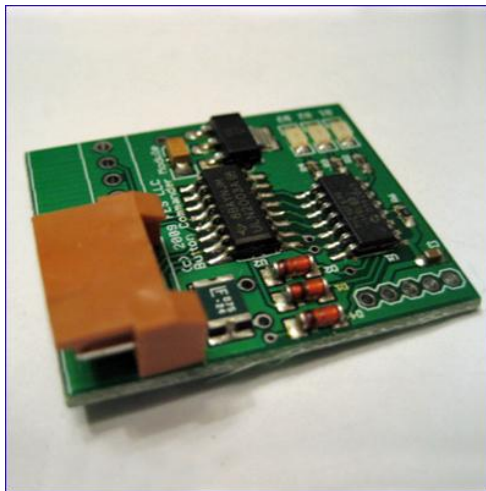




R52 Top Commander



Installation and Configuration Guide

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CHAPTER 1 WELCOME

Thank you for purchasing the *R52 Top Commander* from FES Auto. The *Top Commander* is a control module for all R52 Mini Cooper Cabrios that makes opening and closing the top much easier. No longer do you have to hold buttons down through a long and annoying sequence.

The *Top Commander* module controls the switches for opening and closing the top and windows in the windshield frame cover. Installation is done right behind the switches.

The *Top Commander* module can be operated in two distinct modes:

- **Standard Mode (Default)**

In this mode you can open and close the top via a double tap. The module takes care of everything.

A single tap on the window close button will automatically close all four windows.

- **Sunroof Mode**

This mode allows for separate control of the sunroof:

A single tap will open or close the sunroof only.

A double tap will fully open or close the top.

A single tap on the window close button will automatically close all four windows.

1.1 WHAT'S IN THE BOX.

- The Top Commander Control Circuit
- The Top Commander harness with Daughter Boards
- One Posi-Tap™ Connector

1.2 REQUIRED TIME & TOOL

- 1 Plastic Card
- Installation should take about ½ hour, or less.

CHAPTER 2 DISCLAIMER

USE AT YOUR OWN RISK - USE OF THE PRODUCT MIGHT NOT BE ALLOWED ON PUBLIC STREETS. IT'S THE USER'S RESPONSIBILITY TO USE THE PRODUCT IN ACCORDANCE WITH THE LOCAL LAWS AND RESTRICTIONS.

Do not use this product until you have carefully read the following agreement. This sets forth the terms and conditions for the use of this product.

The installation of this product indicates that the buyer has read and understands this agreement and accepts the terms and conditions.

DISCLAIMER OF LIABILITY

FES, LLC (hereafter SELLER) shall in no way be responsible for the product's proper use and service. THE BUYER HEREBY WAIVES ALL LIABILITY CLAIMS.

The BUYER acknowledges that he/she is not relying on the SELLER's skill or judgment to select or furnish goods suitable for any particular purpose and that there are no liabilities which extend beyond the description on the face hereof and the BUYER hereby waives all remedies or liabilities, expressed or implied, arising by law or otherwise, (including without any obligations of the SELLER with respect to fitness, merchantability, and consequential damages) or whether or not occasioned by the SELLER's negligence.

The SELLER disclaims any warranty and expressly disclaims any liability for personal injury or damages. The BUYER acknowledges and agrees that the disclaimer of any liability for personal injury is a material term for this agreement and the BUYER agrees to indemnify the SELLER and to hold the SELLER harmless from any claim related to the item of the equipment purchased. Under no circumstances will the SELLER be liable for damages or expenses by reason of use or sale of any such equipment.

The SELLER assumes no liability regarding the improper installation or misapplication of its products. It is the installer's responsibility to check for proper installation and if in doubt, contact the manufacturer.

LIMITATION OF WARRANTY

FES, LLC (hereafter "SELLER") gives Limited Warranty as to description, quality, merchantability, fitness for any product's purpose, productiveness, or any other matter of SELLER's product sold herewith. The SELLER shall be in no way responsible for the product's open use and service and the BUYER hereby waives all rights other than those expressly written herein. This Warranty shall not be extended or varied except by written instrument signed by SELLER and BUYER.

The Warranty is Limited to one (1) year from the date of sale and limited solely to the parts contained in within the product's kit. All products that are in question of Warranty must be returned shipping prepaid to the SELLER and must be accompanied by a dated proof of purchase receipt. All Warranty claims are subject to approval by FES, LLC.

