

# The *Microvolt*

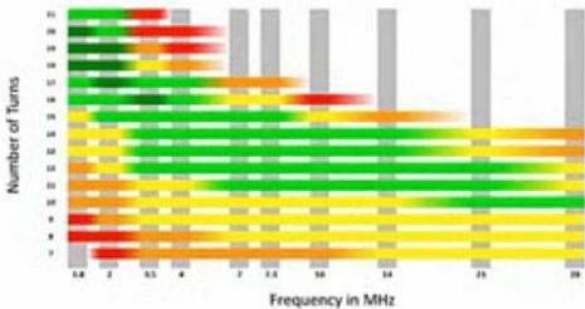
February 2022



## 50 Ohm 1:1 Balun / Common Mode Choke

RG-400 on a Single FT240-31 Core

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- Notice that most models put a "source" in an antenna without a Transmission Line. Is that OK?
- Yes, if TL is placed symmetrically wrt the antenna.
- Yes, if TL is choked to suppress CM currents.
- Dipole: choke needed sometimes
- Fan Dipole: choke minimizes band interaction
- EFHW: choke needed if you have RF in the shack
- Choking coax improves resting receiver noise level



## Prologue

**Publication:** *The Microvolt* (USPS 075-430) is the official publication of the Utah Amateur Radio Club, Incorporated, 632 S. University Street, Salt Lake City, UT 84102-3213. It is published monthly except August. Subscription is included with club membership at \$20 per year. Single copy price is \$1.50. Periodicals postage paid at Salt Lake City, Utah. Postmaster: send address corrections to *The Microvolt*, c/o Tom Kamlowsky, 4137 Clover Lane, Salt Lake City, UT, 84124-2711.

Deadline for submissions is the 24th of each month prior to publication. Submissions by email are preferred (k7hfv@arrl.net), but other means including diskettes and typewritten submissions can be mailed directly to: Gordon Smith, 632 University St., Salt Lake City, UT 84102-3213. Reprints are allowed with proper credits to *The Microvolt*, UARC, and authors. Changes in mailing address should be communicated to the Club Secretary: Tom Kamlowsky, 4137 Clover Lane, Salt Lake City, UT, 84124-2711.

**Club:** The Utah Amateur Radio Club was organized under its present name in 1927, although its beginnings may date back as early as 1909. In 1928, it became affiliated with the American Radio Relay League (club #1602) and is a non-profit organization under the laws of Utah. It holds a club station license with the call W7SP, a memorial call for Leonard (Zim) Zimmerman, an amateur radio pioneer in the Salt Lake City area.

**Meetings:** The club meets each month except July and August. The meetings are held on the second Thursday of the month at 7:30 PM in the University of Utah's Warnock Engineering Building, generally in room 1230 or 2230, sometimes in 2250 or 105.

**Membership:** Club membership is open to anyone interested in amateur radio; a current license is not required. Dues are \$20 per year, including a *Microvolt* subscription. *The Microvolt* and membership cannot be separated. Those living at the same address as a member who has paid \$20 may obtain a membership without a *Microvolt* subscription for \$12. Send dues to the Club Secretary: Tom Kamlowsky, WA7ZRG, 4137 Clover Lane, Salt Lake City, UT 84124-2711. Let the Secretary know if you prefer the electronic edition of *The Microvolt* instead of the printed version.

**Contributions:** Monetary contributions are gladly accepted. Send directly to the Club Treasurer: Chuck Johnson, 1612 W. 4915 S. Taylorsville, UT 84123-4244. For in-kind contributions, please contact any board member to make appropriate arrangements.

**Repeaters:** UARC maintains the 146.62- and 146.76- repeaters. The repeaters are administered by the UARC Repeater Committee. Comments and questions may be directed to any Committee member. The Lake Mountain repeater (146.76-) is IRLP node 3352. Instructions for IRLP use are on the club website.

**Ham Hot-Line:** The Utah Amateur Radio Club (UARC) has a Ham Hotline, 583-3002. Information regarding Amateur Radio can be obtained, including club, testing, meeting, and membership information. If no one answers leave your name, telephone number and a short message on the answering machine, and your call will be returned.

