What is "Alachua County Simplex Testing"? (12 Oct 2024 V1)

The Alachua County Simplex Test Team (ACST) has conducted simplex testing multiple times and has refined the best procedure to test simplex communication.

Purpose: The ACST collects simplex radio connection data and provides this data to the Amateur Radio Operators in Alachua County. The data is provided in an on-line spreadsheet and with an on-line interactive map.   This testing may help you to improve your antenna and equipment.

Goals: ACST provides amateurs a list of stations that can communicate with them on 2 meters without a repeater (simplex). The amateur can find out who can hear them transmit and who they can hear transmit. This information will help the amateur determine who they can communicate with during an emergency when all other forms of communication are inoperative. **Please note,** *ACST does not provide instructions on how to use your radio during an emergency. The ARES group and others conduct emergency simplex testing (to include relays). ACST only identifies what stations you can hear and who can hear you.*

Definitions;

Simplex: Per ARRL simplex is making a contact between two radio stations (ham operators) without the use of a repeater.

Repeater: Used to conduct the simplex testing. In this case 146.820 MHz repeater.

Transmitter: This is the person who is recognized, by the net/test controller as the next person to transmit using simplex (at this time were using 146.550 MHz). The transmitter, speaking slowly, states their name and call sign (I suggest saying it twice). When finished transmitting on the simplex frequency they need to contact the net/test controller on the repeater so the controller can call the next transmitter.

Listener: These are the Hams who listen to 146.550 MHz to see if they can hear the ham from their home station or designated location. The transmitters also become listeners when they are not transmitting.   We encouraged as many listeners as possible to listen in on the simplex test and complete the simplex form. Listeners do not have to transmit. However, we ask that listeners please complete the form and send it in.

Simplex form: This is the "Alachua County Simplex Testing Data Form" (Form).

The Form lists the amateur stations that will be transmitting during the simplex test. Requests are sent out prior to the test for amateurs to sign up as transmitters. The form is located on the GARS website and can be downloaded in either PDF or Excel. The form needs to be in front of the operators (listener and transmitter) prior to conducting the simplex test. Both the listener and the transmitter will use the form to record the stations they have heard (instructions are on the form). At the completion of the simplex check-in, the forms are emailed to either Lorilyn Roberts or Mike Martell. The email addresses are on the form.

Net/Test controller: This is the operator who conducts the simplex test.

Net/Test controller script: This is the document the controller uses during the test. The controller reads from the document during the test to ensure the simplex testing goes smoothly.

Simplex Connection: (The full name is Alachua County Simplex Connection Spreadsheet) The spreadsheet is online under "Google Forms". Lorilyn Roberts maintains the Simplex Connection Spreadsheet. The Spreadsheet lists at the top row operator call signs who have transmitted. On the first column running down the spreadsheet are listener call signs. If there is an "X" in a square that means the transmitter call sign at the top was heard by the listener in the first column. Therefore, if you participated in simplex testing and any "X" under your call sign at the top (as transmitter) will show what call signs in the first column can hear you.

Simplex Connection Map: This is an interactive map created by Ken Miller. The map shows the approximate location of amateur stations which have participated in the simplex testing. Amateurs can use this map to find stations that are close to them. It may be a good idea for stations that are close to confirm two way communication by setting up a time to verify two way communication between each other.

Participant: A Transmitter (see definition above) and/or Listener (see definition above) who takes part in the simplex testing.

How the Simplex test is run: In brief, here is how the test in conducted. (There are more details in the Net/Test controller script.)

1. The controller (using the 146.820 repeater) introduces the simplex check-in process and highlights key elements.

2. The controller calls out the first transmitter on the Alachua County Simplex Testing Data Form from the GARS website. The controller asks the first transmitter to start transmitting on the simplex frequency (146.550).

3. The transmitter will speak slowly saying their name and call sign twice on the simplex frequency. In this case 146.550. When finished the transmitter will come back on the repeater and inform the controller they have finished. The reason the transmitter speaks slowly and repeats it twice is to give listeners time to switch between the repeater and simplex frequency.

4. The controller will then call the next person on the list.

The reason the repeater is used is 1) help listeners know what the next transmitter is and the listeners does not have to listen to long periods of silence. 2) Eliminate two transmitters operating at the same time causing them to step on one another.

5. After the last transmitter on the Simplex Form is finished, the Controller will ask if there are any volunteer transmitters (if time permits). If the controller asks for volunteer transmitters, a repeat of the introductions is given to explain the process. The controller then asks for the volunteer transmitters, recognizing the operator by call sign and then gives them permission to begin transmitting on the simplex frequency.

6. At the end of the simplex test the controller will remind listeners to email completed form to the email address on the form. This completes the test.