AIRWAVES

Inside this issue

Meeting Minutes

Majors Field ARC Meeting Minutes 4/12/2018

- Officer Reports
  - Treasurer John Nelson Jr – N0DFW reported previous balance of $1511.15. $60.00 deposits from dues from six members. There were no expenses. New ending balance for March is $1571.15. Expecting an expense reimbursement for $123.20 to David Rogers – KG5KPU for the Texas State Parks on the Air event at Cooper Lake State Park. Finally, I will have the quarterly report to E-Club sent out very soon.
  - President Larry Smith – K5XB briefed the club on Belton Hamfest last weekend. It had a marked decrease in attendance this year. There were also fewer tables than normal.
- Select Committee Reports
  - Trailer at MSTF area has been checked during a site survey. However, Jonathan Brown – WB5KSD reports that IT has done some change, which may have affected our connection. He will make another visit to verify internet is still up and good.
  - After the internet is verified once more, Jonathan would like to schedule a WORK DAY for club members to come and assist in the installation of the new repeater.
  - Jonathan provided a handout that provides notes on what the repeater will or can do and some of the access parameters for both Analog and Digital. He also explained that Talk Group 4000 is the DISCONNECT COMMAND and Talk Group 9 is for LOCAL COMMS only.
- Announcements
  - The club will be coordinating another round of GREEN-TAG authorization for handy-talkies. If you have an HT you want GREEN-TAGGED, contact Michael Ketchum – K5MDK at vice-president@wd5gsl.net Provide your NAME, CALL, LICENSE CLASS, MAKE/MODEL HT, FCC ID OF HT. Deadline for this batch process is April 20th COB.
  - Calendar of events…   This will be published onto the club website calendar.
  - Hamfest Calendar
    - Mentorfest Apr 28, Garland, TX http://www.arrlntx.org/mentorfest
    - Dayton HamVention, May 18-19-20, Xenia, OH www.hamvention.org
    - HAM-COM, June 8-9-10, Plano, TX www.hamcom.org
    - Summerfest 2018, Aug 3, Austin, TX, Texas State Convention www.austinsummerfest.org
- Old Business

- o   Repeater Linking Project – Jonathan reports his dad, Jim Brown – W5ZIT, will be in town in June to link the N5SN machine to the WD5GSL 2m machine.

  - o   Echolink Project – Michael reports he will have Echolink RF node setup on N5SN around the time Jim Brown will have the linking done.

- New Business

  - o   Field day is coming soon. We are still planning to host it at Audie Murphy American Cotton Museum.

  - o   Mentorfest – Larry stressed the benefits of this event and pitched the club should support this.

  - o   ARRL Affiliation – we are real close. A quick poll revealed 11 out of 17 attending the meeting were ARRL members. So an appeal was made to those who were not. Some agreed to get signed up and inform Michael at vice-president@wd5gsl.net of their status change.

- PROGRAM: A breezy ham radio visit to Cooper Lake State Park for Texas State Parks on the Air by David Rogers – KG5KPU.

- Attendance (ARRL MEMBER Y/N):

1.	John Nelson Jr. – N0DFW	N	
2.	Victor Paul – WB0TEV	Y	
3.	David Rogers – KG5KPU	Y	
4.	Mark Bushnell – AE5FG	Y	
5.	Larry Smith – K5XB	Y	
6.	Jose Santiago – KG5SKR	Y	
7.	Erik Hix – K5ERH	N	
8.	Gabe Cook – W5TTX	N	
9.	Scott Joseph – K5BGL	Y	
10.	Jae Stutzman – K5JAE	Y	
11.	Jonathan Brown – WB5KSD	Y	
12.	Michael Ketchum – K5MDK	Y	
13.	Peter Van Horne – KA5YDC	Y	
14.	Will Sanitate – KG5QCQ	Y	
15.	Mark Wright – KG5VUZ	N	
16.	Stephen Kelley	N	
17.	Dana Kinney	N	

Recorded by Vice-President Michael Ketchum – K5MDK

President's Letter

Electricity is in the Air!

The old Tempo One I wrote about last month is fully operational now. It's transmitter problem was a combination of a weak 12AX7 and operator head-space error. Other than the "new-ish" 12AX7, the radio is 100% original, and somewhere around 48 years old. …And a joy to operate. Let us hear about the projects you are working on. On the Club front, we have a testing session this month and a Field Day next month. Jon is about ready to launch the new 440MHz repeater upgrade, and probably sometime next week the club will have a brand new call sign. More on the call sign development will be disclosed at this month's meeting.

