HyperBlade Saber Blade System
Wireless (Bluetooth) Sound Unit
Hyperdyne Labs, © 2006
http://www.hyperdynelabs.com

Congratulations on your purchase of a HyperBlade saber blade kit! This kit is the ultimate saber upgrade for saber collectors, enthusiasts, role players, and costumers.

Your saber kit was manufactured using the highest-grade components available, please handle it with care as not to damage any of the components from static electricity. If you are not familiar with static electricity handling procedures, please refer to ESD procedures. Basic information on ESD can be found here:
*http://en.wikipedia.org/wiki/Electrostatic_discharge*

NOTICE: There is no warranty on kits. It is your responsibility to install the board. Opened kits cannot be returned. Be careful if you use a battery source that is capable of delivering a lot of current. Contact a professional if you need assistance. Hyperdyne Labs assumes no responsibility for the misuse of this kit.


HyperBlade Wireless Sound Unit

Our sound module is plug-and-play compatible with our LED driver unit. The sound board incorporates several "never-before" seen features that is unique to our HyperBlade system – including our ClashEffect™ feature, remote activation/deactivation, and CD-quality sound playback from an external PC. This allows you to have movie quality sound effects from your saber.

Both modules:
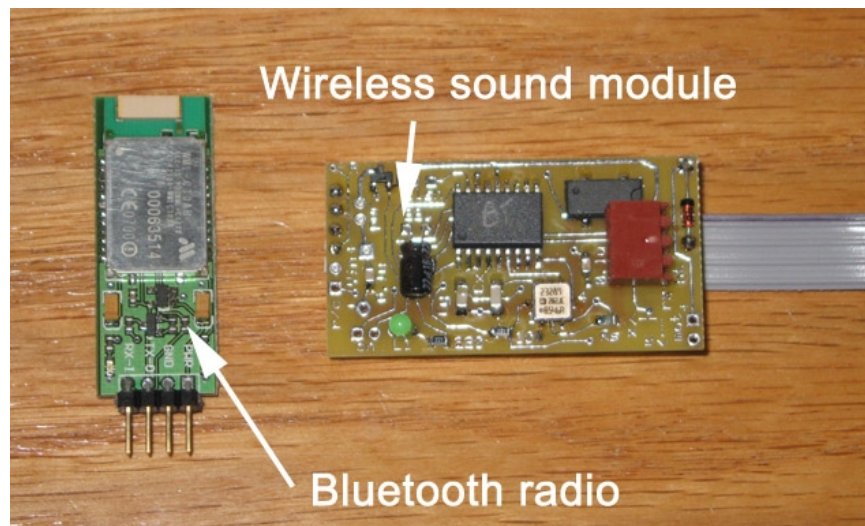
Here is a pic of the HyperBlade wireless sound board w/ Bluetooth radio installed:

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Radio mounted to sound module

antenna
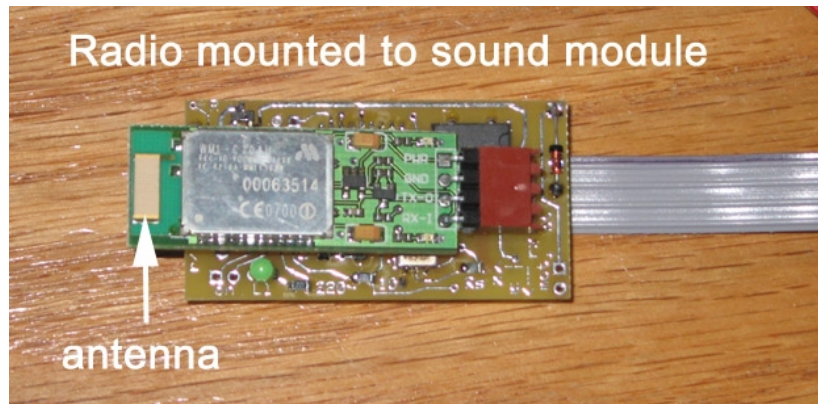
Connection to LED Driver Unit

To connect your sound board to the driver unit, simply connect the grey 4-pin cable from the HyperBlade LED driver unit to the white header on the sound board. The connector is keyed so it only goes in one way.
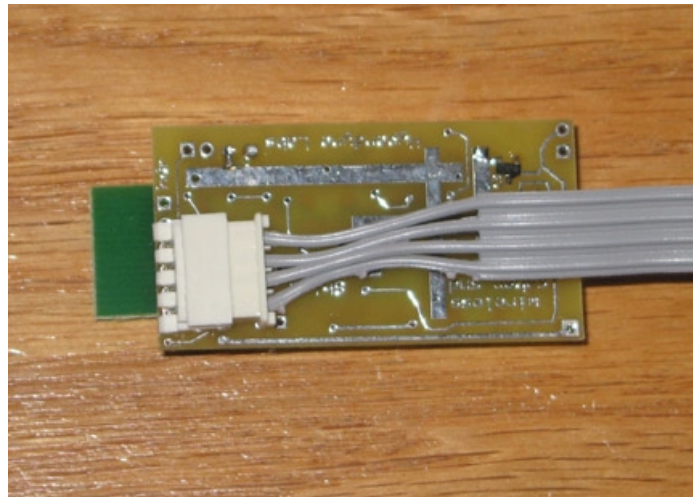
That is it!

