AIRWAVES

Inside this issue

Meeting Minutes

Majors Field ARC Meeting Minutes 7/11/2019

- Meeting was called to order @ 1200. Problem with room reservation led to meeting being held in Foxtrot room.

Officer Reports

- Meeting minutes for June meeting are in the latest edition of "Airwaves".
- Treasury Report (we're in the black).
- Field Day report.

Subcommittee Reports

- Remote HF and Elmering discussed.

Upcoming Events

- Brief list of upcoming hamfests and area meetings.

Old Business

- Dwight D. Eisenhower SES. Decision needs to be made whether or not to conduct this event.

New Business

- One new licensing class to be held before EOY.
- TX QSO party event planned for October 13-14 at Lake Bob Sandlin.

Presentations

- N/A.

Attendees

- M. Ketchum, C. King, M. Garcia, L. Smith, T. Van Den Huevel, J. Santiago, D. Rogers, V. Paul.

- Meeting adjourned @ 1200.

Written by Secretary Scott Davis – K5PS

AIRWAVES

MFARC Bank Statement for July

Beginning balance:	$1,802.52
INCOME:	
Santiago – ARRL Dues:	$ 49.00
Check from E-Club:	$ 133.97
$68.97 website domain	
$40.00 poster boards for license classes	
$25.00 Keyer board repair	
Check from Curtis King – ARRL Dues for 3 years	$ 140.00
EXPENSES:	
Ch1043 – ARRL Dues for Santiago	$ 47.00
Ck1044 - Keyer board repair	$ 25.00
Ck1045 – ARRL Dues for Curtis King 3yrs	$ 125.00
New balance:	$1,928.49

Provided by Treasurer John Nelson Jr – W7JOY

President's Letter

We have four or more exciting events coming up in next six months (I'll cover four). As Paul Harvey used to say: "Stand by for NEWS!"

Meetings/Events

I did submit the Field Day report to the ARRL. I don't have the totals in front of me as I write this, but I'll bring it to the meeting and share it. I'm expecting it to score "mid-pack" as usual. Class 2A is pretty crowded with lots of really focused efforts out there around the country and elsewhere.

This coming meeting, we'll be discussing next month's Texas QSO Party (Event #1). David has some information on that in his letter in this edition of the newsletter. I highly encourage you to come out to Lake Bob Sandlin to camp out, cook out, fish, and operate. I've told lots of folks around that state that we will be activating Titus County and it seems this is going to be very popular with the participants. Titus is apparently difficult to log during the party. That could translate to a lot of activity for us. The QSO party is September 14-15. We are planning this as a family outing on the lake as well as radio operating.

The Cotton Patch Challenge bike race is next month (Event #2). We always help out with that. We'll need several operators with hand-helds and maybe a couple of fixed/portables. We'll talk this out at the meeting. If you've never done this event, consider trying it. Some pretty interesting things usually happen. Most need radio communication to help the organizers and participants.

The officers are going to work up a poll of the membership that we'll put on the social media sites (Event #3). I hope you'll take the time to respond. The poll will explore what activities you'd like to do, and what you want out of your MFARC membership. We absolutely want to do whatever the members want. It seems to me we just do what David or I want to. Not because we're trying to monopolize

things, but rather we're just not hearing from you. Maybe you like what we're planning…maybe not. Let us know one way or another.

It's not too early to start thinking about Winter Field Day (Event 4). Once again Rains County will ask us to help man their EOC for this event.

Make a 5 or 10-minute talk about what's going on in your part of the hobby and show it off at the meeting. We'd love to hear what's up. Remember you get an extra ticket for the end of year drawing when you present a program at a regular monthly meeting.

Club Projects

Still harping on the club projects… We were considering obtaining an IC-7300 to set up remote control HF operations from the MSTF trailer. And we may do that yet, but I think we will defer that until after the member survey.