Under no circumstances shall the SELLER be liable for any labor charged or travel time incurred in diagnosis for defects, removal or reinstallation of this product, or any other contingent expenses. If the BUYER sends back a failed unit that is out of warranty and chooses to buy a refurbished unit, the refurbished unit will only carry a 60 day warranty. If the BUYER purchases a new unit at a predetermined discounted rate, it will have the standard 1 year warranty.

Under no circumstances will the SELLER be liable for any damage or expenses insured by reason of the use or sale of any such equipment.

IN THE EVENT THAT THE BUYER DOES NOT AGREE WITH THIS AGREEMENT: THE BUYER MAY PROMPTLY RETURN THIS PRODUCT, IN A NEW AND UNUSED CONDITION, WITH A DATED PROOF OF PURCHASE, TO THE PLACE OF PURCHASE FOR A FULL REFUND.

THE INSTALLATION OF THIS PRODUCT INDICATES THAT THE BUYER HAS READ AND UNDERSTANDS THIS AGREEMENT AND ACCEPTS ITS TERMS AND CONDITION

CHAPTER 3 INSTALLATION

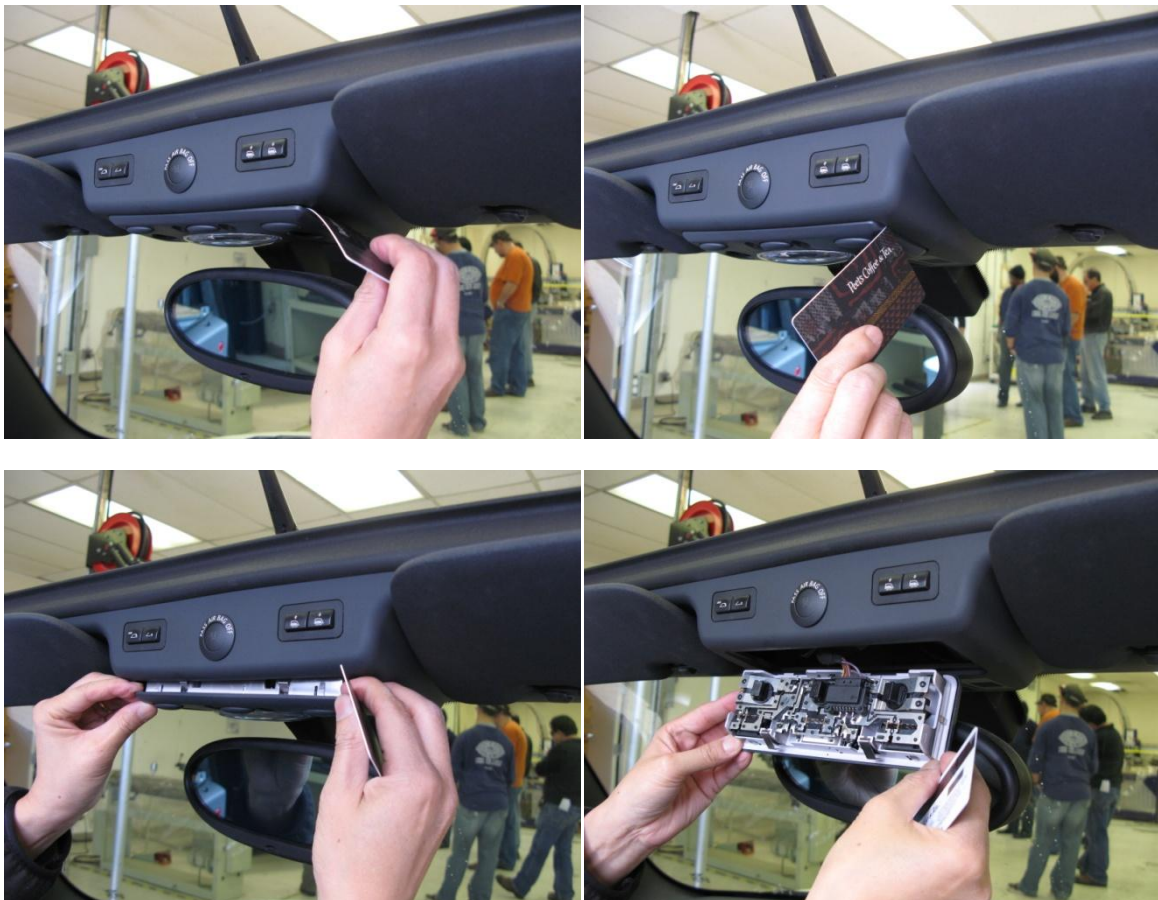
The Top Commander module is installed in the windshield frame cover behind the light box.