The sound board receives power and signals from this cable, so you don't need to make any other connections.

Sound Board Features

The HyperBlade wireless sound board includes several features – these include integrated ClashEffect output to the driver board (to synchronize clash sound and blade flicker), wireless Bluetooth radio to communicate with a PC, and automated motion detection for different sound events.

These features are all automated and do not require any setup. The pushbutton on the LED driver board controls both the blade and sound board, so you only need the one button to control the entire saber!

Using the wireless sound module with our LED driver board:

If you are using our driver board with the Bluetooth sound jumper installed, note that you will power up the sound module using the saber pushbutton. Holding in the pushbutton for longer than 2 sec then releasing it will toggle power to the Bluetooth sound board.

When power is applied, the LED on the sound board will blink once telling you it has booted up. The onboard radio is now ready to accept a connection to the PC you will be using. Read over the **Hyperblade Bluetooth serial port setup guide** for information on how to do this.

> NOTE: It is important that you first power up the wireless sound board, then connect to the PC with the radio on. ***Do not ignite the saber blade until this is done, or else your PC connection will always fail.*** If you ignite the saber by accident you must then turn off the power to the sound module and turn it back on, then try to connect to the PC. You need to follow this procedure since you cannot make a connection to the PC while the wireless sound board is streaming data over the wireless link!

Once you have established a connection to the host PC, you can start the Scimitar program on the PC and connect to the COM port the radio is attached to.

Now your saber is primed and ready for action!

Next ignite the saber blade and the motion sensors onboard will begin transmitting data. The power up sound will play out and the looping hum will also play. You can now use your saber and trigger interactive sounds. The hilt will also continuously receive ClashEffect information and other data from the PC, making an autonomous 2-way wireless link with your saber.

Deactivating the saber blade will play the powerdown sound, and the radio will still transmit hilt data to the PC. This is because you may want to powerdown your saber briefly but still want to play with it moments later. Just ignite the blade again and you are off and running! The only way to stop transmission is to turn the power off to the sound module using the pushbutton.

The wireless sound module always draws power from the battery when on, so that is why you can use our Hyperblade LED driver board to control power to the wireless module. This helps preserve battery life if you accidentally leave the saber powered on for a long period of time.

Mounting in a hilt

You will want to heat shrink wrap the sound board so they don't short out when mounted inside a metal hilt.

Simply cut the heat shrink to size and slide it over the sound board – then heat it up. You can also use some electrical tape to secure the Bluetooth radio to the sound board. Wrap the tape around both boards. This will ensure that the jumper pins on the radio make solid contact, and it will not come loose while inside the saber.

It is important that you mount the wireless board in a location where the antenna is not facing metal. Inside the metal hilt will cause a bad wireless link and your effective range will be severely reduced. We recommend that you install the sound board at the bottom of the hilt and leave the endcap off! This will allow the Bluetooth antenna to transmit freely out of the bottom of the hilt, giving the best reception possible.
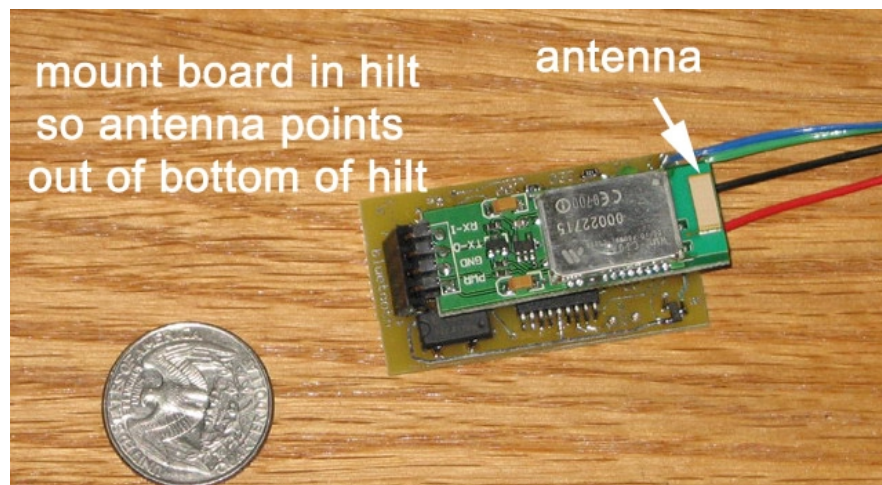
The next pic shows an install inside a hilt. Notice the antenna part of the board facing down. You can see the boards are also taped together so the radio board makes good contact with the header pins on the sound board.

