



SLATS





St. Louis Amateur Television Society

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ON THE NEWS FRONT









THE PARKS ON THE AIR BOOK

ISBN: 978-1-62595-174-8

The Parks on the Air® Book explores the process of activating a park unit and hunting those activations. Through the experiences of 14 operators, it offers advice and motivation for taking your radio out to the park and becoming active in the growing POTA community.

Full-color format brimming with photos!

Request for Comments to the FCC About Proposed Changes to the 60 Meter

A few weeks ago, I sent out a request for members to comment to the FCC about proposed changes to the 60 meter band. Jim Boehner, N2ZZ, Roanoke Division Director and Bill Morine, N2COP, Roanoke Division Vice Director recently wrote a great request for action to members of their division about the proposed changes. Because the FCC has extended the deadline for comments to November 28, 2023 *from the original October 31) I thought it worthwhile to forward their message to the Midwest Division. Here is Jim and Bill's request for support (with the corrected due date):

We need your assistance, and we need it NOW. We strongly encourage you to assist the ARRL and the entire U.S. Amateur Radio community by submitting comments to the Federal Communications Commission (FCC) before November 28, 2023, to save the privileges we have fought to gain on 60 meters. Even if you are not currently active on 60 meters, the proposed reduction in power from 100 watts to an equivalent of less than 10 watts is the most sweeping reduction of HF privileges in decades. If Amateur Radio opposition to this proposed change is weak and the FCC goes through with the change, will a lackluster response from the Amateur Radio community embolden the FCC to remove or modify more HF privileges?

Please read this message in full to understand why your help is needed prior to submitting your comments.

The FCC has issued Notice of Proposed Rulemaking's (NPRM) Docket Number 23-120 which would reduce power on 60 meters from 100 watts ERP (Effective Radiated Power) to the equivalent of 9.5 watts ERP. The NPRM would replace the current five channels (currently each with a 100-watt power limit) with a 15 KHz continuous spectrum from 5351.5 to 5366.5 KHz, but limiting power to the equivalent of 9.5 watts ERP. ARRL is proposing to keep the current five channels AND add the docket's proposed 15 KHz of continuous spectrum, all at a power level of 100 watts ERP. It's important to note that in 2022 our neighbor, Canada, enacted ARRL's position by keeping the five current channels AND adding the expanded 15 KHz of continuous spectrum, all at 100 watts. ARRL is advocating for the FCC to adopt the identical allocations and power limits which Canada put in place over a year ago. When the FCC authorized 60-meter access for Amateur Radio operators in July 2003, the Commission cited the positive propagation attributes for emergency communications. Over the past twenty years during hurricanes, Caribbean Amateur Radio stations used 60 meters to relay critical weather and situational reports to U.S. operators. Clearly, 9.5 watts ERP would be woefully inadequate to maintain communications for these purposes.

In the May 2023 ARRL survey, members overwhelmingly pointed to Spectrum Defense as the #1 priority of the League. The Roanoke Division takes this priority seriously. For the maximum impact, the FCC needs to hear from ARRL members in Virginia, North Carolina, South Carolina, and West Virginia to underscore the importance of 60 meters in our densely populated region on the eastern seaboard situated between active hurricane zones and our nation's capital of Washington, DC. Having a consistent bandplan with Canada will also ensure harmonious communications throughout most of North America.

PLEASE support the ARRL's filing in this matter.

To learn more about the NPRM and its impact on our 60-meter privileges, please visit https://www.arrl.org/60-meter-band. On this webpage you will find the links to file comments with the FCC. Please don't delay. A substantial response from the Ham community before the November 28 deadline is the only way to forestall the loss of our valued operating privileges. Please urge your fellow Hams to file comments as well. Protection of our Amateur Radio spectrum is our number one priority.

To learn more about the NPRM and its impact on our 60-meter privileges, please visit https://www.arrl.org/60-meter-band. On this webpage you will find the links to file comments with the FCC. Please don't delay. A substantial response from the Ham community before the November 28 deadline is the only way to forestall the loss of our valued operating privileges. Please urge your fellow Hams to file comments as well. Protection of our Amateur Radio spectrum is our number one priority.

73 de

Jim Boehner, N2ZZ

Bill Morine, N2COP

Roanoke Division Director Roanoke Division Vice Director

I appreciate your support in defending our spectrum and for your support of the ARRL.

