

WebSDR Antenna system.

The antenna for the VHF and UHF websdr's is a Diamond dual band colinear at about 40m up the tower, this is connected to a diplexer mounted on the tower beneath the antenna is a waterproof housing which also contains the separate bandpass filters and tower mounted amplifiers for each band.

The outputs from the amplifiers are then fed down the tower cable tray with very low loss double screened satellite coax distribution cable into the SDR cabin.

The 70MHz receiver is connected to a folded dipole at about 25m, fed with LDF-250 cable.

The HF antenna is effectively a double size G5RV, in that it is 204 foot of wire strung between the two towers, at about 30m one end and 10m the other end.

It is fed in the center with around 70 feet of home made open wire feeder, at the end of the feeder is a current choke balun which then connects to around 100 foot of RG214 coax into the SDR room.

We used to use it for our radio club top band net so it is actually resonant on 1940khz.

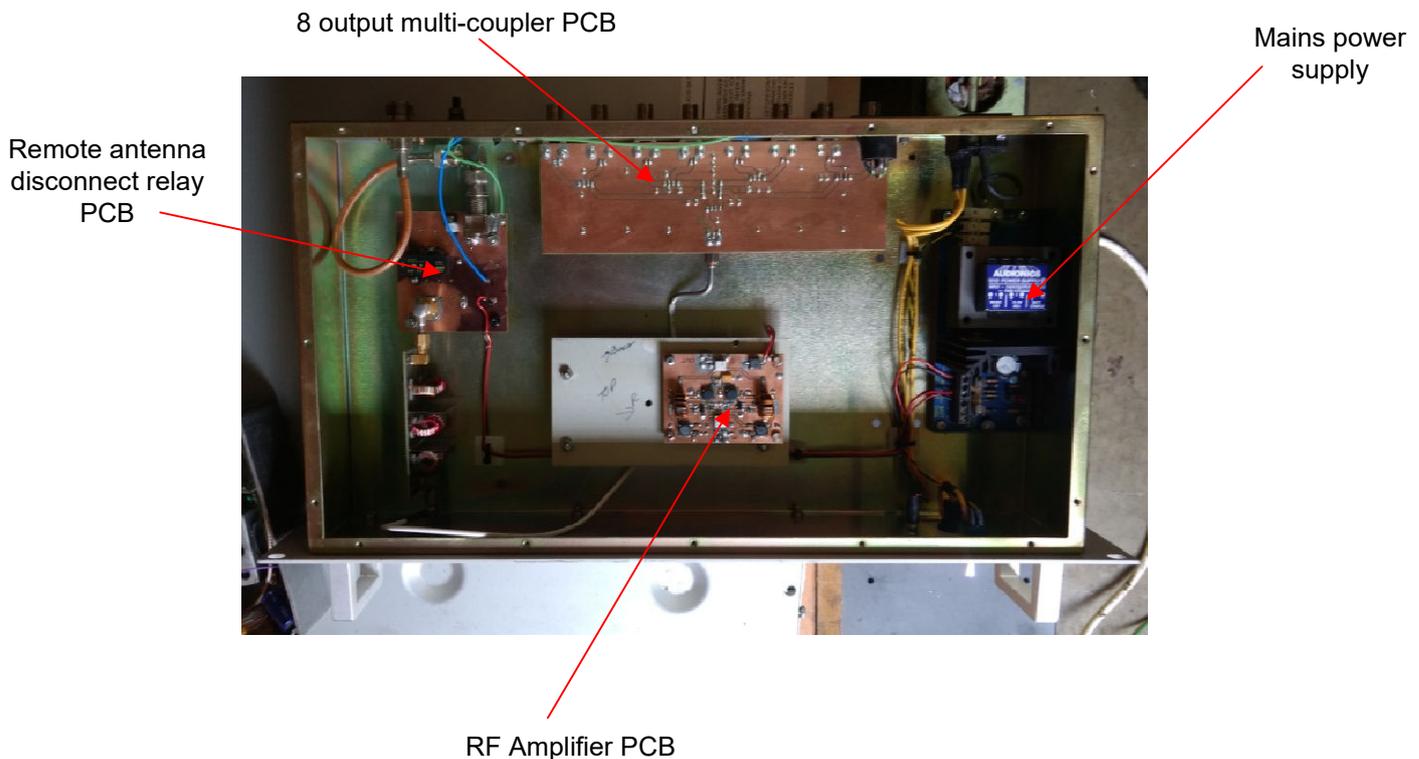
Inside the SDR cabin, the HF antenna is connected to a 30mhz low pass filter (we put that in as Classic FM on 101 Mhz is around -45dBm off the antenna!), the low pass filter has a very sharp cut off so does a superb job of removing the FM broadcast stuff.

Following the filter is a custom made distribution system, consisting of a low noise amplifier feeding an 8 output multi-coupler designed and built by G7CKX, this gives just enough gain to overcome the loss of the splitter and lots of isolation between the 8 ports, there is also a remote antenna disconnect / ground unit which we can control over the internet to disconnect the antenna without visiting site should there be a thunderstorm or to protect the system from local RF transmission.

The amplifier is simply to overcome the loss off the splitters, effectively throughout the system, there is no gain, we feed the 160m, the 80m, the 60m, the 40m, the 20m and the 10m receivers from the amp / splitter system.

The 10m receiver although located in the VHF / UHF receiver tray is fed from a spare output on the HF SDR antenna multi-coupler.

A picture of the multicoupler / amplifier is shown below.



RF amplifier and multi-coupler