Guide to Building the Sirius Stiletto Portable Antenna Connector Cable
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Introduction

Perhaps one of the best features of the Sirius Stiletto radio is its portability. Where the unit falls short is its internal antenna. In a situation where terrestrial repeaters are only miles away it works well, but trying to get a signal from the satellites, even outside in clear view of the sky is always a challenge.

Several alternatives exist to help this situation. Delivered with the radio are those “Antenna Headphones”. Sirius first delivered us a working version with the Stiletto 100 and 10 models. This model, whose nickname “Ear Dagger”, represented the ultimate in pain for long term listening. With the introduction of the Stiletto 2, a newer more ear friendly version was produced by Altec Lansing. All these antenna headphones added to the capabilities of the radio allowing better reception while maintaining portability.

The antenna in the Antenna Headphone improved the situation of reception, but its ability to receive a signal still falls short of the capabilities of the standard antennas available from the Home Kit or Vehicle Kit. Furthermore, there is no way to connect these standard antennas without the use of a dock of some kind. Even with the dock, we lose the ability to remain portable as each of the docks requires a 12 or 120 volt source of electricity.

Early in 2007, a Sirius Backstage forum member jasoncardenas21 posted a thread titled ***Stiletto Antenna Adapter***. This was the start of a quest to find a way to enable the Stiletto radio to connect directly into a standard antenna maintaining its portability by connecting it directly to the bottom of the radio.

During the weeks that followed the original post many members of the forum tried different ways to connect the radio directly to the SMB plug of the standard antenna. During these trials, it was discovered that no matter what we did, without power connected to the existing docks, the Stiletto receiver would not receive a signal from the Satellites. It was only after VDCHawk and DaJoker began taking apart the connector did they figure out that the magic was in the connector.

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Apparently the connector itself has a switch of some kind that is triggered by a latching resister to disable the use of the internal antenna and allow the connection of an external antenna.

Several working prototypes were made all based on the removal of the Antenna Headphone connector and splicing it to a standard SMB jack connector. Some connected the SMB wires directly to the circuit board of the headphone connector; other approaches spliced the coax wire of the two different cables. Some of the prototypes utilized both the Antenna connector and the earphone adapter. Others just connected the connector to an Antenna SMB connector.

Based on my prototype, I decided to tackle a project to build a dozen cables for members of the forum. Hoping to get a break on parts we found a source for the SMB pigtails from Tech Tool Supply⁴. Normally the pigtails were over $20 each but Brent Hagood from Tech Tool Supply cut the forum a break and gave it to us at a discounted rate of $11.89. He even joined the forum and had a post or two. Here is the link to the special SBS rate⁵

The project was a success but was slow to complete as we had lots of people who wanted to join in, but it ended up taking about 4 months to get all those parties involved to send in their cables and $$$.


The end result is we built a dozen cables for the group and learned that the task was not as easy as it looks.

Over the course of the year since the original project, I receive requests from time to time to build others which I regret; I turn down due to time constraints. The one thing that I never did was document the details of how to put together this cable. The objective of this document is to describe in detail the construction of a working connector that can be used. This document will detail the construction of the Portable Antenna Connector. I will show you in a step by step fashion the details and hints on how I constructed it in hopes that others may benefit from our experience.

**Tools Needed**

<table>
<thead>
<tr>
<th>Tool</th>
<th>Usage Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soldering Iron</td>
<td>Any fine pointed soldering iron should work that is for soldering electronic components. The pencil type normally works best. You can get these at your local Radio Shack.</td>
</tr>
<tr>
<td>Single Edge Razor Blade</td>
<td>I’m not sure if I call this a tool or a part. I used this to slice open the coax outside covering. It can also be used to for stripping the wires should your wire stripper not go small enough. You can get these at any hardware store or drugstore.</td>
</tr>
<tr>
<td>Wire Stripper</td>
<td>Depending on the size of your wires may depend on what type of stripper you get. If you are very careful you might be able to get away without using the wire strippers and use diagonal side cutters to strip the wires. Radio Shack is the place to find this.</td>
</tr>
<tr>
<td>Diagonal Side Cutters or Scissors</td>
<td>These cutters or Scissors are used to cut the wires. Radio Shack is the place to get this tool.</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; Hand Tool</td>
<td>A must unless you have a friend with a steady hand to hold the wires while you solder them. Sometimes one is not enough as in my case, I was trying to take pictures and needed another hand to hold the camera. Radio Shack is the place to find these.</td>
</tr>
<tr>
<td>Tool</td>
<td>Usage Notes</td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Heat Gun or High Power Hair Dryer</td>
<td>The heat shrink tubing will shrink easily with a heat gun or Hair dryer. Make sure yours has a nozzle that is fairly small so that the direction can be pointed narrowly. If you are not careful you can shrink the tubing of parts that you are not pointing too! You can find these at Lowes or Home Depot. Or use a Hair dryer that you can get at Wal-Mart.</td>
</tr>
</tbody>
</table>
## Parts Needed

