

Logitech H800 Bluetooth Headset with Samsung Galaxy Android Tablet and RemoteHams

1. Introduction

The *RemoteHams* software program allows a remoted ham radio transceiver to be operated from tablet computers using the *Android* operating system. The portability provided by inexpensive tablet PC's, such as the *Samsung Galaxy Tab A*, is excellent with complete radio control and audio interfaces provided. An additional feature of using a tablet computer is the ability to couple Bluetooth wireless connectivity to the tablet for true wireless connections. In addition, simple shutter control hardware can be integrated over Bluetooth to provide wireless Push-To-Talk (PTT) control giving the radio amateur a truly wireless experience.

This technical note explains the techniques, hardware and software used to interconnect various pieces of hardware to provide this unique capability. Due to the low cost and high availability of the hardware, this should be easy to replicate on a personal scale.



Figure 1. Logitech H800 Bluetooth Headset

2. Equipment List Tested

The following list of hardware and software were integrated in this project. I chose the hardware based on the low cost (e.g., the *Samsung Galaxy* is in the \$100 class) and experiences of others. Getting the hardware to work seamlessly for me was a very personal experience with

many hurdles to overcome. So my aim is to share my experiences so you can follow a similar path.

TABLE 1. HARDWARE AND SOFTWARE INTEGRATED

Description	Function	Version
<i>Samsung Galaxy TAB A</i>	Android Tablet	OS 6.0.1
<i>Logitech H800</i>	<i>Bluetooth Headset</i> (earphones and boom microphone)	
<i>LZYDD BT Wireless Media Music Remote Control Camera Shutter for iPad, iPhone, iPod Touch, iOS and Android Smartphone Tablet Devices Windows 8.1</i>	Dual Remote Clicker for PTT Functionality.	
RemoteHams Client	Android Software	Version number 79
Parrot Recorder	Android Application	Version 2.2.0

The process I followed was to install the Bluetooth headset onto the *Samsung Galaxy TAB A* tablet computer using the *Android* Bluetooth installation procedures. This involves turning the headset on and setting it into the Bluetooth mode to announce its availability. The headset is then paired with the *Android* Bluetooth interface.

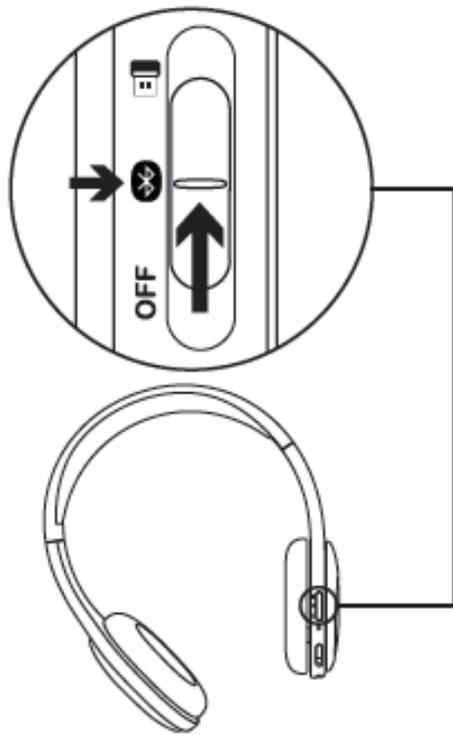
Once the headset pairing is successful, the headset audio can be tested for functionality. This involves loading a free *Android* application (app) from the *Google Play Store* and then testing the record and playback capability. This proved to be harder than expected as will be explained later.

Next, the *RemoteHams Android* Client is setup for a Bluetooth headset interface.

Finally, the *LZYDD Bluetooth Camera Shutter* controller unit is interfaced to the *RemoteHams Android* Client to serve as a Push-to-Talk (PTT), wireless controller.

3. Setup the Logitech H800 Headset for Bluetooth

The pairing of the *Logitech® Wireless Bluetooth Headset H800* is explained from the Logitech user manual in the **English** instructions below.



English

Connecting to a Bluetooth® device

1. Power on the wireless headset.
2. Slide the Device Selection switch on the right ear cup to the Bluetooth (middle) position.
3. Activate pairing on your Bluetooth device. (Refer to the documentation that comes with your device for pairing instructions.) If your Bluetooth device requests a security code, PIN, or pass code, enter 0000. The Bluetooth connection is made.
4. To connect additional Bluetooth devices to the wireless headset, visit www.logitech.com/support, select your product, and find the FAQ about connecting multiple Bluetooth devices. You can pair up to seven Bluetooth devices with the headset, including smartphones, tablets, and MP3 players.