Meetings

Meetings are the 2nd Thursday of every month in the Kitty Hawk C.R. This month's quality program will be Ham Radio From Your Cell Phone, presented by K5MDK! Michael will get one extra ticket for the end of year prizes for this program presentation.

A word about joining and membership renewal: It's still not too late to be counted! However, our first quarter report has been delivered. With your membership and support, we can continue with projects such as 2-Meter repeater technology refresh, acquisition of a new HF radio for the club, or any other projects we'd like to try.

ARRL Action

ARRL affiliation is at hand. We have met the membership requirement. Join ARRL through the club and the club gets to keep a whopping $15 of your annual membership fee to ARRL. Renew through MFARC and we still get to keep $2.

ARRL affiliation gives us a stronger voice with the league when it comes to policy that affects all of ham radio. Better policy will give the League more input with the FCC and with legislative matters.

Repeaters

The new 440 repeater is waiting for the new club call sign to be issued by the FCC. I assume Trustee Jon will schedule a workday to move in with the new hardware and go live with the digital functions.

License Classes

David Rogers has set the date for a Technician class and test session for the State Guard. May 19 and 20, Saturday and Sunday with review session all day Saturday starting at 8 AM, and wrapping up the review and testing on Sunday starting at 8 AM. We have been told to expect the better part of 100 folks attending this session, and David will need our support to help him do this.

Field Day

June 23 and 24. Probably set up on June 22 (Friday). Only ONE more meetings to make plans between this week's meeting and Field Day.

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

Why [ARRL Is] Recommending Enhanced HF Privileges for Technician Licensees

ARRL has asked the FCC to expand HF privileges for Technician licensees to include limited phone privileges on 75, 40, and 15 meters, plus RTTY and digital mode privileges on 80, 40, and 15 meters.

These recommendations were put forth by the ARRL Board of Directors' Entry-Level License Committee (ELL), which explored various initiatives and gauged members' opinions through surveys conducted in 2016 and 2017.

Specifically, ARRL proposes to provide Technician licensees, present and future, with phone privileges at 3.900 to 4.000 MHz, 7.225 to 7.300 MHz, and 21.350 to 21.450 MHz, plus RTTY and digital privileges in current Technician CW allocations on 80, 40, and 15 meters. The ARRL petition is in recognition of the tremendous technological advances and changes in Amateur Radio.

"This action will enhance the available license operating privileges in what has become the principal entry-level license class in the Amateur Service," ARRL said in the petition. "It will attract more newcomers to Amateur Radio, it will result in increased retention of licensees who hold Technician class licenses, and it will provide an improved incentive for entry-level licensees to increase technical self-training and pursue higher license class achievement and development of communications skills."

We encourage everyone to read the full petition, which can be found at
http://www.arrl.org/TechnicianEnhancement

Key Points:
• A thorough review of operating privileges available to the entry-level license has not occurred since the late 1970s when the Novice class license— the entry-level license at that time— was modified to allow Novices access to a limited portion of the 10-meter band, which included the first HF phone privileges for that license class.
• The 2-year process that led to the development of this petition did include significant input from the Amateur Radio community. The two surveys that the ELL Committee conducted on this issue drew more than 8,000 responses from ARRL members.
• If the operating privileges are changed as proposed, the Technician class license, (which is now the entry-level license class since the FCC prohibited the issuance of new Novice class licenses in 2000) will be comparable to the "foundation" license found in many Amateur Radio administrations around the world. These foundation licenses include a broad array of basic HF phone, CW, and digital privileges in addition to the VHF/UHF privileges already available with the current Technician class license.
• Technician licensees, now numbering at about 378,000, comprise more than half of the US Amateur Radio population. Yet, the Technician class license is insufficient for the purpose that the FCC made for it 18 years ago. Many who obtain Technician class licenses do not participate actively, do not pursue on-air and public service opportunities,
do not renew their licenses prior to expiration, and do not pursue higher license classes. There is an uncomfortably large attrition rate among Technician class licensees. Those who obtain Technician-class licenses are not pursuing upgrades to General class licenses because they don't find the operating privileges offered by the Technician class license interesting enough to keep them from pursuing other, non-radio-related activities.
• The proposed addition of a total of 275 kHz of HF phone privileges, spread across the 80, 40, and 15-meter bands would allow Technicians the opportunity to develop and expand their understanding of HF propagation. In addition, this proposed change would allow Technician licensees to participate in public service-oriented, emergency, and Section traffic nets on 75-meter phone frequencies from 3900 to 4000 kHz, since 47 out of 50 states conduct their primary state/section-wide public service activities on those frequencies.