Elmering/Mentoring : This is a very worthy effort and I hope every active member will take part. Remember, the goal is to make sure that new hams that take our licensing study/test sessions and pass the test, get on the air and at least make one if not more QSO's as quickly as possible after his or her call sign is issued. We might not be able to hold their long-term interest, but we need to make sure they have the chance to enjoy what they have earned. We will continue to build a list of volunteer Elmers.

ARRL

ARRL West Gulf Division Director election is upcoming soon, and the campaigns are underway. One of the candidates is Alan Brown, K5AB. I've known Alan for 43 years. He is a close friend that I talk to regularly, and have worked with him on many radio contests and other projects. Among other things, Alan is VHF/UHF repeater pioneer in Texas. You probably didn't know it, but Alan assisted me greatly in handling the repeater coordination with Texas VHF/FM society when I found out our UHF repeater frequency was never properly coordinated. I couldn't recommend him any higher. If you are an ARRL member, I would appreciate it if you would study the candidates for Director and consider Alan for this position.

Remember if you join or renew your ARRL membership through MFARC, then MFARC gets a "cut".

See you at the meeting Thursday. Bring a friend, and feel free to bring your lunch.

73,
Larry
K5XB
MFARC President

Written by President Larry Smith – K5XB

MFARC Club Meeting – Conference Room Change

Please take note of the new conference room the club is using for the rest of the year. We are now meeting in Building 111 – second floor at the Lawson Conference Room. **Lawson is located**

around the corner from the Glass Conference Room, and right next to the Elevators. You can still bring your lunch. Hope to see you all there!

Written by Editor Michael Ketchum – K5MDK

Dwight D. Eisenhower Birthday Special Event Station – CANCELLED

Attention, folks: The club event at Eisenhower State Park, slated for October, has been cancelled. We will take up the matter next year, and possibly reschedule the celebration of Eisenhower's birthday (October of 2020). In the meantime, be on the lookout for an unofficial event sometime in October or November at Cooper Lake State Park. We will keep everyone posted.

Written by Vice-President David Rogers – KG5KPU

Missives and Memorandums from the Cluttered Desk of the Vice President

Before we look to the future, allow me to recount the past and give you an update (albeit somewhat late) re: our joint celebration of Audie Murphy day, in conjunction with SVARA. We had 18 people request QSL cards. Those cards have been mailed.

Continuing to look to the past…prior to Field Day, we discussed RFI and cross-talk from multiple stations operating close together. We planned to use homebrew notch filters made from coaxial stubs, along with bandpass filters purchased from Array Solutions. I would like to report (again, in a somewhat tardy fashion) that the stubs and filters worked perfectly. There were not any issues at all RFI or cross-talk. It is safe to say that our problem has been solved. We can now look forward to future events that will be successful, and not be marred by debilitating interference.

Speaking of looking forward, the Texas QSO Party is coming up next month (Sept 14th and 15th). Larry Smith (K5XB) and I have rented cabins (65 and 66 in the Moccasin Trail camp area) at Lake Bob Sandlin. We will be setting up on Friday the 12th. I would like to invite club members AND their families to join us. I want to stress that the park offers free fishing from the shore or dock, a family picnic area, playground, basketball and volleyball courts, and other activities that make it a great place to spend a sunny day with your family. And, of course, there will be radios and antennas and hot dogs and chips back at camp. Lake Bob Sandlin is about 50 minutes from Greenville, near Mt. Pleasant, off of I-30. I encourage everyone to come out and enjoy time with your family and time on the radio with fellow MFARC members.

Speaking of MFARC members…I would like to ask for your input, advice, and guidance by asking all of our members a few questions: What can club leadership do to better serve you? On what items or functions or events do you feel club money should be spent? What are we not doing that you would like us to do? Most importantly, what are your expectations from your membership with MFARC? What are you hoping to gain from being a member? You can email me directly (or any other club officers), with confidentiality, with your input or advice at vice-president@w5nni.net. We are truly interested in making MFARC a club that serves its members well. With your help, we can make that happen.