The installation is done in the following steps:

- Dismount the light box and switches
- Install the Top Commander module
- Test
- Put back the switches and the light box

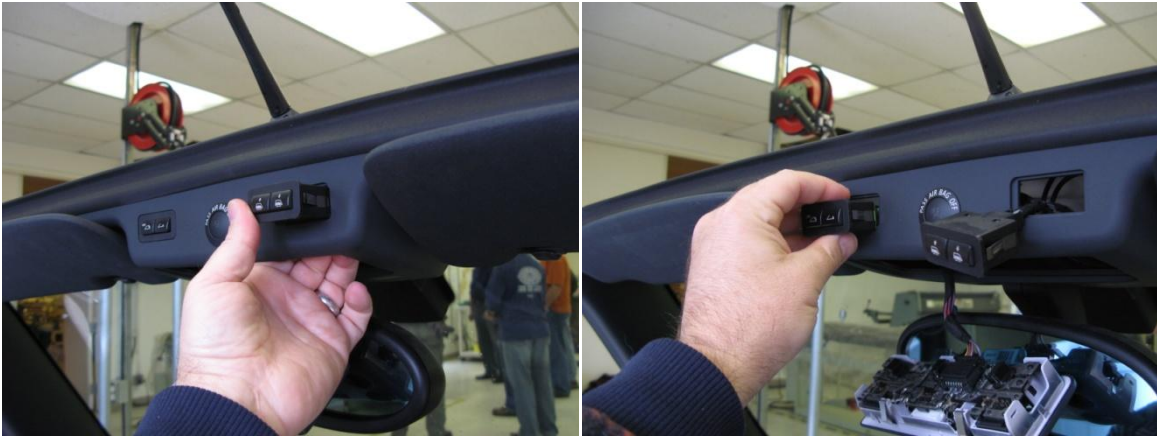
3.1 DISMOUNT THE LIGHT BOX

The light box has to be dismantled from the windshield cover. It is not necessary to disconnect the light box from the wire harness. Simply slide the plastic card on the right side between the light box and the windshield frame cover. The cover is held in place by four clips. Just pull them module down to release it. **You do not need to disconnect the wiring harness from the module!**



3.2 DISMOUNT THE SWITCHES

Remove the switches as shown below. Simply push them out from inside and disconnect the wire harness.

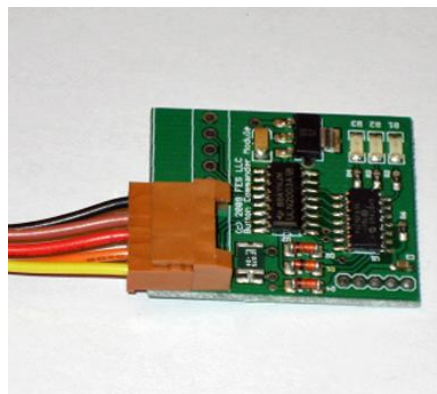


There is a lock on each connector. Press it to remove the connector from the switch. Both switches release the same way.

