

Fitting a working Bluetooth system to a K1600 GT / GTL

The Bluetooth system on the K1600 GT / GTL is almost non-functioning, unless you happen to own two System 6 helmets and the BMW communication system from BMW. Even then, there are issues with the system such as at least the following:

- You cannot get bike to bike communication to any Scala or Schubert SRC system or any other system for that matter.
- If you are listening to music and your pillion needs to talk to you, you have to switch over to intercom mode from the panel on the left hand side.
- If you want to go back to listening to music, you again have to switch modes via the panel.

To get around these issues and provide further flexibility in terms of comms and music on the K, while still keeping all the functions of the excellent Whiz wheel, many owners have fitted after market systems to the K.

Many more people are understandably a bit worried about cutting into the wiring of their brand new K1600, so I have laid out this document to assist those who wish to upgrade and perhaps don't know where to start.

WARNING!

Fitting this system involves cutting into your bikes wiring and may void your warranty! NO RESPONSIBILITY IS ACCEPTED FOR ANY DAMAGE CAUSED TO YOUR BIKE, YOU OR OTHERS IN THE FITTING OR USE OF THIS SYSTEM!

YOU HAVE BEEN WARNED!

Parts Required:

To begin with, I fitted an Autocom Super Pro Automatic with a bunch of Bluetooth modules to the K,(mine is the GTL, but it is exactly the same for the GT). Here's what you'll need:

- 1 X Autocom Super Pro Automatic (SPA)
- 1 X Autocom 2275 switch for bikes with car type audio.
- 2 X Autocom Wire 3a Bluetooth Headset modules if you want to go fully Bluetooth and ditch the wires. (You lose a small bit of sound quality)
- 1 X Autocom BTM-02A Bluetooth phone module, If you want a phone to work. (or 2 if your pillion wants their mobile phone to work also)
- Couple of Heavy Duty Velcro pads
- Bunch of cable ties

Tools Required:

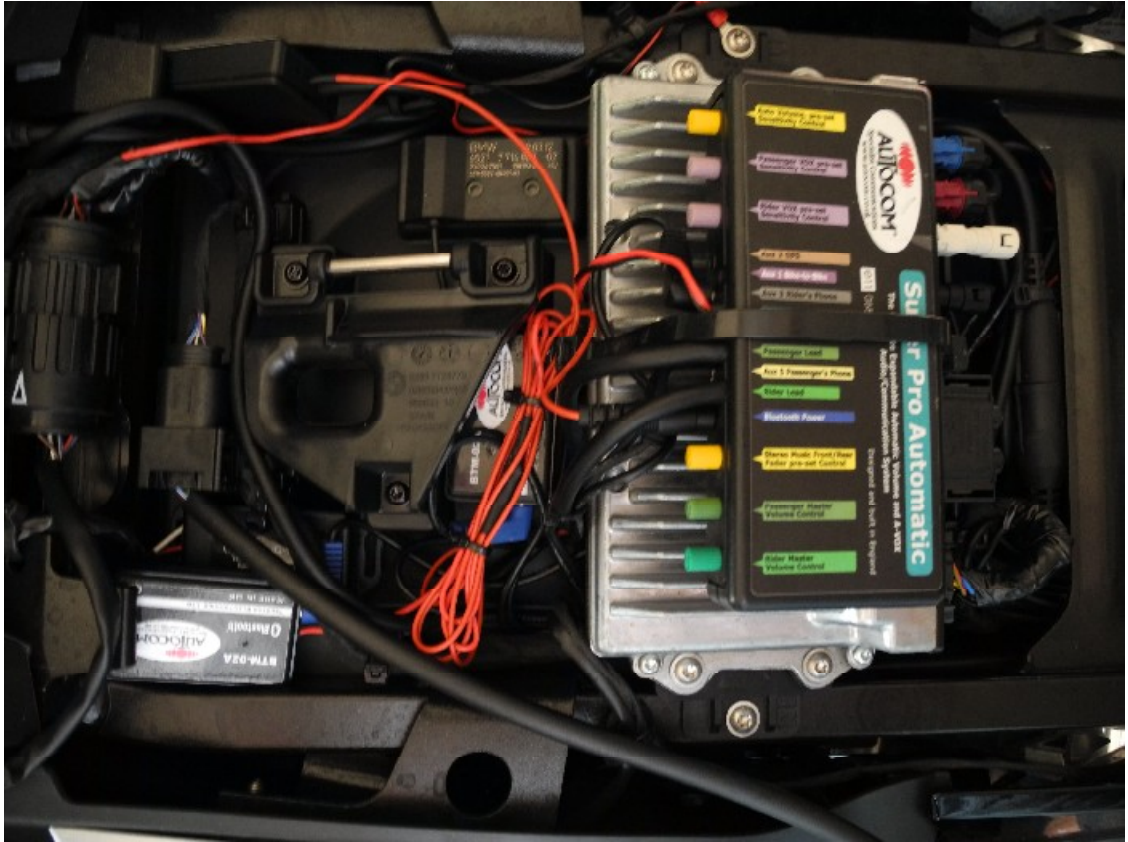
You'll need a few small tools too:

- 1 x 6.5mm drill
- Set of Torx wrenches
- Soldering iron
- Wire cutters
- Wire stripper
- Cable Shrink tube
- Bunch of small cable ties
- 7 X Positap connectors if you prefer not cutting your wires.

Locating and Fitting the Autocom SPA

The Autocom SPA unit will fit under the passenger seat on TOP of the Alpine Radio in both the GT and GTL. You can either Cable tie it or use the Velcro Pads to fix it in position..

This picture shows the almost complete system:



Fitting the 2275 Switch

Your first job will be to fit the Speaker switch to the RH panel, just under the Powerlet socket.

NOTE: You can place the switch any where you like if you wish to avoid stripping your bike. E.g. Under the drivers seat.

Fitting 2275 to the RH knee panel:

This involves removing the top RH fairing over the fuel tank and the RH panel of the fuel tank and is very easy.

1. Remove the seat
2. Remove the 2 screws on the RH side of the back of the RH tank panel.
3. Remove the screw holding the top RH fairing on the tank
4. Open the RH air scoop and remove the screw hidden behind it.
5. Gently pull the plastic air scoop panel towards the rear of the bike and remove it.
6. Remove the 2 screws behind this panel
7. Remove the Top RH tank Fairing by gently pulling it back and the lifting the back up and out from under the RH speaker module.
8. Remove the single screw holding the RH tank panel.
9. Pull the RH tank panel gently towards the rear of the bike and remove.
10. Open the iPod cover and remove the 3 fairing screws underneath.
11. Remove the lower fairing panel
12. Undo the 3 screws securing the RH fairing.
13. Undo the screws holding the RH air scoop and remove it.



You will now be able to gain access to the back of the RH knee panel where the Powerlet socket is located.

Notice the gap in the items behind this fairing where you can locate the small speaker switch and check, double check and re-check all your clearances **before** you drill.

1. Now drill a 6.5mm hole where the switch will locate and fit the switch.
2. Tighten the switch securely.
3. Run the cables from the switch behind the panel and locate the plastic box of the 2275 switch in the gap between the tank and the frame. Picture 5
4. Run the 2275 switch cables back under the plastic tank mount at the rear of the tank, (Undo the 4 torx screws and lift up slightly to allow the cables to run underneath with all the others.
5. Ensure you have enough cable slack left to link to the plug on the RH side of the Alpine radio and run the audio



jack plug cable underneath the Alpine unit to mate up with the Autocom SPA.

Once you have completed the cable runs and cable tied all the new cables in place, you can now re-fit the front fairing, tank side and top fairing panels and the air scoop and air scoop plastic panel.

The little switch is un-obtrusive and if you ever want it removed a small plastic blanking grommet will easily fill the hole.

Wiring:

Now you are down to the wiring, which is easy and consists of 2 parts.

- Link the switch to the Autocom
- Provide a switched power live for the Autocom and an Earth

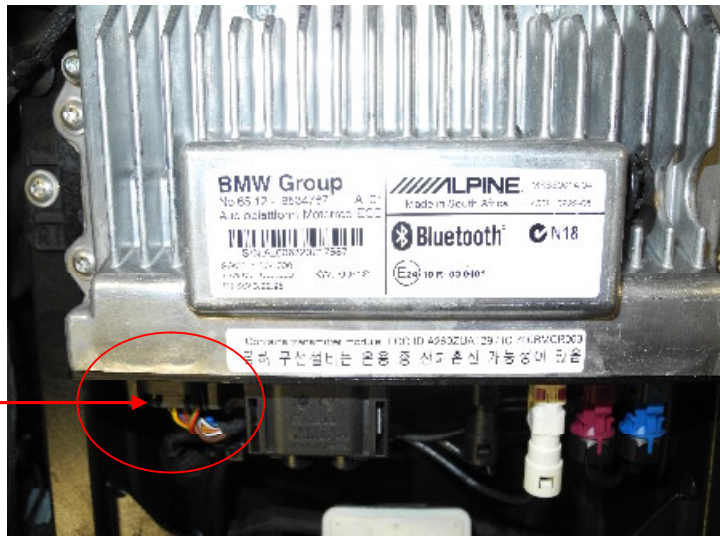
Hardest job first, is the audio link via the 2275 switch:

There are 3 cables running back from the 2275 switch.