• Technician licensees already hold CW privileges on the frequencies on the 80, 40, and 15-meter bands where the proposal would add HF digital privileges. Those digital privileges will attract younger people to Amateur Radio.

• There is no proposed change to the 200 W Technician HF power limit. Also, the few remaining Novice licensees would gain no new privileges.

• While some believe that the addition of the frequencies takes away the Technician's incentive to upgrade, consider that current Technician HF privileges involve 850 kHz on 4 bands, with the proposed addition of 275 kHz on 3 of those bands, so the total under this proposal is 1125 on 4 bands – 80, 40, 15, and 10 meters. Compare that to General class HF privileges: 3150 kHz across 9 HF bands – 160, 80, 40, 30, 20, 17, 15, 12, and 10 meters. In addition, Generals have access to the 5-channels on 60-meters, and the two newest bands 2200 and 630 meters. The incentive to upgrade from Technician to General is almost tripling the available HF spectrum and allows those who upgrade access to 8 additional bands, including the prime day-time bands of 20 and 17-meters. Also, when a Technician upgrades to General or higher, they also are permitted the maximum Amateur power level of 1500 W.

• Demographic and technological changes call for a "periodic rebalancing," and there has not been such a rebalancing in many years. The FCC has not assessed entry-level operating privileges since 2005, and yet Amateur Radio has changed dramatically since then, with many more modes of communication having been developed.

• ARRL does not propose changes to the Technician class question pool, which is reviewed and updated every 4 years by the NCVEC's Question Pool Committee. The current pool already tests for all of the basic technical and operating information that would allow Technician-class licensees to safely and appropriately use the proposed additional spectrum.

Published by ARRL -
http://www.arrl.org/files/file/Regulatory/Tech%20Enhancement/Talking%20Points%203-14-18.pdf

EchoLink added to WD5GSL/R 147.16 machine

The WD5GSL/R 2-Meter repeater is conducting a test installation of EchoLink. EchoLink is a RF to internet linking application that runs on a client or server configuration on Windows platform. EchoLink provides extensible features to a repeater, such as internet access and repeater linking.

On Saturday, April 15th, Michael Ketchum – K5MDK setup an EchoLink server using the EchoLink software configured as SysOp (Repeater Server) on a Debian PC under Wine (Windows Emulation for Linux). However, this proved unstable and the audio was poor, according to Gabe Cook – W5TTX. Since Michael has a couple of Raspberry Pi boards in his closet from a failed CCTV project, he began researching SVXLink software for Linux.

On Saturday, April 22nd, Michael built a Raspberry Pi Rev 2 Model B with SVXLink server software (release 17.12.2 01MAR2018) for Linux. SVXLink provides similar functionality as the EchoLink software does for SysOp (Repeater Server) mode under Windows. The EchoLink software can also be configured for USER mode in order to function as a Client to connect to any EchoLink node or Talk Group. However, we are not talking about clients to connect to EchoLink servers, just an EchoLink Server to connect to our local repeater. Under this new Raspberry Pi hardware, performance and stability were greatly increased and the audio was wonderful on TX, according to Gabe and his Dad, Chris Cook – KM4PLI, who performed a test QSO on April 24th.

Since bringing this new server on-line, we have had some visitors already connecting in:

- Tue Apr 24 16:01:43 2018: KF5SKM – Malcolm Martin of Lavon, TX
- Tue Apr 24 20:34:55 2018: KM4PLI – Chris Cook of Valparaiso, FL
- Sun Apr 29 15:09:51 2018: M6NYB – Morgan Matthews of Blandford Forum, Dorset, UK
- Mon Apr 30 12:43:14 2018: N5UTG – Eric Brinsfield of Point, TX
- Tue May 1 12:01:06 2018: WB5WNF – Jonathan Padon of Quinlan, TX
- Tue May 1 20:56:40 2018: W5MRC-R – McKinney ARC (this was a DTMF Link Request test)

Currently, the system is up and running. The HELP module, as activated by *0, was installed on April 24th. However, it was discovered that the DTMF decoding is not working on certain digits. More adjustments to the filters and audio will be required to get DTMF decoding to work properly. This opens up more functionality on the server, as needed. The ability to control the server is also a worthy justification to get the DTMF working.