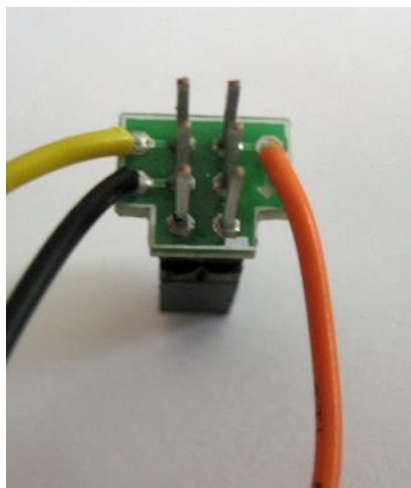


3.3 INSTALLATION OF THE TOP COMMANDER MODULE

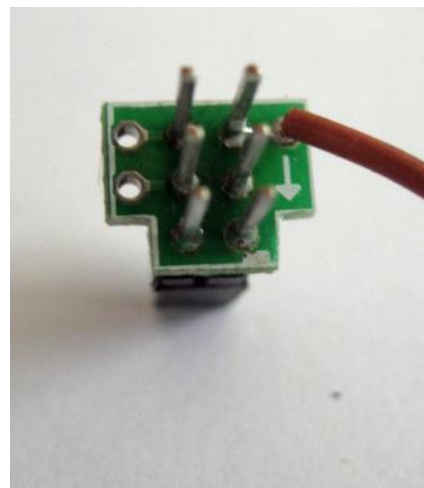
Connect the 5 pin header to the Top Commander module:



Slide the two break-out boards through the switch opening.

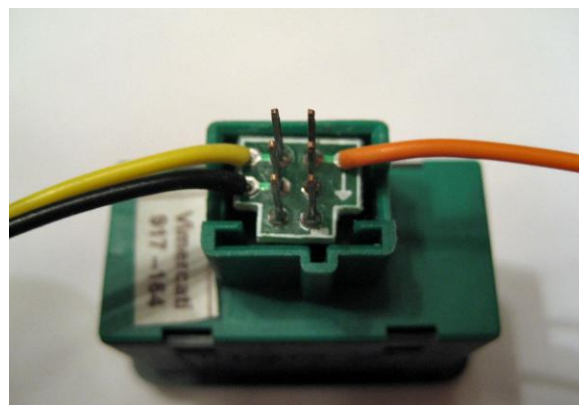


Top

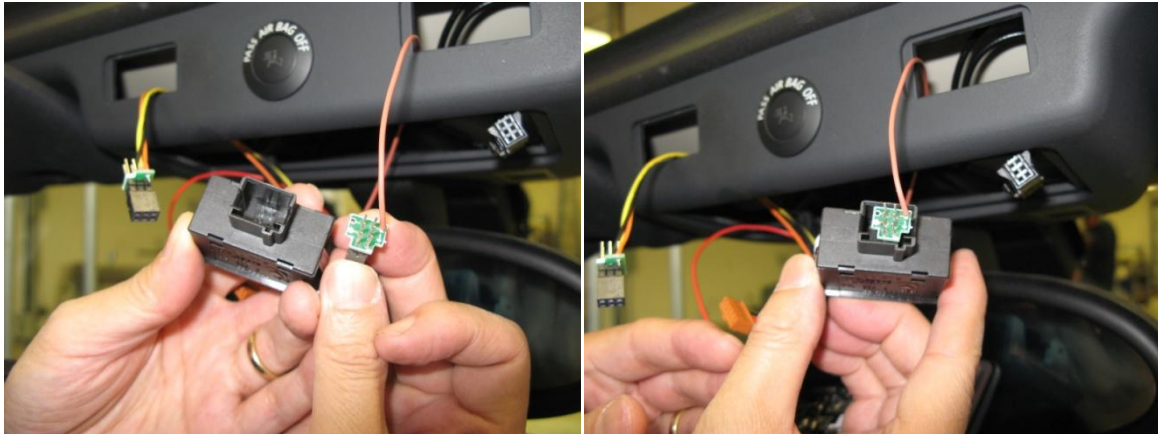


Window

The break out board with the three (Yellow, Black, Orange) cables connected to it will go through the top control switch opening (the one on the left). The break out board with the single (Brown) wire connected to it will go through the window control switch opening (the one on the right). Connect the breakout boards to the switches as shown below:



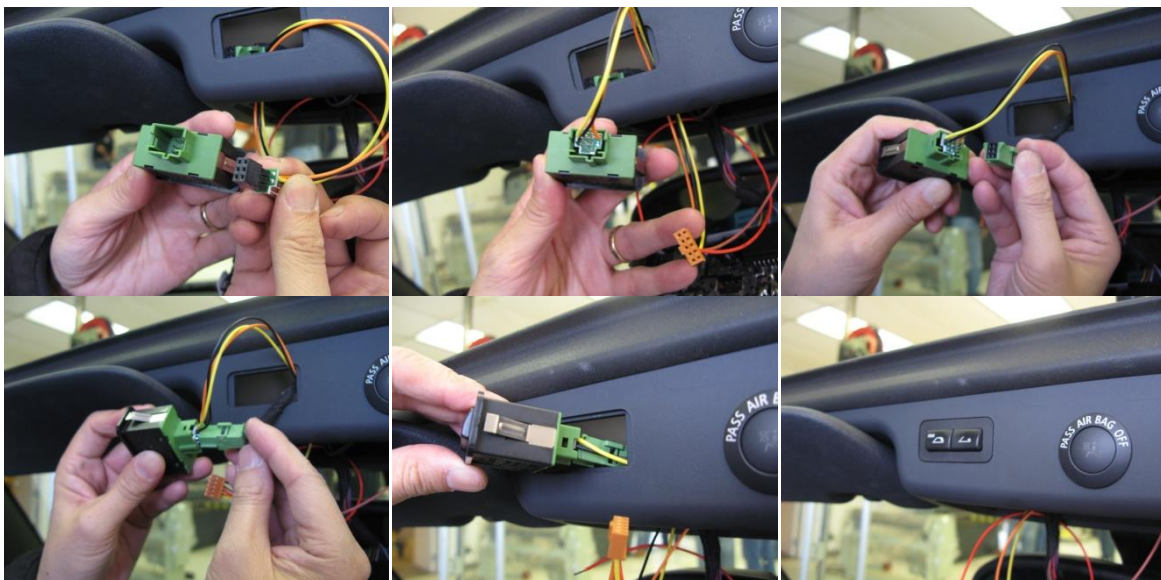
Be careful here as it's possible to push the header in and miss some of the pins. This is especially true with the window button, as it seems to only have 4 of the 6 pins populated.



Finally connect the original cable to the switches again, and then press the switch back into the housing.

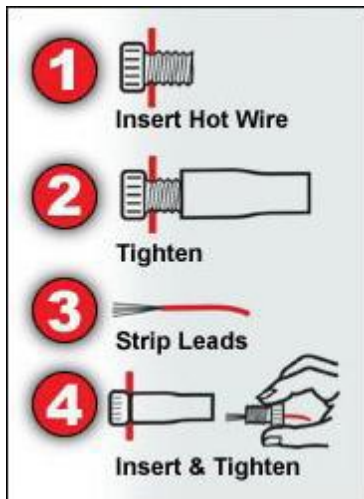


Repeat the same sequence for the top control switch and connector.



3.4 POWER SUPPLY

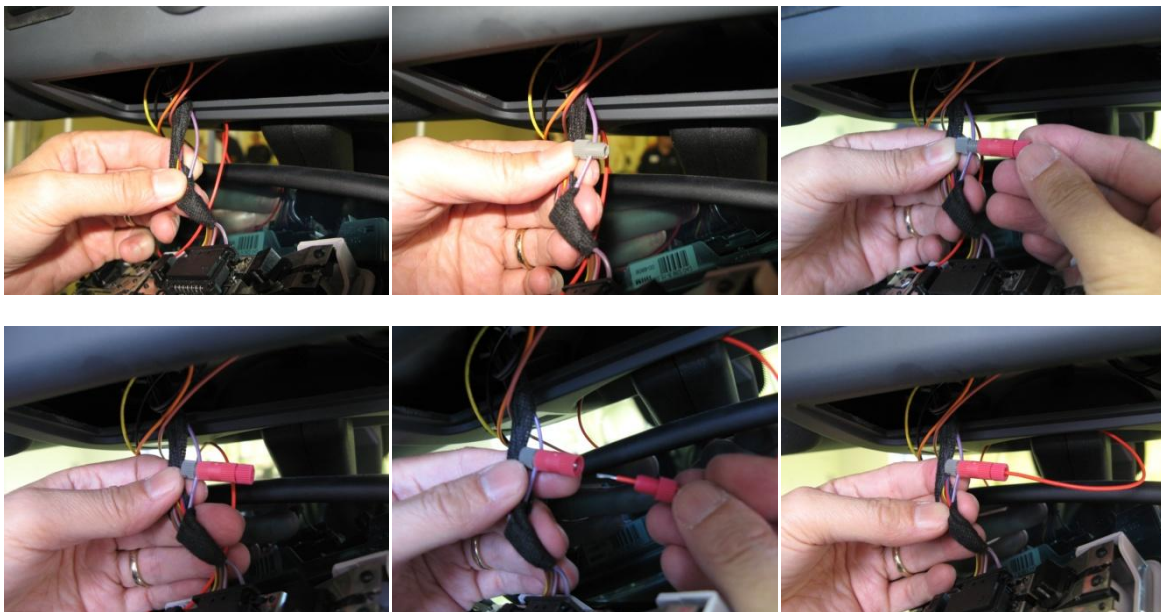
The Top Commander module needs to be powered with 12V. This is done by tapping into the power line of the light box using the Posi-Tap™ connector. The power can be taken from the far right pin of the light box (**purple** wire).