1 cable is fitted with a 4 pole audio jack, this goes into the Autocom Stereo music input port, which is Aux 4. Just push it in and you are done.

The 2 other cables are for left and right speaker connections respectively and consist of 3 wires each. White, Red and Shield / Black

Unplug the RH plug pictured from the Alpine unit. and carefully cut back some of the black cloth tape from the wires. Plug is quite tight, so needs a good squeeze and tug.



You need to find the 2 blue wires and the 2 yellow wires as follows:

Yellow / Red Stripe = LH Speaker – (Neg)
Yellow / Brown Stripe = LH Speaker + (Pos)

Blue / Red Stripe = RH Speaker – (Neg)
Blue = RH Speaker + (Pos)

**** Colors correct time of writing, but if you are concerned, remove the speakers and check the colours there to confirm. Wires run directly from radio plug to the speakers.***

Connecting the RH speaker to the Autocom:

You can either:

Strip a section of the RH negative speaker wire (Blue / Red Stripe) and solder the white wire from the 2275 switch

OR

Use a Positap connector to connect the WHITE wire from the 2275 switch to the RH NEGATIVE speaker wire. (Blue / Red Stripe)

NEXT

CUT the Blue wire and connect the red wire to one side and solder the joint. Use shrink tube to insulate it.

Connect the Black / Shield wire to the other leg of the Blue wire and solder that joint. Shrink tube it again.

Connecting the LH speaker to the Autocom:

You can either:

Strip a section of the LH negative speaker wire (Yellow / Red Stripe) and solder the other white wire from the 2275 switch

OR

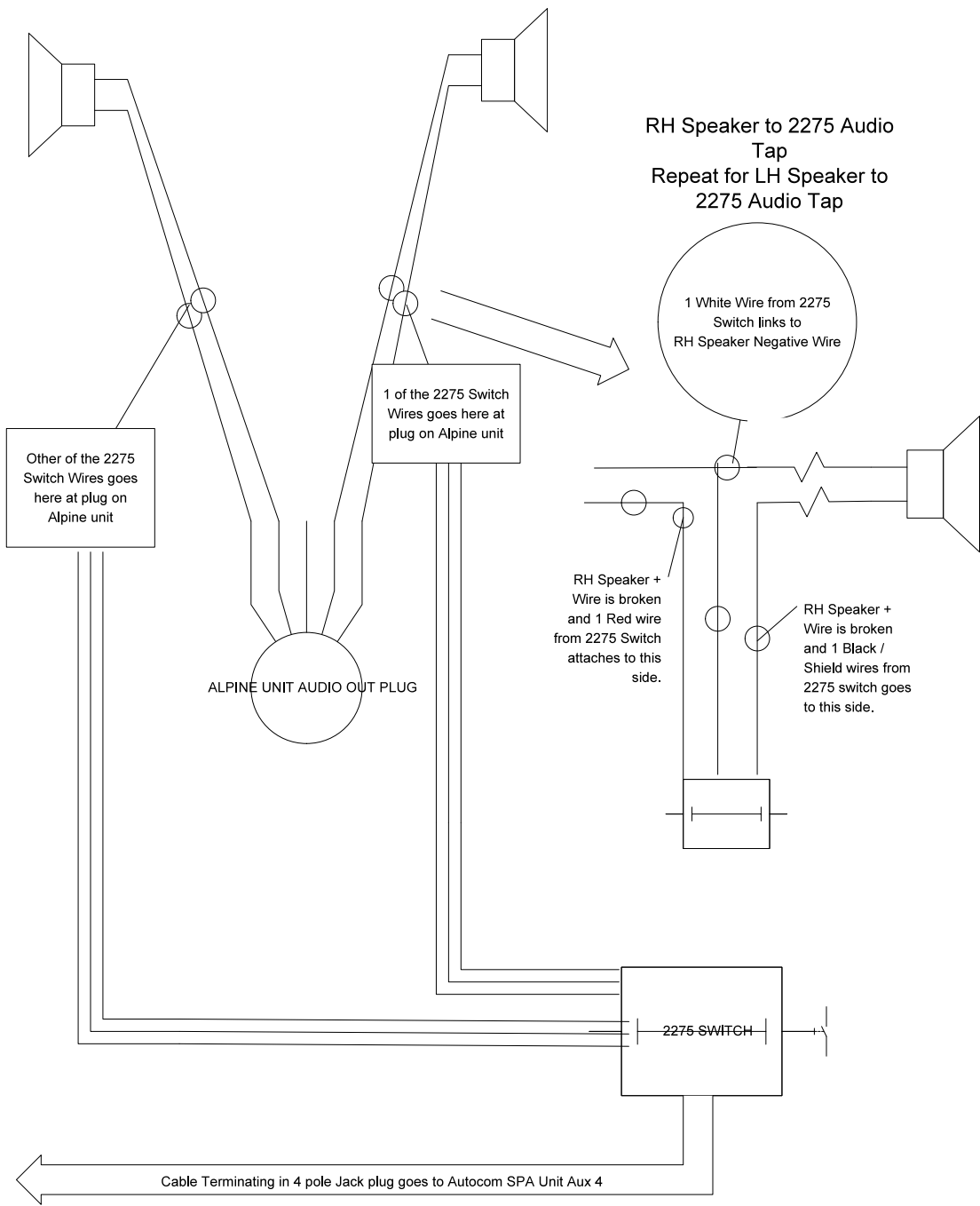
Use a Positap connector to connect the other WHITE wire from the 2275 switch to the LH NEGATIVE speaker wire. (Yellow / Red Stripe)