73, Art KØAIZ

ARRL Midwest Division

Director: Arthur I Zygielbaum, K0AIZ

k0aiz@arrl.org

PACIFICON 2023

ARRL Pacific Division Ham Radio Convention
Produced by the Mount Diablo Amateur Radio Club







CONFIRMED next PACIFICON 2024 October 18-20

San Ramon Marriott 2600 Bishop Drive San Ramon, CA 94583

Pacificon 2023

Since it had been several years since I attended Pacificon (www.pacificon.org), I decided to go this year to help man a both for FreeDV. I met Mooneer, K6AQ in San Jose airport and we motored up north to San Ramon on Thursday in a new Chevrolet "Bolt" EV from Hertz. The Bolt is a second generation of GM's answer to a small electric SUV and provided a good ride and plenty of battery for our trip. It may be one to look at if your considering an EV for your next vehicle. EVs are popular in California especially Tesla's models and with gasoline prices nearly double (yes, saw some pump prices nearly \$6/gal!) the incentive is there to buy electric.

Mooneer is one of the software developers of FreeDV and has added many features over the past couple years. If you have not tried this digital mode for HF recently, check it out at www.freedv.org where you will find a link to download the free software. In addition to helping out Mooneer at the booth answering questions about FreeDV, I took the opportunity to display a HiDes transmitter and information about digital ATV using DVB-T. I also gave a presentation on ATV Saturday. Members of Mt Diablo ATV club also had a table and demonstration ATV with a live transmission from their repeater. Here I met Mike, WA6SVT and others from the club. A previous PowerPoint presentation shown at the last SLATS Wednesday night described other activities. If you wish to see it, drop me an email and I will send you a DropBox link. Additional info on Mooneer and my trip to Pacificon may be found at this link https://freedv.org/2023/10/29/freedv-at-pacificon-2023/.



(From left to right: DVB-T transceiver, Mel Whitten KOPFX, the latest SM1000, two separate ezDV setups with the Icom IC-705 and Elecraft KX3, and a display showing the latest FreeDV activity on FreeDV Reporter.)

MEMBER'S HAM SHACK

MEL— KØPFX



KØPFX Operating Position #2 - (2023)

For DATV, the main transmitter/receiver uses a home brew DVB-T Interface/amplifier. It is on the desk top and identified with it's Volt and Amp meters. It is used with the HV-120 Receiver and HV-320 Transmitter just above it. This same interface includes a UT-100B dongle inside plus control of a second HV-120 receiver and a HV-200E transmitter used for simplex 70cm horizontal contacts with KDØPXF located just behind the laptop PC. To the left of the DVBB-T interface is a 16 port HDMI switch and the above it is a BlackMagic Design ATEM Mini Pro HDMI switch, camera control and recorder. The DVR and the Gefen Tool Box (HDMI/video test pattern generator) is on the top shelf. To the left of M2 rotor controller is a dedicated spectrum analyzer for monitoring my DVB-T signal.



We have all experienced the video lagging the audio and find it can be quite frustrating when a speaker's lips are not in sync with their voice. What causes this? Can it be avoided in DATV transmissions? Let's take a look at this problem.

First of all, we are not alone with this "sync" problem. As you may have noticed while watching commercial broadcasting TV. It happens often. Poor synchronization is experienced by just about everyone in the industry. In the recording industry a sync difference of more than 20ms is a problem for them. Very poor "lip sync" can be really annoying. It doesn't take much delay to notice it. A couple hundred ms (milliseconds) lag in the video is noticeable. Longer delays may make you want to look the other way while someone is talking. Broadcasters have software and hardware tools that delay the audio in an effort to keep the audio in sync with the video. In hardware you will find what are called "Audio Delay" boxes and "Lip Sync correctors." Any delay must avoid affecting the pitch of the audio too.

So, what does this all mean for us as ATV amateurs? Is there something we can do to improve the A/V sync in our ATV signal? Maybe. HIDes has "Low Latency" firmware for some of their receiver/ transmitters. This *might* help with the lip sync but it is really for reducing overall A/V latency. To use this firmware everyone must have the same model of transmitter and receiver. Currently, we all don't. I have not tried the firmware with the repeater's HV-110 receiver. The repeater transmitter is a HV-200 which does not have any receiver low latency compatibility. Changing to a HV-320 would be possible but the repeater really needs the HV-200's loop through HDMI port. I don't believe it would be worth the effort and cost to consider this right now.

What else could be explored?

