

# Loudoun Amateur Radio Group

## Regular Meeting Notes October 16, 2021

Venue: Due to the ongoing national health crisis, the meeting was held virtually using Google Meet

- 8:00-8:30 The Google Meeting connection was active for informal discussions.
- Pledge of Allegiance
- Jim N4FAF reported that the minutes from the September meeting can be accessed via the club web site.
- Steve KN4HOZ club treasurer reported that the beginning balance in the club bank account \$10,104.85. There were no transactions since the September meeting. The ending balance is \$10,104.85.
- Previous plans to return to in-person meetings are still on hold. The level of Covid infections is being monitored by the club leadership. A decision will be made each month based on the infection level to determine when in-person meetings will resume. Any change in the meeting format will be communicated using the club email reflector and on the club web site.
- The Holiday Party is still planned for the QTH of John W5ODJ. This event is subject to cancellation dependent on the level of Covid infections at that time.
- Kevin WA4KVM made the monthly presentation. This month the subject was antenna tuning. There are three types of transmit signal power that are significant when calculating Standing Wave Ratio (SWR). The forward power is the power provided by the transmit source towards the antenna. Reflected power is the power that is reflected from the antenna toward the transmitter that is created when there is an impedance mismatch. Line loss is the heat generated by the signal as it passes through the resistance in the electrical line between the transmitter and the antenna.

SWR is basically the ratio between reflected power and transmit power. Note that reflected power is not radiated and it can cause distortion of the transmit signal. SWR can be measured using an antenna analyzer or a vector network analyzer. Many radios also provide the ability to measure the level of the SWR. When using the radio to measure SWR, set the transmit power to the minimum level and use AM or FM modulation. The low power setting will protect the power amplifier of the radio. Be sure to identify when you transmit.

An unun or balun can be used to smooth the impedance mismatch between the radio and the antenna. It is best to tune the antenna for the frequency that will be used so that a tuner is not required. An antenna analyzer is used to find the point where the SWR is minimal. If the resonant point is too low, shorten the antenna. If the resonant point is too high, the antenna must be lengthened.

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If a manual tuner is used, the antenna match setting is adjusted so that the level of the audio signal received is maximized. Then fine tune the match using the other controls to find the lowest indicated SWR on the transmitter. The settings of the manual tuner should be written down for various frequencies to allow the tuner to be quickly adjusted when the transmit frequency is changed.

- All club members are encouraged to present at a monthly meeting. Contact the club vice president, Steve KS1G to schedule your presentation for a meeting.
- The next club meeting is scheduled for November 20.
- The meeting adjourned at 9:30 AM.
- Attendance

Bob	KJ4NXG
Bryan	KO4KQM
Chris	KT9N
Chris	W4PMP
Dave	KE4S
Doug	KM4GC
Jim	N4FAF
Kevin	WA4KBM
Mike	N4PDY
Steve	KS1G
Steve	KN4HOZ
Val	KK4RNV
Bill	K3WD