And, finally…Scott Joseph (AQ5QQ) approached me with a fantastic idea; a lunchtime 2m net. Since we have permission to have our HT rigs green-tagged for use on the plant, we could have a 15 to 30 minute net on 2m or 70cm on a regular basis. Most of us take lunch sometime between 11am and Noon. We can hold the net between 11:15 and 11:45. How frequently would be up to a vote of members. Perhaps we have it once a month, on the day of our meetings –that would make it easier to remember to bring our radios and fire'em up. Or, to make it more readily available, maybe once a week. Again, we can put it up for a vote and go from there.

Speaking of going…so long, and thanks for all of the fish; I must be going now. Adios. Au revoir. Auf wiedersehen. Arrivederci.

Written by Vice-President David Rogers – KG5KPU

Brief comparison between EchoLink, IRLP and Allstar Network

Repeater linking is a fantastic way to talk to friends all across the country and the world! Today's VoIP (Voice Over Internet Protocol) technology has made using the internet a great way to talk on many repeaters. At the time of writing this article, the club has had an EchoLink node setup for W5NNI 2-meter repeater until we decided to move it onsite.   We have yet to connect the hardware get that node back on the air. Recently, I was presented a great comparison about these three systems from Dan Gable – K5VOM during the July SVARA meeting. That presentation and my recent experience with Allstar network have both inspired me to write an article that compares these big three repeater linking technologies so that the club could possibly consider a direction change.

EchoLink

We start off with EchoLink, which was designed by Jonathan Taylor – K1RFD. EchoLink is more application specific, meaning that the beauty of this system is the way you can interface with it. The main interface is via a Windows based application, "the software". Although the software is windows based, it can be executed under Wine in most Linux distributions. This software can be operated in two modes: Sys-op and Single-User.

Sys-op mode allows all of the Windows application features to be used by connecting a radio or a repeater to the application for the purpose to provide an RF node to the EchoLink system. Nodes of this type usually have two extensions to the callsign, either –L for LINKED (such as RF linked from your home) or –R for REPEATER (such as the application is directly attached and controlling the repeater). The software provides a way for more than one user to connect in a kind of "chat" room, provided the node is in Sys-op mode.   For a repeater, this means more than one person can connect to that repeater via EchoLink. Being operated this way requires that a good internet connection exists to be able to operate

in Sys-op mode. A node could be without a radio and simply used as a means to provide a chat room for others to congregate in. Again, a good internet connection is required.

It should be mentioned that when connecting to an analog repeater that is on EchoLink as Sys-op mode, DTMF tones can be sent to connect to other EchoLink nodes, thus making it possible to connect several repeaters together. However, EchoLink software puts time-outs on these that can break the links down after a period of time.

In **Single-user mode**, the software application allows functionality to operate as a connected node to the system, as if the user is connecting to the EchoLink system as a single node. Single-user nodes can directly call one another, but group chat can only take place on a node setup for Sys-op mode.
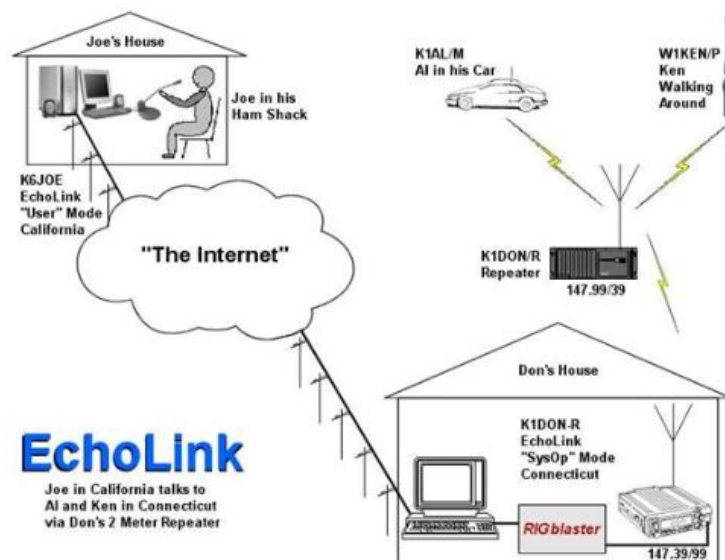
EchoLink has their own server network to handle the load of connections. The application connects to a central server and authenticates the user before setting up the voice/control channel to the end point. Upon connection, the Sys-op node will announce the EchoLink user connecting. This has been a sore spot for Amateurs, especially those listening on those EchoLink repeaters. All day long you'll hear call so-in-so connect, followed a few seconds later by so-in-so disconnected.   It can be irritating.