NEXT

CUT the Yellow / Brown Stripe wire and connect the red wire to one side and solder the joint. Use shrink tube to insulate it.

Connect the Black / Shield wire to the other leg of the Yellow / Brown Stripe wire and solder that joint. Shrink tube it again.

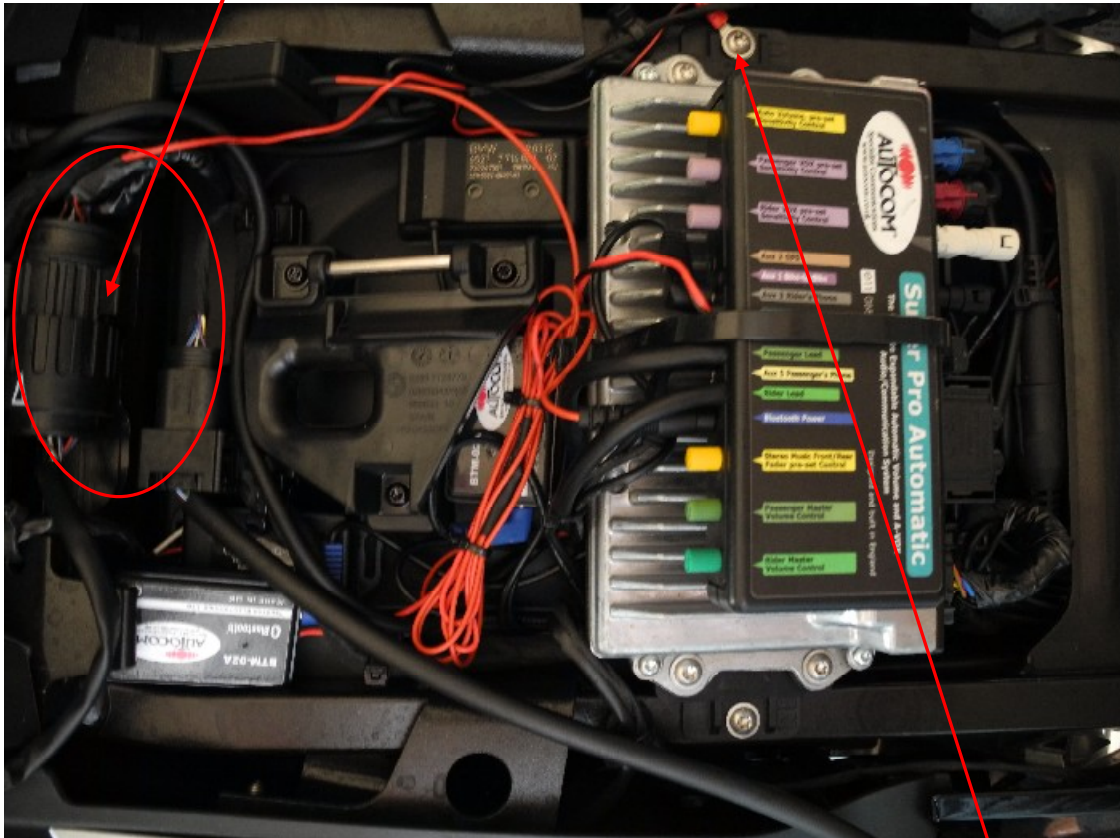
Double check your wiring with the wiring diagram below and then use black insulating tape to make good the new cables and original plug on the Alpine unit. Make it look as neat as possible, before plugging back in the plug into the Alpine unit.