<table>
<thead>
<tr>
<th><strong>Part</strong></th>
<th><strong>Notes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Portion of Stiletto Headphone Antenna – You cannot buy just the connector you have to buy the whole Antenna Headphone set.</td>
<td>Make sure you use the connector that comes with the Antenna Headphones. The connector with the USB adapter will not work. The only known way to purchase these are through Ebay, TSS-Radio or the Sirius Store at Sirius.com</td>
</tr>
</tbody>
</table>
|                                                                        | TSS - Part number: AntHeadPhone[^6]  
Sirius.Com Model#: AHP202SIR[^7]                                                                                           |
| SMB Jack (Male) connector Pigtail                                        | There have been two sources for this pigtail.  
Tech Tool Supply[^8]  
Test Parts[^9]                                                                                                      |
| Solder (Rosin Core)                                                     | You really don’t need much buy the smallest tube you can. Radio Shack sells this.                                                                                                                      |
| Shrink Tubing (Various Sizes)                                           | One package of the Radio Shack 278-1627B contains One Each ½ x6”, 3/8 X 6, Two each: 1/4x6”,1/16 x6”, Four each: 1/8x6”                                                                                   |

[^9]: [http://cgi.ebay.com/05-00163-Twin-SMB-Coax-Cable-Coaxial-Jumper-Sirrus-XM_W0QQitemZ180097588443QQihZ008QQcategoryZ1504QQtcZphotoQQcmdZViewItemQQ_trksidZp1713.m153.l1262](http://cgi.ebay.com/05-00163-Twin-SMB-Coax-Cable-Coaxial-Jumper-Sirrus-XM_W0QQitemZ180097588443QQihZ008QQcategoryZ1504QQtcZphotoQQcmdZViewItemQQ_trksidZp1713.m153.l1262)
Step by Step Assembly Instructions

This step by step guide will take you though the preparation, construction and testing of building the cable. Depending on your level of skill, this may be easy or difficult to solder, strip wires and shrink the tubing on the connector. In any case, I’ll try to err on the side of beginner for those that are new to these tasks. Planning, keeping your work area clean and organized are key to making a good connector and having a successful project.

Step 1. Preparing the SMB Connector

First we need to prepare the SMB Connector. Depending on your source for the SMB pigtails you may have to disassemble an old cable and cut it to the proper length to work in our cable. Before we get into the preparation tasks, we should visit the connector itself.

There is much confusion over the gender of the SMB connector. The antenna that comes with the Home Kit and Vehicle kit is the SMB Plug or the female contact. This means we need to get a pigtail with the Male or Jack connection. Also some of you might be confused by the term “Pigtail” What this means is that the connector comes attached to a piece of coaxial cable. The reason this is important is that special tools are necessary to crimp this connector to the cable. You could spend 100-200 dollars getting these tools. In our connector we will be connecting or splicing two pieces of coaxial cable together. We won’t have to worry about the assembly and crimping of the actual connector.

First let’s look at a piece of coax cable.

There are basically 4 parts to the cable; the outside covering, a braided shield, an insulator or dielectric and a center conductor. It will be important to understand these parts as we will need to insure during our splicing of the cables we electrically connect...
the center conductor and the braided shield. In addition, we want to insure that the center connector still remains isolated from the braid and the entire center dielectric be covered by the braid. Finally we need to insure that the connections are electrically connected and physically connected to insure the wire will not break due to normal use.

In this example I will start off with the cable that was bought from eBay. What I purchased was a “05-00163 Twin SMB Coax Cable Coaxial Jumper Sirius XM”. Here is the picture as I received it.

The package actually contains two connectors of both male and female SMB connectors. Due to the confusion of the JACK vs PLUG terminology, I decided to buy this one as it had both genders.

If you purchase this connector as your source of the pigtail, you will need to take apart the cable and cut off the pigtail to the proper size.