You can use Velcro, hot glue, etc to secure the sound board inside the hilt.
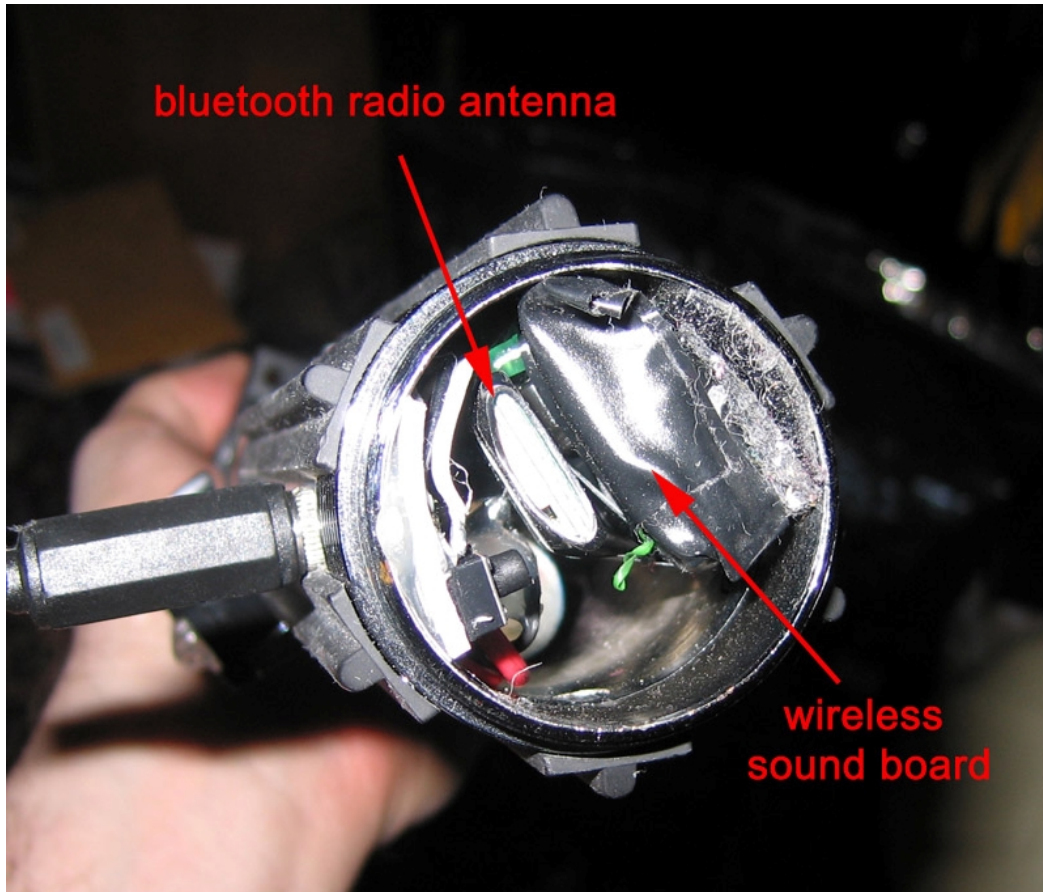
Refer to the Scimitar operating instruction document on how to use the software and get the most out of your wireless sound module!

Electronic Specifications

Unit dimensions: 1.9" L x 1" W
Radio: Class 1 Bluetooth radio (CE qualified)
Range: 20-100m
PC interface: requires USB Bluetooth adapter and WinXP Scimitar software
Sensors: dual-axis +/- 2g accelerometer
Input voltage: 6-12V
Current consumption: 30mA

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ADVANCED TOPIC
Hooking up the optional remote activation/deactivation feature

The remote activation/deactivation feature allows a 3rd person (at the PC) to turn the saber on and off without any user intervention. That is, the person holding the saber doesn't have to do anything, and the PC operator uecan remotely command the saber to ignite or retract with the press of a button!

By default this feature is not connected since it is an advanced feature not used by everyday users. Hookup is easy, all it takes is connecting a wire from the wireless sound board to our LED driver board.

To accomplish this, you will need to solder a wire (26-28" wire is fine). The pad on the sound module you want to connect to is labeled "r/c". The pad on the driver unit is also labeled "r/c". Simply solder a wire between the pads on the sound board and the driver unit.