Some useful "anti-bozo" tips are provided in the text box here for using EchoLink. Thanks to W5DTW for his blog called "EchoLink Follies, posted on August 14, 2007 on his website at http://w6dtw.blogspot.com/

Another sore spot with EchoLink is the fact of their fixed audio quality. EchoLink uses the GSM "Full Rate" speech codec named RPE (Regular Pulse Excitation). This speech codec is great for speech on telephones and is great for applications connecting by modem and low speed internet connections. However, it does not have any potential for higher data rate to support better audio quality. In other words EchoLink is fixed to one speech quality codec on its system, and it does not compete very well with other systems, such as IRLP or Allstar.

EchoLink Operating Tips:

•Be aware that every time you connect/disconnect, your callsign is transmitted over the air.

•Knowing the preceding it should be no surprise why when I further suggest: Don't repeatedly connect/disconnect to the same repeater. It is amazingly annoying to the locals when you do.

•Try saying hello if it's quiet. You may be surprised at how many locals are listening and willing to come back and chat with you.

•Be careful about "calling CQ" on a repeater. CQ is traditionally used for simplex contacts, and a repeater is not a simplex system. Some people won't care, but others will think that you're a bozo. If the EchoLink node ends in "-R" it's a repeater and I advise against calling CQ. If the node ends in "-L" (a link node) then CQ is probably OK.

•Don't ask for a QSL card because you made a contact over EchoLink. People will think you're a bozo. For that matter; I will think you're a bozo. QSL cards are for commemorating simplex contacts. Would you send a QSL card to someone you chatted with over Skype?

Some of the great features of EchoLink include its application interface and Amateur Radio user validation. The EchoLink application runs on Windows OS and provide all sorts of great features for the way one triggers PTT and also a chat feature. Running Linux? No problem, simply run EchoLink under Wine. If you are behind a firewall that does not provide direct port access, there are "proxy" servers available that you can connect through, such as when you are staying in a hotel. There is also an app for your Android or IOS smart phone that allows you to take EchoLink with you were ever you go. If you have a signal for internet, then you have a ham radio in your phone.

If you want to create a Sys-op node for your local repeater, it is simple. You can interface EchoLink Windows OS application with your radio and create a connection for that repeater through your dedicated radio. Running EchoLink as Sys-op mode under Wine in possible, but there are complications that need to be dealt with. One Linux alternative is to build a Raspberry Pi and install SVNLink software, which is a third party Sys-op mode software for EchoLink. I've built one and it works great with a dedicated radio. We have since moved it to W5NNI-R, however I have not completed the new integration to the repeater hardware yet.

EchoLink will stay around for quite a while because it provides such a wonderful interface and an application for every ham user to operate with. Coupled with the ability to get verified and get on the air quickly without a radio, provides a great appeal to many hams who are limited.

IRLP

IRLP (Internet Repeater Linking Project) is a real nice way to link multiple repeaters together using the internet. Whereas EchoLink was more user centric, IRLP is the opposite by being specifically for repeaters. If you want to access the IRLP network, you must do so through a repeater that is on the IRLP network.   However, unlike EchoLink, IRLP has a better VoIP codec capability, which provides great voice quality. Along with the quality is the required internet bandwidth. IRLP is stable. Instead of using

Windows applications that are unreliable, IRLP relies on proprietary hardware with some Linux, such as that found on a Raspberry Pi. IRLP relies upon their own proprietary interface board in order to improve voice stability and reduce delay from using a VOX. The proprietary board, which can be purchased, performs the A/D conversion to VoIP using 4-bit ADPCM and then compression for transmission using UDP stream.   The voice quality is great, far greater than EchoLink's fill-rate GSM-RPE codec.