### UARC 2022 Board

President: Morris Farmer, AD7SR	801 278-4966
Executive VP: Lonnie Oaks, K7LO	801 255-1225
Vice Pres: Bruce Fereday, KF7OZK	801 883-9428
Secretary: Tom Kamlowsky, WA7ZRG	801 505-9134
Treasurer: Chuck Johnson, WA7JOS	801 268-0153
<i>Microvolt</i> Editor: Gordon Smith, K7HFV	801 582-2438
Asst. <i>Microvolt</i> Editor: Rick Asper, AC7RA	801 865-1693
Program Chairperson: Rian McKee, KF7QGY	801 548-1084
Program Chairperson: Mike McAinsh, KI7MTI	385 246-3981
Imm. Past President: Clint Turner, KA7OEI	801 566-4497

### Committee Chairpersons and Members

Bookseller: Rick Gregory, KG7GOW	801 582-7783
Historian: Ron Speirs, K7RLS	801 904-3587
Field Day Chair: (To be determined)	
License Trustee: Brett Sutherland, N7KG	801 298-5399
Repeater Engineer: Clint Turner, KA7OEI	801 566-4497
Autopatch Engineer: Gordon Smith, K7HFV	801 582-2438

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### IRLP Information

For information on using the club's IRLP node on the 146.76 repeater, check <http://www.utaharc.org/irlp>. Members may contact the club Secretary for the necessary prefix code.

For late breaking news listen to the UARC Information Net Sundays at 21:00 on 146.62 or set your browser to: <http://user.xmission.com/~uarc/announce.html>

We are grateful to the management of XMission, our Internet Service Provider (ISP), for the donation of this Web-Page service.



For account information go to: <http://www.xmission.com/> Or call 801 539-0852



# The Microvolt

The Official Publication of the Utah Amateur Radio Club, Salt Lake City, Utah  
Volume 65, Issue 2, February, 2022

## Latest News

### February (Online) Meeting: “All About APRS”

What is APRS? One of the original names it represented was “Automatic Position Reporting System” because APRS could be (and still is) used as a mechanism by which a person in a car, an aircraft, or just walking could send his current lat/long coordinates on a regular basis to anyone who might be interested, including family or (we hope less often) search parties. Many other uses have been discovered, such as weather parameters that could be used to plot weather patterns and predictions, all sent out automatically. So now the proper name of the technique is “Automatic Packet Reporting System.” It is appropriate because its underlying coding system is “Packet Radio.”

Mike McAinsh, KI7MTI, one of our new Program Chairpersons says:

“Our main speaker for the evening will be Robert Tyler Griffiths, N7UWX. Tyler will be discussing APRS in all of its forms. As one who knows next-to-nothing about APRS, I’m excited to have him join us to share his knowledge.

“He states, ‘I enjoy packet radio, Winlink, APRS, HF digital, direction-finding, public service activities, and building repeaters.’ He runs two Winlink gateways, and has a couple of gateway portables.

“Tyler was originally licensed in 1991. He states, ‘I got interested in ham radio after CBs got too crude.’ He met a ham at work who encouraged

him to pursue the hobby, and got serious about getting a license when no-code licenses were established by the FCC.

“He states, ‘I enjoy packet radio, Winlink, APRS, HF digital, direction-finding, public service activities, and building repeaters.’ He runs two Winlink gateways, and has a couple of gateway portables.

“Tyler is the Vice President of the Bridgerland Amateur Radio Club, having served as that club’s President on several occasions. He has been the ARES Section Emergency Coordinator since spring of 2020 and is the AEC for Cache County.”

As has become our recent custom, the meeting will be held on-line via YouTube. Any time after 7 P.M. you can start looking for us at:

<https://www.youtube.com/c/UtahAmateurRadioClub>.

From there, look for the feature that is marked “live.” The meeting should commence at 7:30.

UARC meetings are held on the second Thursday of each month except for July (annual steak-fry) and August (vacation).

## Our Cover

Our cover this month features a few images from the January meeting in which Mike Mladejovsky, WA7ARK, told us about what can be done with end-fed (or *near* end-fed) antennas, which seem to be rather recently discovered as antennas and kits seem to be appearing on the ham market.

Mike covered a number of topics such as how to use capacitance to allow coverage of more bands with one antenna, how to handle common mode currents, and a clue to the numerous possible mods and how a good modeling program can tell you which ones are viable.

If you missed it, the recording of the meeting can be found on YouTube. Once there, put "Utah Amateur Radio Club" in a search and you should easily come to Mike's presentation.

### New Meeting Feature

By Mike McAinish, KI7MTI, Program Chair

Rian Mc Kee, KF7QGY and I have been elected program co-chairpersons for this year. We aim to bring varied and interesting programs to the monthly meetings with something for the new hams as well as the OMs in our ranks.

Our inaugural program will begin with a new, monthly feature that we're calling "*Elmer's Corner*." This is a place in the program where hams, who may have been licensed for many years, or newly-licensed, can ask questions that will be answered by other hams on any topics pertinent to ham radio.

This first edition of *Elmer's Corner* will be hosted by the Grand Elmer of the UARC community, Gordon Smith, K7HFV, who will talk about proper radio etiquette. [Uh, who is this "Grand" person who is using my call? -Ed]

Anyone who would want a topic discussed in this forum should send an email to [ki7mti@arrl.net](mailto:ki7mti@arrl.net). The more interest that is shown in a particular topic, the better the chance that it'll be chosen for discussion in *Elmer's Corner*. So, if you and a few other hams are discussing a radio-related topic, and something comes up that has everyone scratching their heads, send an email that says something like, "Me and a few of my friends was discussin' on-air just exactly how a rectifier goes

about rectifying..." and we will try to answer that question for you.