Figure 2. Logitech Bluetooth Headset Setup

If you need to initiate a Bluetooth acquisition sequence, **Slide** the "fast forward" slide switch **Forward** (towards #13 in diagram below) and **Press +** (#8 in diagram)

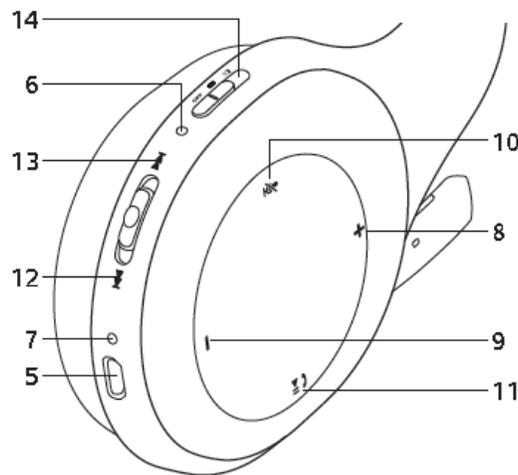


Figure 3. Logitech Bluetooth Headset Setup to Initiate Bluetooth Pairing

4. Parrot Sound Recorder to Test the Paired Bluetooth Headset

I found out *the hard way*, that not all sound recorders are created equal! Many in the *Google Play Store* are designed just for use with the Galaxy's *Internal* microphone (mic). So even with a Bluetooth microphone paired, the recorder software would not recognize and record the audio. After much testing, I found the Parrot recording software worked well. I de-installed all trial versions of other recorders (I tested at least 10 different versions) until I found the Parrot software worked correctly.

To test the record functionality on the *Samsung Galaxy TAB A* tablet, install the free application Parrot found in the *Google Play Store*.

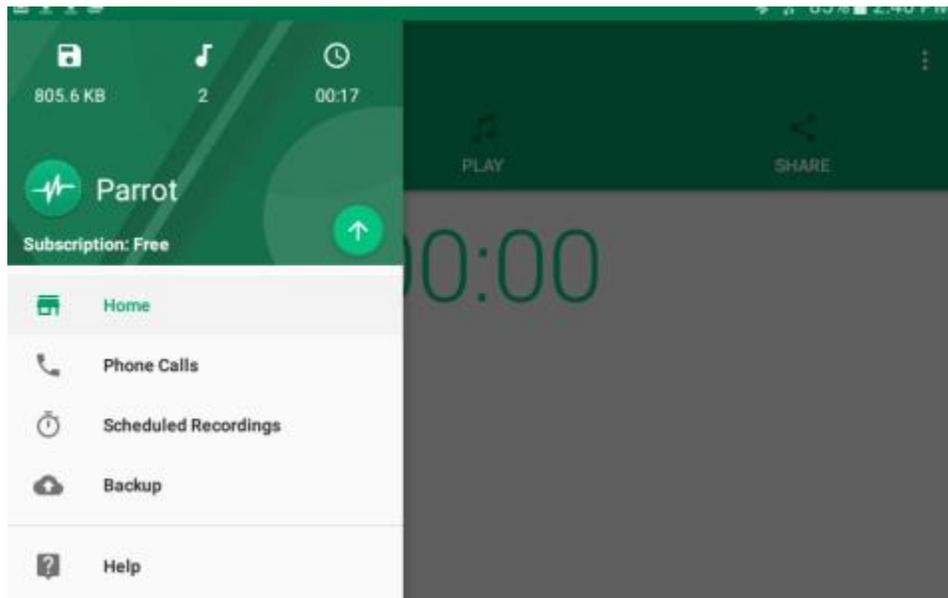


Figure 4. Parrot Sound Recorder Compatible with Hardware Suite

The Parrot software app will record and playback the sounds from the Logitech Bluetooth headset. The Parrot menu system is very intuitive and easy to follow.

5. To Setup a Logitech H800 Bluetooth Headset in RemoteHams

The RemoteHams client for Android is downloaded from the RemoteHams web page (<http://www.remotehams.com>). In the *RemoteHams* Android app, select the **Settings** and **Audio**. Enable each of the settings as shown below. Set the **Mic Source** to **Default**.