IRLP operates in two modes: Direct (one to one only), and Reflector (one to many). For direct mode, two repeaters can be connected. Once connected, that repeater cannot entertain any other connections.   However, a repeater can be connected to a Reflector. In that case, many other repeaters can also be connected to the same reflector node, which allows linking of multiple repeaters.

There is no fancy application that can be used to connect into the IRLP network and start talking to different repeaters. There is no app for your phone either. All IRLP access requires the IRLP hardware, provided by the IRLP organization.   However, with the explosion of Allstar open network architecture, many repeater owners are quickly switching to Allstar.

Allstar

Now, were IRLP is proprietary in nature, Allstar opens things up using open source ASTRISK technology that was developed for the PBX enterprise telephony world.   It was the vision of Jim Dixon – WB6NIL by marrying Astrisk VoIP PBX with a multi-port repeater system. Jim passed away in December of 2016, so the organization is recovering from that change with five talented hams. The concept was to treat each node, whether it is a repeater or a user, as a connection into the PBX via VoIP. This turns out to be a very efficient way to connect and control voice traffic. Add to this the ability to use one or more open source codecs that can provide variable voice quality based upon bandwidth / conditions, and you get a phenomenal network of linked repeaters. Being open source now provides a broad horizon for developers to utilize it in different ways.   But accessing the Allstar network is similar to IRLP for most users, and that is by talking on a local Allstar network repeater. Commands can be sent through that repeater, via DTMF, that will allow you to connect to other nodes, referenced by Allstar node number and cross-referenced by callsign.

Allstar offers several different node types; Repeater is a full-duplex mode that can be controlled via DTMF; Simplex is a half-duplex mode that can be controlled with DTMF commands; Remote Base is a half-duplex node dedicated for establishing outbound radio connections only and can be as simple as a hotspot raspberry pi connected to a Baofeng HT radio operating through internet Wi-Fi; and Hub, which is a type of node that has no radio hardware attached, whatsoever, which provides a way for multiple nodes to connect together in a "chat room" like area.

Allstar nodes numbers are easy to obtain. The organization does a type of validation on your ham radio credentials and you can request several node numbers for your personal use. Hams are building their own nodes, either in their homes as hot-spots, or for connecting to a local repeater that does not have internet or connection to the Allstar network. Some hams have configured a hot-spot, such as the software on Raspberry Pi, to act as an Allstar node via Zoiper app on their smart phones.   This works by connecting a VoIP telephone application on your smart phone via internet to an Allstar node. Next, you would give DTMF commands to connect your hotspot node to any number of other nodes, like repeaters or group chat areas. Because of this open architecture and the excellent voice quality, Allstar is gaining popularity amongst hams quickly. It is hopeful that more development may be accomplished to provide applications that would make it easier for users to connect and participate. This could also lead to a dark side of contention as well, another topic for another day.

EchoLink provides a smart phone app to allow connection to repeaters via your smart phone. Allstar can have something similar, with a little bit more work.   Because of Allstar's open architecture and open source software, it is possible to configure smart phone apps, such as DVSwitch, Zoiper and others, to connect to the Allstar network in order to use your phone to talk on Allstar repeaters. However, these are open source VoIP phone applications that are literally connecting to a node instance. Since most users don't have access to a node's administrative services, they will have to create their own Allstar node (or mini-repeater) using a Raspberry Pi in order to connect into the network through. This would be like creating your own internet gateway to Allstar network on your own internet, which can be complex. However, there are plenty of You Tube videos out there that can walk you through creating your own Allstar node and then it is a matter of setting up an account on that node and connecting to it from the VoIP phone app on your smart phone to get on the air.