Here is what you need to do:

Open up the package and remove the cable. Lay out the cable and make sure you understand which side you will need. You want the side which has the Male or Jack side of the connector.

This is the Jack or Male side of the connector.
Next you need to separate the two cables removing one pigtail. You will need to cut the outer sheath (gray plastic covering) and remove the inner braid.

The easiest way to do this is to use a single edge razor blade and score down along the sheath. You don’t need to go very deep just be careful not to cut any of the interior wires. Below and in-between this wire you see a silver braid wire. The entire wire is 24 inches we only need to slice 6-8 inches down. Once you score the sheath just use your fingers to pull it apart.
Once the outer sheath is pulled down, you then can slide down the inner metal braid. It is a loose mesh braid that you should be able to slide down giving you 6 or so inches of cable. Now pull one of the two cables and measure down about 4 inches. The size of the pigtail you need should be at least this long to give you enough room to work with.

Cut the wire at the 4 inch mark. You can first take a pen or sharpie and mark the cable to remember where to cut it. You can use your scissors or your pair of diagonal side cutters to cut this off. It should cut very easily as the wire inside is all very small in diameter.

Lay out the piece on the table like the picture below:

We want to measure from the end of the wire about 1 ½ inches. This is the point where we want to strip the outer sheath of the coax.
At this point you may want to practice stripping the wire. Feel free to cut off another piece of wire from the cable that you removed the pigtail from. Use the extra piece to practice stripping the wire before you destroy your SMB pigtail.

To use the wire strippers you first need to find the size of the wire you are stripping. Wire is measured by its AWG\textsuperscript{10} wire size. Care must be followed to insure you cut the outer sheath while leaving the inner braid untouched. Even the slightest touch of the blade can cause the braid to be cut. Sometimes it makes sense to slightly undercut the plastic cover of the wire and allow the last piece of plastic to snap off when you pull the covering off. Many people think that a nick on the wire will not be a problem. The problem is that the nick may not completely break the wire, but after some use, the weakened wire will eventually break after wear and then short out the connection.

The outer sheath of the SMB pigtail for me was 16 gauge. Use your wire cutters to cut the outer sheath at the 1 ½ inch mark you made on the pigtail. Don’t worry if you cannot pull off the entire piece of covering. As long as you splice it enough and separate it will work for now. What you can do is take the single edge razor blade and slice down the covering again being careful not to touch the braid. Once you open it up you can usually pull off the piece.

\textsuperscript{10} \textbf{AWG (American Wire Gauge)}

AWG numbers follow a mathematical formulation devised by Brown and Sharpe in 1855. The AWG designation corresponds to the number of steps by which the wire is drawn. (18 AWG is smaller than 10 AWG, therefore is drawn more times to obtain a smaller cross sectional area.) According to the “Standard Handbook for Electrical Engineers” (Fink and Beaty) ‘gauge’ is the American Wire Gauge also known as the Brown & Sharpe gauge, which is the standard for which American engineers adhere. AWG began at 4/0 wire with a diameter of 0.46" and the next lower wire size was derived by multiplying the diameter by 0.890526. These then became tabulated into what we today call the AWG; ranging down to 40 gauge wire at 0.003" in diameter.
This completes the prep work for the SMB pigtail. For now put the pigtail aside until we are ready to attach it to the antenna headphone connector.

**Step 2. Preparing the Headphone Antenna Connector**

In the parts list, we list the Sirius Headphone Antenna connector as the part we need. The problem is you cannot get just the connector. You have to buy the entire headset. There currently are two varieties of them. The older one that came with the SL100/SL10 Stiletto’s and the newer padded SL2 Stiletto antenna headset made for Sirius by Altec Lansing.

![Headphone Connector](image1)

Many people tried using the other similar connector that has a USB connector on the cable. The connector on the USB cable is different and will not work for this application. Looking closely at the connectors you can see why.

![Connectors Comparison](image2)

Physically the connectors are same, but looking at the gold pins in the connector you will see pins located at different positions.

To prepare to use the antenna headphone connector we first must remove it from the headphones. Start off by laying out the cable and measuring about 10 inches from the connector. Mark this and with your scissors cut the cable at this point.

![Scissors Cutting Cable](image3)
Tape the wire down on a piece of paper. Mark 2 inches from the cut end of the cable.

Using the single edge razor blade, score the top of the outside sheath of the wire.