Powering the Autocom.

Bring the Red positive wire from the Autocom, towards the back of the passenger seat area and locate the large round plug clipped there. If you have a GTL, this will connect the Top box to the electrics, it is just blanked off on the GT.

←----- REAR OF BIKE



Strip back a section of the cloth tape and locate the red wire in this loom.

You can either use a Positap connector here to link the red + Autocom cable to this wire, or you can strip and solder the wires together.

Next, crimp an eye ring to the negative wire from the Autocom SPA.

Undo one of the screws holding the Alpine unit to the frame and secure the negative wire here.

Now you have switched power to the autocom and have successfully tapped into the bike audio stream.

Testing the System:

Power up the bike now and turn on the stereo with the volume up slightly.

Toggle the 2275 switch one way or the other to see if you have sound coming from your speakers in one position or the other.

Plug one Autocom headset into either the passenger or rider position and hold a headset speaker up to your ear. You should hear music when the 2275 switch is in the opposite position to the position where music is coming through your speakers.

If so, all is well and all you have to do now is tidy up everything and fit whatever Bluetooth modules you need.

Bluetooth Options and Pairing:

I fitted 2 X WIRE3-A Bluetooth headset modules and 2 X BTM02-A Bluetooth GPS / Phone modules.

My Bluetooth pairing is as follows.

- Rider phone to 1 BTM02-A
- Passenger phone to other BTM02-A
- Rider Schuberth SRC Helmet paired to riders WIRE3-A Bluetooth module using the Phone button. This is AD2P stereo and phone / headset profile.
- Passenger Scala G9 paired to Passenger WIRE3-A Bluetooth module using the Phone button. This is AD2P stereo and phone / headset profile

How does it all work???

Excellently!

- Autocom provides intercom and auto mute / mixing functions.
- Scala / Schuberth provide Bike to bike comms.
- BMW Alpine provides NAV and Music to headsets, all controllable from Whiz Wheel, with master volume up and down.
- Scala provides auto gain control for music.
- Phone calls can be taken and made by both passenger and rider simultaneously.

Autocom recommend the following as you get poor quality sound if you try pairing the BTM02-A with the GPS via Bluetooth for your phone and Nav functions.

"If equipped with Navigation, prompts will play through factory stereo/Autocom (Does NOT work with a standard Zumo 660 or 665, it must be BMW Navigator IV). By default, BMW Navigator IV has Bluetooth features disabled. You will not be able to use factory GPS to manage phone functions. This must be disabled and paired with Autocom via BTM-02A"

Problems with the system:

There are no really big problems with this system, but you should be aware of the following when going this route:

Using WIRE3-A Bluetooth connections will not be quite as good as using a completely wired Autocom system.

The headset speakers in the Autocom SPA are way better than anything Scala or Schuberth use, so on that point alone there is an audible difference.

Bluetooth in the bike environment will also degrade the sound quality somewhat, but not enough to make it un-bearable.

Make sure the Scala / Schuberth headset is switched on first, then the bike.

You'll have to turn off the BMW S-Vol in the audio section and turn DOWN the Autocom Auto-Volume Pre-Set Sensitivity Control, as all three systems (BMW, Autocom, Scala / Schuberth) have auto gain control and if they are all on, you will have to use the Whiz wheel to reduce your volume every time you speed up and use it again to increase the volume when you slow down again.

You'll need to play with the VOX sensitivity a lot to get the VOX working correctly on the system. Start with MAX and work back in small increments is one way of doing it.

There is a BIG difference in volume levels between the BTM02-A phone call volume and the rest of the system. You need to play around with the Autocom Master volume controls, BMW whiz wheel volume, and Scala / Schuberth volume controls to get it any way right.

I ended up turning UP the BMW volume a good bit, REDUCING the Scala / Schuberth volume a bit and adjusting the Autocom to equalize the sound levels somewhat.

You need to have access to the WIRE3-A and BTM02-A modules so that you can pair them up with the Scala / Schuberth headsets and remember that you often have to re-set the pairing on these so you will then have to re-pair with the Autocom Bluetooth units.

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