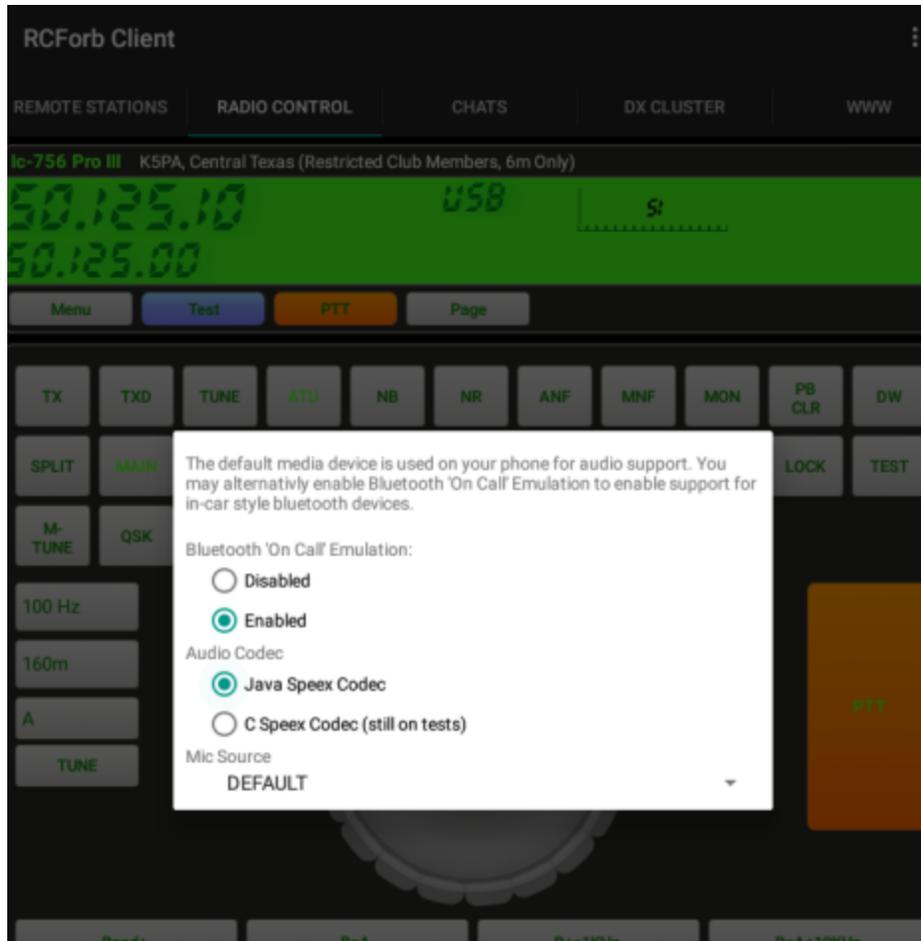


Figure 5. RemoteHams Android Version Screen Capture in **Settings** and **Audio**

6. Setup of LZYDD Remote Control Shutter Button Clicker for PTT Functions



Rear and Front View of LZYDD Clicker

Figure 6. LZYDD Remote Control Shutter Button for Use as PTT Control

In the *RemoteHams* Android App, select the **Settings** then **PTT Options**. To use a dual button for the PTT functionality in *RemoteHams* for Android, set the buttons settings for PTT as shown below. One nice feature is the ability to still use the minus and plus (- +) button to raise or lower the audio sound stream volume.



Figure 7. RemoteHams Android Version Screen Capture in **Settings** and **PTT Options**

7. Wrap Up

I hope this information helps with your installation of Bluetooth headsets with the RemoteHams application. Due to the rapid pace of hardware obsolescence, new hardware and changing software versions, there may be slight variances in these procedures. But my hope is some of the techniques can be carried through to the next generation of devices to make Remote Radio Operation easier to implement.

ADDENDUM

Pairing Bluetooth Between Android and *Remote Control Shutter*

Pairing Instructions

1. Enable the Bluetooth functions of your Android device.
2. Turn on the remote, **press the shutter button and play/pause button simultaneously**, the LED light will blink blue.
3. Your device will start to search, after finding “Bluetooth Remote Shutter,” you should tap “Bluetooth Remote Shutter,” so it will start connecting.

For full instructions of pairing, please refer to the manual included with the shipment of the device.

End