Again, be careful not to press too hard. Just slice down cutting the top of the plastic.

Once you score the wire, grab the coax braid wire and pull it upward against the score. It should pull out.

With your fingers, open up the sheath and look for a red and black wire pull these wires out of the sheath as well. Cut off the plastic sheath leaving the coax and red and black wires exposed.

Those black and red wires are actually the wires used for the headphones. On this project we will not be using these wires. We will be capping off these wires and we will want to make sure that these wires don’t short out anything in the cable. In order to help prevent them from shorting out we will want to cut them to different lengths. Cut the black wire at ¼ inch and the red wire at ½ inch marks.
At this point we have completed the preparation of the antenna connector. Put this to the side until we are ready to connect the SMB pigtail.

**Step 3. Preparing the Shrink Tubing**

Shrink tubing provides two important roles in this project. First it prevents any wires from shorting out. Second it strengthens the splices and provides for a more secure cable. One thing about shrink tubing, you only get one chance to get it right. Experience has told me that you have to plan out your cables. Making sure all the pieces are in place prior to putting things together.

We need shrink tubing to cover the entire splice; we need it to provide a covering over the center connector and to provide insulation between the center and the braid. Additionally we want to insure that the earphone cables are capped so they don’t short out to the braid or the center connector or each other. To do this, we will need several pieces of tubing of several sizes.

The Radio Shack Heat-Shrink Tubing (278-1627) shrink tubing kit provides us these pieces. In this connector, for the splice you will need several different sizes 1/16” 1/8” and 1/4”

For this splice you will need the following pieces:

<table>
<thead>
<tr>
<th>QTY</th>
<th>Length</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6 inch</td>
<td>1/4 inch</td>
</tr>
<tr>
<td>1</td>
<td>4 inch</td>
<td>1/8 inch</td>
</tr>
<tr>
<td>1</td>
<td>2 inch</td>
<td>1/8 inch</td>
</tr>
<tr>
<td>3</td>
<td>1 inch</td>
<td>1/16 inch</td>
</tr>
</tbody>
</table>

Use scissors to cut these pieces.
Step 4. Assembling the Shrink Tubing

Before you solder the spice you need to assemble the shrink tubing onto the cable.

Assemble the shrink tubing in the following order:
   A- Slide 6 inch 1/4 inch wide piece first onto antenna connector cable.
   B- Slide 4 inch 1/8 inch wide piece into the ¼ inch wide piece leaving enough sticking out slightly to be able to grab it.
   C- Place the 2 inch 1/8 wide piece on to the SMB pigtail.

Now slide 2 of the 1 inch 1/16th Inch wide pieces onto the red and black wires. Make sure you place the shrink tubing in such a way that the end of the wire is in the middle of the shrink tube. In this way you will insure that the end of the wire is protected from shorting out to the braid.
**Step 5. Shrinking the Tubing on the headphone wires**

Our first actual use of the heat gun should be to shrink the two pieces of shrink tubing covering the red and black headphone wires. Carefully aim the hot air on the two pieces of shrink tubing being careful not to blow hot air on the larger pieces of shrink tubing further up the antenna connector wire. The idea here is to allow it to shrink onto the wire to keep it from shorting out. It should take no more than 5-10 seconds to make the tubing shrink. It normally reduces to ½ its size in thickness and does not seem to shrink too much lengthwise only slightly reducing the length. After it shrinks remove the heat. Be careful when you go to touch the tube as it is HOT and you can burn your fingers. Make sure it is secure on the end of the wire and does not come off. We will be covering over these pieces with another layer of shrink tubing so don’t pull too hard as it will come loose. Just make sure it has shrunk down and the wire is properly in the middle of the shrink tube.

**Step 6. Preparing to Solder the Center Connection**

What comes next is splicing of the center connection. We will have to first prepare the center connector for soldering. We will want to first push the braid covering both the antenna connector cable and the SMB pigtail as far from the end as possible.

If you grab it and push it, it will expand and you will be able to push it as far as possible towards the other end of the cable.
THIS NEXT STEP IS IMPORTANT PLEASE READ CAREFULLY!

What we have to do now is strip off each end of the insulator covering the center connector. In addition we will want to reduce the overall length of the center connector by about an inch. ½ inch on each side. This is done so that when we pull the braid back over the splice the two braids will be able to overlap each other.