Conclusion

There are several ways to go digital today. DMR, D-Star, P-80 and Fusion provide digital over the air, which is okay for some users who like the benefits and the drawbacks of digital over the air communications. In addition to those, the use of VoIP to connect analog repeaters is a better alternative, as more analog radios are out there.   Using IRLP or Allstar allows repeater users to interconnect other repeaters together to form a single solid network in a fast and easy fashion. The sound quality of IRLP and Allstar far exceeds the dial-up speed codec used by EchoLink. Given the proprietary hardware required for IRLP, Allstar seems like the best VoIP solution for repeater linking. Also, given Allstar's open source architecture, there is potential for more development and improvement for access to thousands of repeaters already on the Allstar network. Having to choose between EchoLink, IRLP and Allstar to provide interconnection services for your repeater, the choice is clear - Allstar.

Written by Editor Michael Ketchum – K5MDK

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Calendar

Aug 3-4	ARRL 222MHz and Up Distance Contest http://www.arrl.org/222-mhz-and-up-distance-contest
Aug 8	Majors Field Amateur Radio Club Meeting – Lawson CR at 11:45am.
Aug 10	Rains ARA Meeting at 9:00am at Rains EOC, 200 Industrial Blvd, Emory.
Aug 17-18	ARRL 10 GHz & up – Round 1 http://www.arrl.org/10-ghz-up
Aug 18	ARRL Rookie Roundup – RTTY http://www.arrl.org/rookie-roundup
Aug 20	Rockwall ARC Meeting at 7:00pm at Soulman's BBQ in Rockwall.
Aug 15	Sabine Valley Amateur Radio Association Meeting – Hunt Regional Hospital 7:00pm
Aug 17-18	10 GHz & Up – Round 1 http://www.arrl.org/10-ghz-up
Aug 18	RTTY Rookie Roundup http://www.arrl.org/rookie-roundup
Sep 12	Majors Field Amateur Radio Club Meeting – Lawson CR at 11:45am.
Sep 14-16	ARRL September VHF Contest http://www.arrl.org/september-vhf
Sep 28-30	TX QSO Party, http://www.txqp.net/
Oct 5	HamEXPO Fall 2019, Belton, TX, http://www.tarc.org/hamexpo
Oct 25-26	Texoma Hamarama, Ardmore, OK http://hamarama.org/

AIRWAVES

REGULAR ACTIVITIES

Daily   DFW Early Traffic Net (NTS) at 6:30pm 146.88 – PL 110.9Hz

Daily   DFW Late Traffic Net (NTS) at 8:30pm 146.72 – PL 110.9Hz

Daily   DFW CW Traffic Net (NTS) at 7:00pm and at 10pm on 3541 KHz http://www.k6jt.com

Mons.   Rains/Hopkins Co combined NET at 7:30pm 146.92 – PL 88.5Hz

Tues.   Rockwall ARC Net at 7:00pm 441.525 + PL141.3

Tues.   K5VOM Net at 8:00pm. News Bulletin at 7:30pm, Allstar 49668 - 441.800 (+) – PL 100Hz

Thurs   SVARA Net Every Thursday night at 7:00pm on 146.780 MHz (+) PL 114.8Hz

Thurs   QRP Fox Hunt http://www.qrpfoxhunt.org/summer_rules.htm

2nd Wed of each month – ARRL NTX ARES Net 8:30pm local on 3860

Officers

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Club Trustee:	Jonathan Brown – WB5KSD	
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Contest/Activities:	David Rogers – KG5KPU	
	contest@w5nni.net	

Club Repeaters

Club Station:	TBD
VHF Repeater:	W5NNI/R
	147.160 MHz (+) PL 100.0 Hz
UHF Repeater:	W5NNI/R DMR
	444.625 MHz (+) Rx-SQ PL 151.4 Hz

AirWaves is a production of the Majors Field Amateur Radio Club

We're on the Web! Find us at: http://w5nni.net

Your article submissions are welcomed. Please submit to editor@w5nni.net.