLYNK_WRITE(V2) // V2 is the number of Virtual Pin
{
  switch (param.asInt()){

  case 1:{
  digitalWrite(pin_002,HIGH);
  digitalWrite(pin_001,HIGH);
  digitalWrite(pin_000,LOW);
  break;
    }
  case 2:{
  digitalWrite(pin_002,HIGH);
  digitalWrite(pin_001,LOW);
  digitalWrite(pin_000,HIGH);
  break;
    }
   case 3:{
  digitalWrite(pin_002,HIGH);
  digitalWrite(pin_001,LOW);
  digitalWrite(pin_000,LOW);
  break;
    }
   case 4:{
  digitalWrite(pin_002,LOW);
  digitalWrite(pin_001,HIGH);
  digitalWrite(pin_000,HIGH);
  break;
    }
   case 5:{
```

```
  digitalWrite(pin_002,LOW);
  digitalWrite(pin_001,HIGH);
  digitalWrite(pin_000,LOW);
  break;
    }
   case 6:{
  digitalWrite(pin_002,LOW);
  digitalWrite(pin_001,LOW);
  digitalWrite(pin_000,HIGH);
  break;
    }

   case 7:{
  digitalWrite(pin_002,LOW);
  digitalWrite(pin_001,LOW);
  digitalWrite(pin_000,LOW);
  break;
    }

}
}

// Traffic light control
BLYNK_WRITE (V3) {
  switch (param.asInt()) {
  case 1:   {
    // All lights Off
    digitalWrite(TL_pin_red,LOW);
    digitalWrite(TL_pin_amber,LOW);
    digitalWrite(TL_pin_green,LOW);
    windup=0;
    break;
    }

  case 2:   {
    // Present,  Green light ON
    digitalWrite(TL_pin_red,LOW);
    digitalWrite(TL_pin_amber,LOW);
    digitalWrite(TL_pin_green,HIGH);
    windup=0;
    break;
    }

  case 3:   {
    // Wind up,  Green and Amber ON
    digitalWrite(TL_pin_red,LOW);
    //digitalWrite(TL_pin_amber,HIGH);
    digitalWrite(TL_pin_green,HIGH);
    windup=1;
    break;
  }
  case 4:   {
    // Blow your toggie   RED ON
    digitalWrite(TL_pin_red,HIGH);
    digitalWrite(TL_pin_amber,LOW);
    digitalWrite(TL_pin_green,LOW);
    windup=0;
    break;
    }

  }
}

// get the input from the fire button
BLYNK_WRITE (V1) {
 if(param.asInt()==1)
  {
      cannon_fire_btn = HIGH;
  }
  else
  {
      cannon_fire_btn = LOW;
  }
 }


void loop()
{

// Makes the status lamp ON when connected, flashing when not connected
if (Blynk.connected()) { // checks to see if connected to server
    digitalWrite(connection_made,HIGH); // ON only if connected to server
  } else {
      if (count2<5000) {
    digitalWrite(connection_made,HIGH); // note 12 V LED will illuminate with 5V
    } else {
      digitalWrite(connection_made,LOW);
      }
    }

count2++;
      if (count2>20000) {
  count2=0;
          }


// this code needed to make the amber light flash
if (windup==1) {
  if (count<5000) {
    digitalWrite(TL_pin_amber,HIGH);
    } else {
      digitalWrite(TL_pin_amber,LOW);
      }
      }
count++;
 if (count>20000) {
  count=0;
          }

// firing the Cannon

if (digitalRead(cannon_test_btn_pin)){
// the test button is not pressed...
  if (cannon_fire_btn == HIGH){
```

```
  digitalWrite(4,HIGH);  //test
  cannon_fire = LOW;
  }   else {
      //digitalWrite(4,LOW);  //test
      cannon_fire = HIGH;
    }
}

  else {
        cannon_fire = LOW;
          // activate the canon
        }


  if (cannon_fire == LOW) {
// activates the firing sequence
    digitalWrite(13, HIGH);  // this LED lights on board to indicate status of fire
signal
    digitalWrite(relay_1_pin,LOW);
  } else {
    digitalWrite(13, LOW);
    digitalWrite(relay_1_pin,HIGH);
  }



Blynk.run();

}  // end of the void loop
```