

**WACQ 98.5**  
**Marti Receiver & STL Antenna Realignment**  
**and Translater Broadcast Startup**  
**February 14, 2019**

**Marti Studio-to-Transmitter Link (STL) receiver front-end realigned and associated antenna realigned for maximum signal quality.**  
**Station programming began audibly broadcasting on this 98.5 MHz Low Power F.M. (LPFM) frequency at approximately 12:55 p.m. this date.**



Figures 1 and 2: Arrived at transmitter/tower site at approximately 12:00 p.m. On arrival, noted Marti unit was connected to antenna, but the receiver's squelch was not opening and no signal was being passed from the STL receiver to the station's transmitter. Removed receiver from rack and tested with IFR service monitor. A test signal of -89.2 dBm would only produce a "-7" signal level on the receiver, indicative of need for 1st stage ("front end") of the receiver to be realigned, which was in agreement with what Terry Harper had stated appeared to be the problem. The STL transmitter and receiver frequency had been bumped-up 3 MHz, which was outside the previous tuned range of the receiver.

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Figure 3: Marti receiver cover removed for access to tuning adjustments. The only adjustment needed was correct tuning of the three Johanson-type capacitors in the first stage filter (indicated in the circled area in the photo.)



Figures 4 and 5: With front-end of receiver realigned, a -78.2 dBm signal would produce a "0" level on the Marti receiver with the receiver's 10 dB attenuation switch turned on.



Figure 6: After realignment, signal levels well below -78.2 dBm resulted in squelch opening and test tone detection.

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Figure 7: Eric Duncan, tower rigger with Duncan & Sons, ascending tower in order to realign the azimuth of the STL antenna in order to peak the received STL signal level.



Figure 8: After STL antenna realignment, the receiver was showing just above a “+1” level on its built-in meter with the 10 dB attenuation switch turned on. I did not visit the studio to check the transmit level setting on the Marti STL transmitter, but there appears to be more than ample signal and path quality to possibly reduce the Marti transmitter level and switch the 10 dB attenuation switch from the 10 dB Attenuation position to the “Maximum Sensitivity” position, although that is merely an option which could potentially extend the life of the Marti STL transmitter’s amplifier if it is currently adjusted to anywhere near its highest output level. **Adjusted 250 Watt 98.5 FM broadcast transmitter deviation level to peak at just a “tick” mark above 100% level.**