In my case the center connector wire size was a 26. In some cases your wire strippers will not go that small. If you are careful you can use the single edge razor blade to cut the insulator covering over the center wire. The center wire on my cable was fine stranded wires. In some cases yours may be a solid copper wire. Whatever it is be careful you don’t cut the wire and only cut the insulation. Again you can use a piece of scrap wire to practice stripping and to check the wire size.

If your center connector is stranded wire, take your fingers now and twist the strands in a clockwise manner in such a way to make all the strands wrap together.

Step 7. Put on the Last of the Shrink Tubing

After the center conductors are stripped, slide the last one inch long, 1/16 inch wide piece of shrink tube over the Antenna connector side of the splice. Use the alligator clamps on your 3rd hand tool to hold this piece of tubing against the insulation of the center conductor.

Step 8. Tinning the Center Connector

In order to make a proper solder connection we will need to “Tin” the center connection. Tinning is coating the surface of the wire with a uniform layer of solder, before it is used in a soldered connection. This makes sure the solder will flow evenly when applied to each side of the wires that are being spliced.
Typically we will first tin the entire stripped piece of wire, then at that point cut it down to shorten the overall length of the center connection. In this way the braid that was originally covering the center connector will be longer and will be able to overlap when spliced together with both the Antenna Headphone connector and the SMB Pigtail connector.

To tin the wire, first make sure your soldering iron is hot and clean by melting a bit of solder onto the tip and with a wet rag wipe the tip of your soldering iron. It should leave the tip with a bright and shiny coating of solder. Wipe the tip quickly. You will hear the wet rag sizzle with the hot iron. Make sure you do this quickly as not to get burned. Some soldering stations have a reservoir that holds a wet sponge to allow you to wipe your iron tip.

Now take the tip of the iron and heat the wire for a few seconds. With your other hand, carefully take some rosin core solder, placing it where the iron and the wire meet, melt enough solder to allow it to flow down the length of the stripped wire.

After it melts, quickly pull away the soldering iron. You do not want to keep it too long onto the wire as it will get too hot and melt the insulation of the wire that has not been stripped off. The solder should look bright and shiny. If a “Blob” remains on the wire just re-heat the blob of solder with the iron. It should melt onto the iron where it can be wiped off. Use very little solder, only enough to coat the wire.

Repeat this for both the Antenna headphone center connector and the SMB pigtail side of the connector. Once each side of the connector is tinned use your diagonal side cutters to trim the tinned wire to about 1/8th of an inch on each side.

**Step 9. Soldering the Center Connector**

Now that the center connector is properly tinned, we need to use our 3rd hand tool to make sure the wire are properly aligned and in position to solder. Soldering normally requires two hands, one holding the soldering iron and the other holding the solder. The 3rd hand tool allows you to work with a steady hand. You can always get a friend to hold the wires, but the risk is, that the wires get HOT! And holding a hot iron in close proximity to your fingers is a burn waiting to happen. OUCH!

Use the 3rd hand tool to hold the two wires. Position it such that the tinned tips are touching one on top of the other. Now with the soldering iron, gently place the tip on the behind the two wires heating them up. Take
some solder and flow it on top allowing a bead to flow between and on top of the wires. Again, make sure the solder joint is shiny and not too protruding as we don’t want the joint to look too ugly! Be careful where you point the tip of the soldering iron. Make sure the piece of shrink tubing stays far away from where you are soldering. Any heat from the soldering iron might accidently shrink the tubing.

A shiny solder joint is a good joint. A dark dull one often is referred to as a “Cold Solder Joint”. Cold solder joints often occur if movement occurs while the solder has not cooled or insufficient heat is applied due to the soldering iron being applied to the solder and not the wire. When this happens the solder is brittle and is not making a good electrical connection. Typically just re-applying heat to the joint corrects this situation. If for some reason the solder will not stick, or it is not making good connection, the trouble can be traced to dirty wires. If coax wire has been weathered a great deal and the center conductor has oxidized, turned green, it probably means that it needs to be cleaned. Taking some fine emery cloth cleaning it will again make a good connection.

**Step 10. Shrink the Tubing on the Center Connector**

The center connector has been soldered and its time to slide down the 1/16th 1 inch tubing down over the area where you soldered. Make sure the solder joint is cool as the heat would start shrinking the tubing prior to it being put into position.

You want to position it such that it completely covers the solder joint. You also want to insure that it covers all the bare wire. This piece of shrink tube will be the new insulator separating the braid from the center connector.