The video requires a lot of processing for MPEG/h.264 compression and FEC. This causes overall latency and video delay longer than the audio. First, at your transmitter the video must be processed, then sent out OTA to the repeater's receiver where it is processed and on to the repeater's transmitter where it must be processed again. Finally, at your receiver the video must be processed yet again! And wow, what happens when we convert the transmitter's HDMI output to IP (internet protocol) streaming? Oh, now we can have at best 6-7 seconds of delay and up to 10 seconds or more depending on the network not to even mention the lip sync problem. The internet delay is not as bad as it may appear unless you are on 2 meters Talk-Back with zero delay audio talking about a video that is being transmitted over the repeater. However, there is a way to get around some of this problem. You could watch the IP streaming with VLC and then you'll see when to sync your 2m audio with the video.



The delay will seem long but it helps to avoid frustrating the viewer! Your internet latency may be different than others, but anything to minimize the viewer's frustration is worth the effort. This really isn't a fix for the A/V sync problem but rather something you should be aware anytime you are running a video and talking about it on 2 meters. I failed to do this recently with a PowerPoint presentation and was kindly reminded by a viewer of the latency!

Some TV sets (LG, SONY, Samsung) have a lip sync delay setting. It may be configured as Auto or have a manual adjustment. If you are using a TV (vs a PC monitor), check to see if it has lip sync delay correction. Maybe it could make a difference for DATV. Is there PC software that works with a sound card to delay the audio for our application? Probably. This might be worth a few Google searches to find out. Let me know if you find this as a possible solution. There is a lot of info about lip sync and latency on the internet.

From our friends at B&H Photo and Video in NYC you will find an "A/V Lip-Sync Corrector" made by SESCOM that adjusts the delay of the audio up to 300ms. Adding a delay in-line with the repeater's HDMI audio *might* help the lip sync problem. Would this be would be enough delay? I don't know. The SESCOM lip sync corrector is not an HDMI device. Rather, it is an analog one with RCA I/O jacks. A quick Google search did not find a lip sync corrector for embedded HDMI audio. There probably is one, but the cost could be prohibitive. What could be tried is a HDMI audio "Extractor" and pass the output of it's audio into the SESCOM and then into HDMI "Inserter." Any audio passing from the receiver (your input into the repeater) to the repeater transmitter would then be delayed. Caution must be given here too. An HDMI signal can be degraded causing loss of sync due to the overall cable length, cable bandwidth /adapters and any device added in-line. Keep this in mind too when adding HDMI cables/switches/a DVR in your ATV station. General rule-of-the-thumb for HDMI cables is "the larger the diameter the less loss."

If you would like to do some experimenting with audio delay and lip-sync correction, then take a look at the SESCOM Lip-Sync Corrector at B&H. I think it could be put in line with your microphone and delay your audio which might reduce the lip sync problem coming out of the repeater's A/V.

As you can see, I am looking for some way to add a delay into the audio line in an effort to reduce the lip sync problem. Maybe there is an easy fix for this that I have missed. Perhaps, you may have an idea I can try. If so, please let me know.

Mel, KOPFX

LINKS:

Ham Radio Quick Links:

SOLAR UPDATE



The K7RA Solar Update (arrl.org)

Amateur Television Network https://www.atn-tv.com/

<u>ATN Repeater</u> video streaming https://www.atn-tv.com/events/streaming

<u>ATN</u> on YouTube https://www.youtube.com/ AmateurTelevisionNetwork

ATN on Whereby.com https://whereby.com/atn1

<u>TAPR</u> - Tomorrow's Ham Radio https://tapr.org

DIGITAL ATV

Digital Amateur Television D-ATV https://www.dxzone.com/catalog/ Operating Modes/Digital ATV/

YouTube Videos

Dave Casler KEØOG - YouTube

Videos https://www.youtube.com/ channel/UCaBtYooQdmNzq63eID8RaLQ

Solar Index & Propagation Made Easy The SmokinApe

https://www.youtube.com/user/ TheSmokinApe

SLATS ITEMS FOR SALE OR GIVE AWAY

YAESU FT 847 ~ HF/50/144/430 Mhz

Sell an item

Name

Earle Young

Call Sign

WDØFCH

+13143066646

Email

wd0fch@outlook.com

Brief Description of item

Yaesu FT 847 with mic, CW filter and external International Radio VOX Box.

Details, price, condition, etc.

Includes original manual and shipping box. Price is \$800.00 plus shipping.

Very good condition