Posi-Tap® connectors are easy to use. Unscrew the base of the Posi-Tap® from the main body. Slide the far right wire from the harness into the slot in Posi-Tap® base. Screw the body onto the base and the needle point will penetrate the insulation and make contact with the conductor.

Unscrew the top of the Posi-Tap® connector from the main body. Insert the red wire from the Top Commander module so that the stripped part of the wire emerges from the top.

Screw the top of the Posi-Tap® into the main body and the wire will be held against the conductor in the main body. That's it!



3.5 TEST

At this point the Top Commander module is ready to use! To test the functionality, turn on the ignition (Note: turn on the engine. The top operation can easily drain your battery when the engine is not running).

Test the following features:

- Single-Tap Window Open
- Single Tap Window Close
- Double Click Top Open
- Double Click Top Close

If the top or Windows don't move check the power supply and the polarity of the break out boards. Also check to see if the Top Commander daughter boards are properly seated on the switch pins. This is the most common installation problem.

3.6 MOUNTING THE TOP COMMANDER MODULE

Use the double sided sticky tape to fix the module to the inner side of the windshield frame cover.



3.7 PUTTING IN ALL BACK TOGETHER

If you haven't already, slide the switches back into the opening, then the light box.



That's it! The installation is complete.

CHAPTER 4 MODE CONFIGURATION

4.1 SETTING THE DESIRED MODE

The factory default mode is Standard Mode. If you need to switch to Sunroof Mode, this is what you need to do:

- With the module installed, hold the window close button for more than 20 seconds.
- The LED will start blinking that the mode has switched.
- Release the window close button, the module is now in Sunroof mode.

To switch back to Standard Mode, repeat the above.

4.2 STANDARD MODE FEATURES

This is the factory default mode. If you want to run your module in Standard Mode there is nothing else to do.

Features:

- **Double tap on switch "Top Open":** The top opens completely.
- **Double tap on switch "Top Close":** The top closes completely.
- The automatic opening and closing procedure can be interrupted at any time by clicking one of the top switches.
- **Single tap on switch "Window Close":** All four windows close completely.
- **Single tap on switch "Window Open":** All four windows open completely (standard R52 feature).
- The automatic closing of all windows can be interrupted at any time by clicking the window open switch.
- Manual control of the top by holding one of the switches is still possible.

4.3 SUNROOF MODE FEATURES

If you want to operate in Sunroof Mode you need to switch the mode (see above)

Features:

- **Single tap on switch "Top Open":** The Sunroof opens completely.
- **Single tap on switch "Top Close":** The Sunroof closes completely.
- **Double tap on switch "Top Open":** The top opens completely.
- **Double tap on switch "Top Close":** The top closes completely.
- The automatic opening and closing procedure can be interrupted at any time by clicking one of the top switches.
- **Single tap on switch "Window Close":** All four windows close completely.
- **Single tap on switch "Window Open":** All four windows open completely (standard R52 feature).
- The automatic closing of all windows can be interrupted at any time by clicking the window open switch.
- Manual control of the top by holding one of the switches is still possible.

CHAPTER 5 TROUBLESHOOTING & SUPPORT

The circuit functionality is all programmed into firmware. It has a resettable fuse built in, so even shorts in the control outputs will not damage the car or the circuit.

If the circuit does not function properly, first re-check all power, control and accessory connections. If the circuit still does not function properly, contact FES directly via one of the contact methods listed below.

Phone: (650) 241-1161

E-Mail: support@fes-auto.com

Web: www.fes-auto.com/support

CHAPTER 6 ACKNOWLEDGMENTS

Many thanks to Christian, aka Kampfschachtel, who helped a lot with bringing this module to the market! Also, thanks to Richard Woo (aka rkw) for help with the installation photos.