

Some Stuff I Learned About Expensive Switches:

As some of you know, I was a member of the RCN for many years back in the 60's. I was a Radioman and attended my schooling at HMCS Naden Communications School. It was an intense course that taught radio theory, propagation, electronics, communications techniques and protocols and, of course, Morse code. One of the things told to us when we joined was that all the school learning was just that, school learning. The real stuff we were to learn was while serving aboard ship or at a naval radio station. I never had the opportunity to serve at a shore station but sure got lots of sea time. It was exciting and I learned fast and gained experience quickly. I did what every sailor did in terms of seeing the world by sailing the seven seas. I only got to see a few of them and mostly on the Pacific Ocean.

While aboard the destroyers I served on, I learned an important lesson. Switches fail and are not very convenient when you have a bunch of equipment and a bunch of antennas that you would like to use on any of the transceivers or receivers you own. In the navy we used patch panels so that any one piece of equipment could be connected to any antenna or amplifier etc. You see the point. Imagine for a moment that you have 5 HF radios and you have 4 HF antennas. How would you interconnect them so that you can listen on one receiver on one antenna and transmit on another radio with a different antenna or interchangeably connect them any way you wish with switches? You can see the problem can't you? What happens

when you put an antenna tuner in the mix or a stand alone SWR bridge? The switching becomes cumbersome and often mistakes are made that could be catastrophic. The jumble of wires in the back of your shelf becomes a rats nest especially if you are lazy and don't label the cables correctly or at all. Yes, there is a better way.



I was at a flea market many years ago and found a bunch of these things...

These are high quality Amphenol BNC to BNC bulkhead connectors. I think new Amphenol ones go for about \$16 each. Chinese versions sell for much less than that. I found some surplus ones in sufficient quantity to build a patch panel for about a buck each. They needed some cleaning but they were all there with the fibre washers and nuts and worked perfectly for what I was going to do. By the way, you can buy Chinese ones on Amazon here....

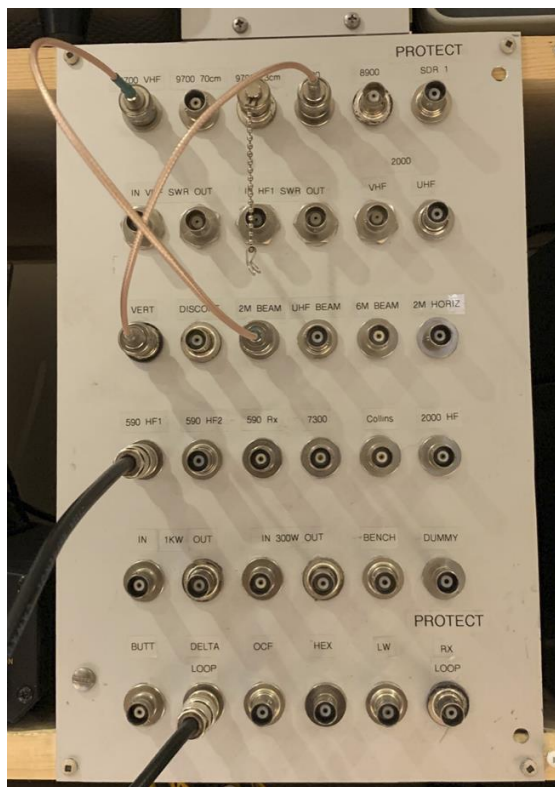
https://www.amazon.ca/10pcs-Adapter-Female-Bulkhead-Connector/dp/B07ZC9Z1BK/ref=sr_1_26?dchild=1&keywords=bnc+to+bnc+bulkhead+connector&qid=1629476499&sr=8-26

They will handle up to 1000 watts of power and are good to 4 GHz so they can be used for most anything you want. Of course, you will have to make up a bunch of jumpers but that's easy too. By the way if you want to use some other type of

connector, go for it. I used BNC because they are easy to find and are relatively cheap and easy to work with.

Finding all those parts was a sweet find and one where you exclaim "START THE CAR - START THE CAR". I've had a few of those scoops in my life and they always make you feel good. I'll tell you about a box of 800 silver mica capacitors some day that will make you cry.

Anyway, I built a complete patch panel shortly after that and here is what it looks like...



As you can see there are 36 connectors installed on to a piece of aluminum sheet. Each one is a feedthrough connection so every piece of equipment that I use on VHF/UHF is on the top row followed by other equipment below it and below that is the antenna lineup for the upper bands. All the antennae's connections use a short jumper that comes from my home brew window feedthrough box. The cables are all labeled and the correct length and then attached to

the back of the panel and are bundled with tie wraps. The same thing is done for the HF side of things. As you can see on the 4th row from the top, my Kenwood TS-590S is connected to the first three connectors on the left. Then the IC-7300, the Collins

S-Line and finally my Kenwood TS-2000 HF. I've had to move a few things around out of sequence like the TS-2000 VHF and UHF connections are below the top row, but if you label things correctly in the back it all works well. As you can see, I have connected an SDR at the top right which I clearly mark to stay protected as I do at the bottom right for the MFJ-1886 loop antenna see that I don't inadvertently connect it to any transmitter instead of the RX input to the TS-590S. I also included a ground connection that goes to my ground plate. You can also ground all your connectors by using grounding caps like the one you see on the top row in the event you want to protect your equipment from static discharge during electrical storms.

So, it's a simple project that anyone can build easily if you take the time to find the parts. It provides you with maximum flexibility when it comes to which antenna you want to use on which radio without spending hundreds of dollars on switches and confusion. If you want to use something, simply connect the radio of choice to the antenna of choice and away you go. Can mistakes happen? Absolutely, but the chance of that is reduced if you keep your wits about you and double check that you are doing it right. By the way connecting all the antennas to different transceivers is possible, but in order to protect the front ends, I don't recommend it especially if you run any power.

Have fun building this simple project.

73

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