The project is not complete yet. There are several tasks that need to be performed. The Audio for TX seems to be great but we need to adjust RX audio levels a little to remove some noise. This might be from the rig and sound card adjustments. Next, we will need to get the Parrot module working, as this will help us with our DTMF decoder debugging. The Parrot module provides a way to record something on the repeater and have it played back to you. We need to know whether to turn off the top of the hour announcements and ID. If you are listening to the repeater directly and hear a different roger beep tone at the end of a transmission, then you will know there is an EchoLink user connected to the server/repeater. The final task is to reestablish the EchoLink node under a new account name – WD5GSL-R or whatever the callsign the club will be using in the near future.

SVXLink provides a huge list of features to a connected repeater. Here is a detailed list of features (√=Currently Installed):

- Can act as a repeater controller or just operate on a simplex channel √ (Simplex Mode)
- Plugin based system to load voice services into the SvxLink logic core √ (Help,EchoLink,Parrot)
- DTMF controlled using a high performance software DTMF decoder or hardware based one
- DTMF anti-flutter mode to suppress multiple digit detection when mobile flutter is present or during weak-signal conditions
- A sound clip based system for announcements √
- Periodic identification with "top of the hour" time announcements √
- A script based (TCL) event handling system √
- Possible to use left/right stereo channels as two mono channels
- Roger beep *
- Trigger manual identification by pressing DTMF * key √
- A simple shortcut, or macro, subsystem
- Support for RTL2832U based DVB-T USB dongles for use as SDR (Software defined Radio) receivers
- Repeater logic specific features:
  - Multiple repeater activation modes: 1750 Hz tone burst, CTCSS, DTMF or squelch open.
  - The repeater can be configured to activate again on just squelch open directly after close
  - Periodic "idle sound" when the repeater is up but no signal is being received

- o Announcements are mixed in with normal audio
- o The volume of announcements is lowered if there are other traffic
- o Remind users to identify themselves if they don't
- Possible to define multiple logic cores to connect to multiple transceivers
- Possible to link logic cores together
- Support for multiple receivers using a software voter
- Remote receivers can be linked to the logic core via TCP/IP(Internet)
- Remote transmitters can be linked to the logic core via TCP/IP (Internet)
- Multiple squelch detectors: Vox, CTCSS, signal level, evdev (/dev/input/) and external (through serial port pin) √ (VOX)
- Multi tone signalling to transmit signal strength measurements from a remote RX site that is linked in through RF.
- Digital deemphasis/preemphasis filter √
- DTMF muting √
- Squelch tail elimination
- Flexible CTCSS transmit. A tone can be configured to always transmit or on specific events like when the squelch is open, another logic core transmits, a module transmits and/or when an announcement is being played.
- A QSO recorder feature to record QSOs to WAV-files.
- Possible to control SvxLink using selective calling (SelCall) codes in addition to DTMF command codes √
- A simple help system module √
- A parrot module that retransmit received audio √ (Need DTMF decoding fixed to use)
- An EchoLink module used to connect to other EchoLink nodes
    - o Idle timeout √ (Set to 1 hour – requires reconnect by Client)
    - o A callsign lookup/connect by callsign function √ (Need DTMF decoding fixed to use)
    - o List connected stations on demand √ (Need DTMF decoding fixed to use)
    - o Own node id report function √ (Need DTMF decoding fixed to use)
    - o Random connect to link, repeater or conference √ (Need DTMF decoding fixed to use)
    - o Reconnect to last disconnected node √ (Need DTMF decoding fixed to use)
    - o Listen only mode
    - o APRS node info announcement support √ (turned off until permanently online)
    - o If two SvxLink nodes connect, a better audio codec, Speex, is used instead of the GSM codec. This will provide much improved audio quality √
    - o Possible to limit both incoming and outgoing connections to specified stations using regular expressions √ (No stations added to any white or black list at this point)
    - o EchoLink Proxy support
- A Free Radio Network module
    - o Count connected clients
    - o Listen-only mode
- A voice mail module
    - o Record voice mail for local users
- A DTMF repeater module that retransmits received DTMF digits √
    - o Control other DTMF controlled stations on the same frequency
- A selective calling encoder module that use DTMF commands to make SvxLink send out selective calling sequences
- Possible to write new modules in the TCL scripting language

As you can see, we've made a great deal of progress with this second build. The new server has been running for more than 48 hours straight, so we hope we have answers some of the stability issues. I do not see us using the voice mail feature, unless you all have a lot of messages to pass to each other on the repeater publically. We could setup a voice mail box for announcements of club activities and such, but again, we would all have to agree before using some of these type features.