Here is the r/c pad on the wireless sound board:
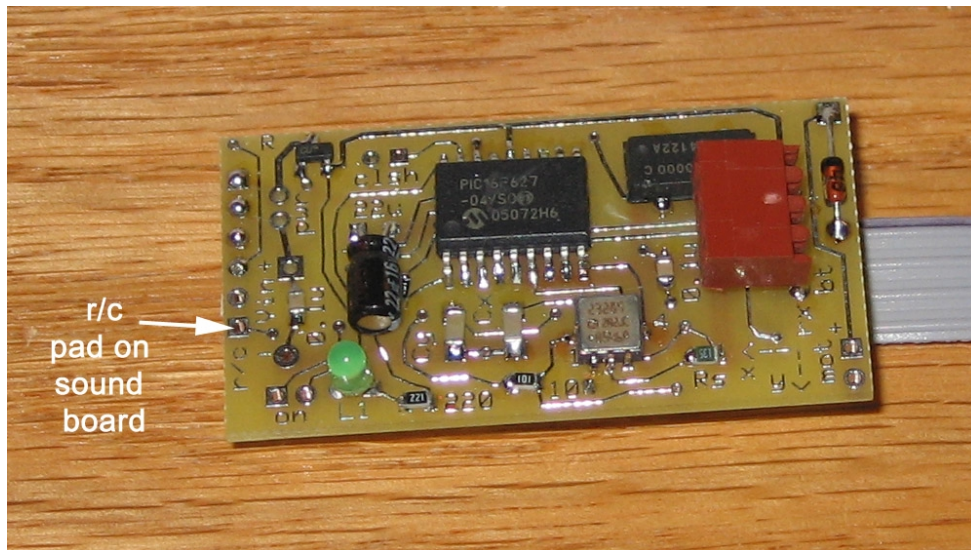
Now solder a wire to this r/c hole on the wireless sound board and run it to the LED driver unit. Solder the other end of the wire to the r/c pad on the LED driver board (shown below).

***Find the matching pad on the LED driver board and solder your wire to each pad.
Here is what the r/c pad looks like on our LED driver unit:***
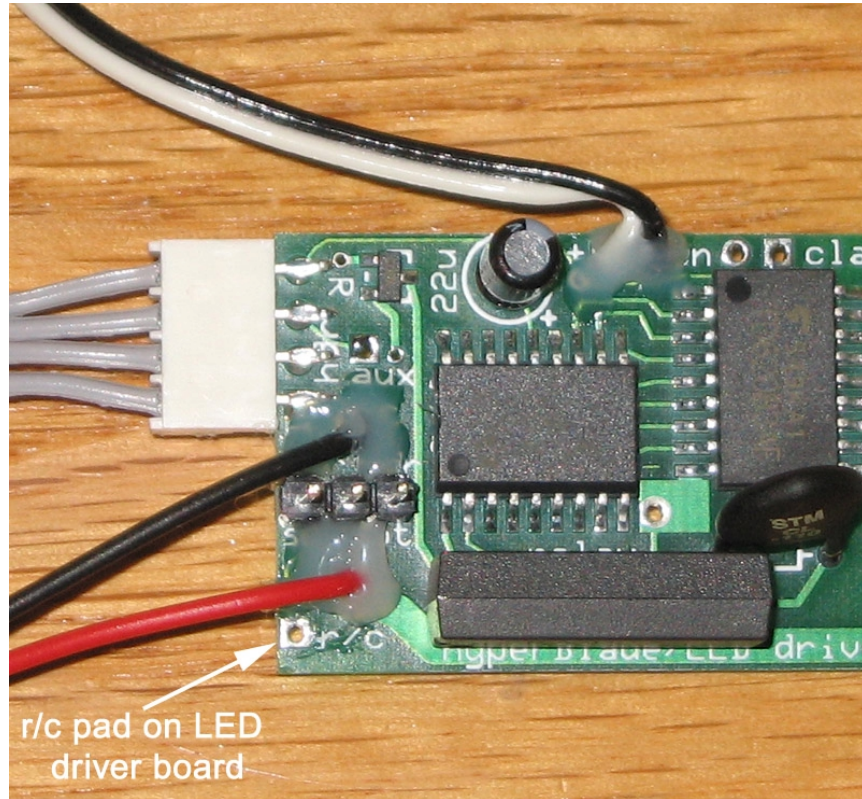
Once you do this you will be able to use the remote activation/deactivation command found in the Scimitar program.

This feature is useful for choreography, novelty operation, or fan-film where the saber has to be turned on or off and is no longer in the user's hand. The PC operator can do this at will under Scimitar program control!!

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