### Utah County License Classes

Noji Ratzlaff, KN0JI, tells us that a number of in-person license classes will be offered during 2022. Each course will cost \$10. Register at: <http://psclass.orem.org/>.

License Class	Day	Dates	Times
General	Four Tuesdays	Mar 22	6:30-8:30 PM MDT
		Mar 29	
		Apr 5	
		Apr 12	
Extra	Five Tuesdays	Jul 12	6:30-8:30 PM MST
		Jul 19	
		Jul 26	
		Aug 2	
		Aug 9	
Technician	Four Tuesdays	Sep 20	6:30-8:30 PM MDT
		Sep 27	
		Oct 4	
		Oct 11	

These are homework courses; you'll be expected to complete an assignment (and email me the results) by the start of every class period, even the first one. No course textbooks are required. Then again, these courses will be casual, hands-on, and fun for those who remain awake.

Please contact Noji ([nojiratz@hotmail.com](mailto:nojiratz@hotmail.com) or 801-368-1865) with any questions about the courses.

### KB7FXB, SK

It is with great regret that we announce the passing of Venus Cederstrom, KB7FXB, perhaps the most recognized female voice heard on FM in the Wasatch Front. Venus passed away on Tuesday, January 4, at age 96.

Practically anyone who has been active on two-meter FM in the Salt Lake Valley or Utah Valley has heard her pleasant voice and guessed it might be a lady in her 30's.

Venus said that her parents planned on naming her after the city in Italy, but, unfortunately, they didn't know how to spell it correctly. She used the name as recorded, but told the world she liked to use it to indicate she was named after Venus, the planet.

One of the folks that helped Venus get interested in Amateur Radio was her son, John Luker, WB7QBC. Venus liked to travel alone and John thought it a good thing for her safety if she had communication. She got her Novice and Technician licenses in 1988 and 1989, respectively, and went on to General in 1992.

Even though she had done practically no HF operating, she decided to take an Extra Class course from Ron Speirs, K7RLS. She achieved that highest license level in 2004.

When the state's 100-year mark came around in 1996, Venice participated by visiting all 29 counties and getting the associated booklet stamped in each one.

One of Venus's favorite activities was line dancing. She was a regular at a local get-together until she got into her 90's and reached a point when she no longer felt safe to drive at night. Ultimately she gave up driving altogether and was proud of the fact that she knew when to quit and did not need anyone to watch over her.

She must have had a number of health problems to deal with, but she made a point of not mentioning any discomfort on the air. She always kept a positive outlook and put a cheery voice on the air.

One thing of which Venus was always proud was her progeny which is in the 100's and extended to great-great-grandchildren.

## **Washington ARES Helps After Bombing**

The Amateur Radio Emergency Service® (ARES®) team of Centralia, Washington, activated following an early morning bombing on December 19. Authorities say two men planted the bomb, which blew up the ATM at a local bank. The Washington State Patrol Bomb Squad and the FBI responded to assist the Centralia Police Department (CPD) in the investigation. The Centralia ARES team staged its communications van next to the scene. The 13 ARES team members who responded to a call for assistance were paired with CPD detectives to assist in the evidence search at the crime scene.

ARES team members had been trained to perform evidence searches for the police department and were able to put those skills to work. Teams of three to five ARES members, led by a detective, gloved up and slowly searched an estimated 10,000 square feet around the bank, along nearby railroad tracks, and an adjoining field, retrieving as many potential pieces of evidence as they could find. The ARES team was released after about 1 hour. — *Thanks to [Bob Willey, KD7OWN](#), Centralia, Washington, ARES Emergency Coordinator*

## **Amateur Operation on 3.45 to 35. GHz Must End by April 14**

The FCC has established April 14, 2022, as the date by which amateur radio transmissions must stop in the upper 3.45 – 3.5 GHz segment of the amateur secondary 9-centimeter band. Secondary operations are permitted to continue indefinitely in the remainder of the band, 3.3 – 3.45 GHz, pending future FCC proceedings.

On January 14 the FCC released DA 22-39, which announces the results of Auction 110 for the 3.45 – 3.55 GHz band.