There is an effort planned for June when Jim Brown – W5ZIT will be visiting us in Texas to link the N5SN/R 443.900 and WD5GSL/R 147.160 machines together via an RF link. With this EchoLink service in place coupled with the linking project, Hunt County will have a great repeater coverage with wonderful features to meet any need.

Written by Vice-President Michael Ketchum – K5MDK

Club Library

Did you know that the Majors Field Amateur Radio Club has a Club Library? Well, you may not find that rare book on antennas. However, we are looking to grow. If you have a good old book that you think might be helpful to others in the club, please consider donating to the MFARC Library. If you are looking for an old issue of QST, we have a few years' worth of magazines for you to wander through. There is a signed copy of *Electronics in the Evolution of Flight* by Dr. Albert Helfrick – K2BLA. We also have *Ham Radio for Dummies*, *Wirebook V*, and some old copies of *The Callbook*, both the USA and Foreign listings from 1984. Other entries include repeater manuals and an old Raytheon ARC notebook.

The library is located just inside the door of Vault F room on the second floor of Building 113-A. You can plan a visit with Michael Ketchum – K5MDK by calling X7-4646.

Written by Vice-President Michael Ketchum – K5MDK

Calendar

May 10	MFARC Meeting at 11:45am at B136-A Kitty Hawk Conference Room.
May 12	SKCC Weekend Sprintathon CW http://www.skccgroup.com
May 12	Arkansas QSO Party
May 12	50 MHz Spring Sprint http://sites.google.com/site/springvhfupsprints
May 17	SVARA Meeting at 7:00pm at Hunt Regional Hospital.
May 19-20	Element 2A License Class and VE session at Texas State Guard Amory, Greenville. Contact David Rogers –KG5KPU for more info.
May 23	SKCC Sprint CW http://www.skccgroup.com
May 26	CW WW WPX Contest CW http://www.cqwpx.com
June 8-10	Ham-Com Plano, TX https://sites.google.com/view/hamcom
June 9-11	ARRL June VHF Contest http://www.arrl.org/june-vhf
June 14	MFARC Meeting at 11:45am at B136-A Kitty Hawk Conference Room.
June 16	ARRL Kids Day http://www.arrl.org/kids-day

June 16   West Virginia QSO Party http://www.qsl.net/wvsarc

June 21   SVARA Meeting at 7:00pm at Hunt Regional Hospital.

June 23-25   Field Day 2018 http://www.arrl.org/field-day

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

Thurs   SVARA Net Every Thursday night at 7:00pm on the K5GVL/R 146.780 MHz (+) PL 114.8Hz
        Meets every Thursday night except on SVARA meetings 3rd Thursday of each month.

Officers

President:	Larry Smith – K5XB	
	president@wd5gsl.net	
	(254) 644-6465 cell	
Vice President:	Michael Ketchum – K5MDK	
	vice-president@wd5gsl.net	
	(972) 408-6573 cell	
Secretary:	Scott Davis – KK7JS	
	secretary@wd5gsl.net	
Treasurer:	John Nelson Jr. – N0DFW	
	treasurer@wd5gsl.net	
	(903) 454-0911 cell	
VE/Class Team Leader:	Jae Stutzman – K5JAE	
	classes@wd5gsl.net	
Club Trustee:	Jonathan Brown – WB5KSD	
	trustee@wd5gsl.net	

Club Repeaters

Club Station:	TBD
VHF Repeater:	WD5GSL/R
	147.160 MHz (+) PL 100.0 Hz
UHF Repeater:	WD5GSL/R
	444.625 MHz (+) PL 151.4 Hz

AirWaves is a production of the Majors Field Amateur Radio Club

We're on the Web! Find us at: http://wd5gsl.net

Your article submissions are welcomed. Please submit to editor@wd5gsl.net.