Once in position, use your heat gun to shrink it down again being careful to aim at just this piece of shrink tube. Remember again once shrunk, quickly remove the heat as too much heat can unsolder the joint and melt the other insulation of the center conductor.
Step 11. **Unwrap the Braid**

Using your fingers gently push each braid back over the now shrunken tubing covering up the center solder joint. Typically the braid for the Antenna headphones is smaller than that of the SMB connector pigtail. Hopefully you cut the center connectors short enough to allow enough braid to overlap. It is very important that the braid cover the center connection completely. Try to get the braid back as tight as possible and make sure all the little wires are nicely flattened down around the wire.

Now with the braid firmly interwoven again, place your soldering iron against it and quickly flow down some solder between the braids of both wires. Make sure all sides of the wire get soldered. Be careful to put your soldering iron on the braid and not push it down into the internal shrink tubing and melt a hole. The solder normally flows nicely between the weave of the braid. You probably need to remove the wire from the 3rd hand to be able to solder both sides. Be careful you don’t allow the soldering iron to get too close to the shrink tubing you have pushed back on your braid.
Step 12. Shrink the Braid Tubing

We want to now move over the shorter 1/8 inch wide 2 inch long tubing that you had positioned on the SMB connector on to and centered over the soldered braid. Using the previous techniques, shrink down this tubing as shown below.

Now we want to repeat this procedure moving over the longer 1/8 wide 4 inch tubing that was positioned on the antenna connector inside the 6 inch tubing. Position this tubing such that it goes over the last tubing you shrunk and move it all the way such that it goes onto the outer insulation of the SMB connector cable as shown. It should also cover up the two capped off red and black wires. Shrink down this 4 inch tube in the same way as previously done.
**Step 13. Final Covering of Shrink Tubing**

Our final construction step will be to slide over the largest 6 inch ¼ inch wide tubing over the entire splice. In this case to make it look neater slide it over the tubing that has been shrunk around the SMB connector. This outer covering will hide all the pieces below and add strength to your connector.

![Image of the finished cable](image1)

Finally our cable is complete. Well done!
**Step 14. Testing your Connector**

You will want to test out your newly built connector. You will want to check for loose connections and to make sure it works. Here is a simple test case to run to check it out with.

<table>
<thead>
<tr>
<th>Test Number</th>
<th>Test Name</th>
<th>Test Description</th>
<th>Expected Results</th>
<th>Pass/Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reception Bar Level Test</td>
<td>Connect the SMB connector to an antenna and the Antenna headphone connector to the base of the Stiletto. Turn the unit on.</td>
<td>From the Main Menu screen expect 2-3 bars.</td>
<td>PASS</td>
</tr>
<tr>
<td>2</td>
<td>Reception Antenna Aiming Test</td>
<td>With the Stiletto connected to the antenna go to your Antenna Aiming screen. Settings -&gt; Device -&gt; Antenna Aiming.</td>
<td>The antenna Aiming Horizontal bar should be 3/4 to 100% filled in.</td>
<td>PASS</td>
</tr>
<tr>
<td>3</td>
<td>Loose Connection Test</td>
<td>While the stiletto is connected to the antenna, tune to a station and listen to music. Carefully straighten out the cable pulling on each end until it is straight. Wait 15 seconds. Now bend the cable in an S pattern wait 15 Seconds. Now bend the cable in a U pattern and wait 15 seconds. Bend the wire in an O pattern and wait 15 seconds</td>
<td>Sound should remain on the entire time. Pausing will give buffer a chance to clear. No message “Acquiring Signal” present. Consistent 2-3 bars showing on screen.</td>
<td>PASS</td>
</tr>
<tr>
<td>4</td>
<td>Loose Connection Test (COLD)</td>
<td>Repeat test 3 after connector has been in the freezer for 15 minutes.</td>
<td>Same as above</td>
<td>PASS</td>
</tr>
</tbody>
</table>
What’s Next?

You’ve just completed your project and you should give yourself a pat on the back. You will now find yourself thinking: *What can I do with this cable now?* In my case, there have been lots of opportunities to use it. I’ve used it in rental cars where I carry an extra dot micro antenna to lay out on the dashboard. I’ve used it in airplanes where a home dock antenna is slid under the window shade. Probably the most fun I’ve had with it was right under my hat; where I connect it to a dot micro antenna to give me a superb clear sound for my walks in the park. Have fun with your new cable!