## Annual UARC Financial Statement

**Submitted by Chuck Johnson, WA7JOS, Treasurer**  
**1/1/2021 through 12/31/2021**

Income		Expense	
Source	Amount	Purpose	Amount
ARRL Dues	439.00	Administrative	170.76
Book Sales	196.15	ARRL Memberships	336.00
Dues	5,572.00	Books	505.48
Future Dues	360.00	Field Day	775.69
Int Inc	194.70	Insurance	200.00
Steak-Fry Income	615.00	Microvolt Postage	900.00
		Microvolt Printing	1,486.65
		PayPal Fees	242.99
		Remote HF	2,757.75
		Repeater	356.59
		Sales Tax	126.93
		Square Inc Fees	6.10
		Steak-Fry Expenses	690.87
<b>Total Income</b>	<b>7,461.85</b>	<b>Total Expense</b>	<b>8,555.81</b>
	<b>Net Expense</b>	<b>-1,093.96</b>	

## Member of the Month

### Vee Butterfield, W7IBB

By Linda Reeder, N7HVF

This month we are featuring W7IBB, Vee Butterfield. Vee obtained his Novice license in 1958 at age 15 while a junior in high school. His call sign was KN7EOH. In 1959 he earned his General license and his call became K7EOH. Gordon Smith, K7HFV, received his first license

(which was a General) that same year. Vee and Gordon became friends. They lived a mile from one another, and both attended East High School.

Back in those day, when one had a General class license, one could talk on AM phone and also do

CW. Single sideband wasn't common yet, although it occupied the lowest 20 kHz of the 40-meter phone band.

When Vee received his Novice license, he built a crystal-controlled Heathkit DX-20 transmitter and bought a Hammarlund HQ-100 receiver. When he received his General license the next year he built a Globe Scout 680 transmitter which also did AM at 75 watts and he used a Heathkit VFO. Vee enjoyed talking and listening to people on AM. It sounded pretty good, but if you tried to talk to someone out of the state it could get noisy.

Vee was a member of UARC, UtahVHF Society, ARRL, and the East High School Amateur Radio Club. Vee said he attended Field Day once when he was a teenager. He thinks it was near Brighton.

After graduating from high school, Vee sold his ham radio equipment and went on a mission for the Church of Jesus Christ of Latter-day Saints. He served in the Gulf States Mission for two years. When he came home in 1964, he went to the University of Utah, got married, and finished his Bachelor of Science degree in Electrical Engineering.

Vee and his wife, Diane, had four children: two boys and two girls, and raised their family in Holladay, Utah. Their children all graduated from the University of Utah. Three of them became engineers. His oldest daughter was in the first graduating class with a degree in computer engineering, a combination of electrical engineering and computer science. One of his sons later also earned this degree. Their other son has a master's degree in Mechanical Engineering. Their other daughter became a registered nurse.

In 1966 Vee bought another amateur radio station, a Galaxy 5 MK2 transceiver (It ran 400 watts single sideband) and a simple multi-band vertical antenna.

In 1967 Vee graduated with his BSEE and started the MBA program at the University of Utah as a teaching assistant. After the first year of his MBA program, he was going to be drafted, so in 1968 he accepted a job as an engineer at Mare Island Naval Shipyard in Vallejo, California. He was an engineer and a project manager for sonar systems on Navy submarines. He took his ham station with him. In those days if you moved into a different call area you had to get a call sign for that area. Vee's new call sign was W6LBL. He continued to ham while he was in California. Vee worked there for two years and then moved back to Utah where he got his current call sign: W7IBB.

Vee worked for Kennecott Copper as a process control engineer and manager for 13 years. He finished his MEA (Master of Engineering Administration) from the University of Utah. He worked in five different industries as an engineering manager.

Vee also owned and managed apartments and was involved in many small businesses. In one side business he developed software for medical offices and wholesale distributors and sold several systems in northern Utah. He also built and sold personal computers to small businesses and consumers.

In 2004 Vee's wife, Diane, passed away. He found another Diane and married her in 2007. They bought a home in Taylorsville, Utah.

Without an antenna he was off the air. He got active in ham radio again in 2018 using a Kenwood TS-440-SAT that he bought in the mid-1980s. He put up a long wire antenna and was back on the air.

He later upgraded his station to a Yaesu FT DX-101D transceiver, put up a 20/40-meter fan dipole and bought a GAP Titan DX vertical antenna.

Vee primarily works the HF bands. He participates in 40-meter nets. He also spends time on FM

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repeaters with his new transceiver. He is still a member of UARC, Utah VHF Society, and ARRL. Vee checks into the Jefferson Noontime Net every day.

He learned Morse Code in 1958 in weekly classes with a Scout Troop at the Naval Reserve at Fort Douglas when he was preparing for his Novice exam. After not using CW for many years, he is pleased that he still remembers the code and plans to be more active on CW in the future.

Being retired, he now spends time with family, amateur radio, and home projects. He has become a great grandfather. He has been licensed for 63 years and has never let his General license lapse.

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Someday an Extra Class License?

Vee, we wish you the best in all your endeavors. Thank you for letting me interview you.



Vee Butterfield, W7IBB, at his Station