

The Arkansas Diamond



July 26

ARKANSAS DIAMOND RADIO CLUB NEWS LETTER

Volume 49

Local Nets:

Petit Jean Mountain
Monday Night
7:30pm 146.685
141.3 Tone

ADARC Simplex
Thursday Night 8pm
146.51 No tone no
offset

CAREN Statewide Net
Thursday Night 7pm
146.940 - offset
no tone

FARC Conway
Thursday Night
7:30 pm 146.970 pl
114.5

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Next Meeting July 9th

North Fire Station

By the Hospital and Next to Colton's

5pm ish if you want to eat

6pm for the regular meeting



From the PREZ!

By David Eichenberger, W5WUP — President, ARDAC & ARRL Emergency Coordinator

Conway County demonstrated outstanding readiness last weekend as we tested our ability to maintain emergency communications during a disaster — and I'm proud to report the results were 100% positive. When modern infrastructure fails, amateur radio continues to stand strong, and this year's ARRL Summer Field Day proved it once again.

Held during the last weekend in June, ARRL Field Day is sponsored by The American Radio Relay League, the national association for amateur radio. It remains the largest emergency communications exercise in the United States and Canada, designed to simulate conditions similar to a tornado or widespread outage where cell service and internet may be unavailable.

This year, ARDAC operators partnered with the Conway County Office of Emergency Management, the Morrilton Fire Department, and deployed the Regional Mobile Command Center at the Morrilton North Fire Station. Together, we demonstrated how amateur radio integrates seamlessly with county emergency services.

Operators established portable stations, ran voice, digital, and data communications, and operated entirely on generator and alternative power. The message was clear: even when everything else goes down, radio keeps communities connected.

The two day event was kicked off by Vice President Roger Alabach, member Stewart Nelson, County Judge Jimmy Hart, and myself. Their participation underscores the strong partnership between ARDAC and Conway County leadership. Field Day officially concluded at 1:00 PM on Sunday, marking another successful year of emergency readiness operations.

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I also want to recognize the excellent turnout from our operators and supporters:

David Eichenberger – W5WUP – Morrilton

Roger Alabach – KF5SDE – Morrilton

Charlie Tudor – N5EH – Plumerville

Earle Eichenberger – KF5IJA – Morrilton – Fire Chief

Timothy Hill – Morrilton

Tim A. Hill – Morrilton - KJ5QZN - Morrilton

Richard Cate – KI5GUJ – Petit Jean Mountain

Shelley Tienken – KF5SBG – Perry County

Anita Tienken – AA5AT – Perry County

Jimmy Hart – Springfield – County Judge

Rocky Martin – KI5ZKC – Greenbrier

Holly Martin – Greenbrier

Steve Beavers – KF5DIF – Morrilton – OEM Director

This group represents the best of amateur radio — technical skill, public-service dedication, and a commitment to keeping Conway County resilient.

If you're interested in earning your ham radio license or simply want to learn more, the Arkansas Diamond Amateur Radio Club in Morrilton is always ready to welcome new members. Whether you're curious, community-minded, or technically inclined, there's a place for you in amateur radio.

73,
David Eichenberger
W5WUP
President, Arkansas Diamond Amateur Radio Club

Near Station Interference

So, you are working at a 5 station Amateur Radio Field Day location. As the contest commences you find a lot of QRM not just from normal atmospheric conditions but from your buddy's station. This should not be so because he is on a different band but it happens. You wonder, how can we operate without taking turns. There are solutions to this problem. Unfortunately, we had only 1 station at our field day location so the solution I am about to suggest goes untested by us.

There are several youtube videos available demonstrating and describing the band pass filter. Various vendors have these available for purchase with prices ranging from 50 dollars for each band for the Chinese model to 350 dollars from DX engineering. There are also a few videos showing how to build your own.

What is a band pass filter?

A band pass filter is a device or circuit that allows signals within a specific, designated range of frequencies to pass through while blocking (attenuating) all frequencies outside of that range. It essentially acts as a frequency "window," keeping out unwanted noise or interference. **Continued on next page.**

Continued from P2.

. In theory if you don't want a 40 meter station interfering with you 20 meter station you will use a 20 meter band pass filter.

How it works:

A band pass filter works by combining two basic types of filters: a high-pass filter and a low-pass filter:

1. The Low-Pass Filter allows all frequencies *below* a certain upper cutoff frequency to pass, blocking anything higher.
2. The High-Pass Filter allows all frequencies *above* a certain lower cutoff frequency to pass, blocking anything lower.

When combined, these two filters create a specific range (called the passband) that sits between the two cutoff frequencies. Only the frequencies that fall inside this middle "band" can pass through the circuit.

Key Disadvantages of the Band Pass Filter:

Phase Shift and Distortion: Filtering a signal can introduce phase shifts or alter the waveform's shape, which degrades signal integrity—especially in critical audio, radar, or communication applications.

Circuit Complexity and Tuning: Building an effective band pass filter often requires cascading multiple low-pass and high-pass filters or using complex multi-stage amplifier circuits. This demands more components and extremely precise tuning.

Narrow Bandwidth Limitation: By restricting the frequency spectrum, band pass filters are less effective against broadband noise and cannot pass wideband signals.

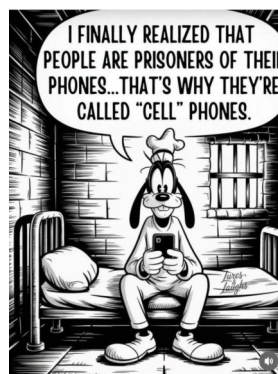
Component Tolerance Susceptibility: Because these filters isolate a specific and often narrow band of frequencies, any slight variance in component values (e.g., due to temperature shifts or manufacturing defects) can significantly alter the filter's center frequency and overall performance.

Higher Insertion Loss: Especially in passive configurations (like LC filters), band pass filters can introduce high insertion loss (signal power reduction) and are vulnerable to "loading" effects when connected to subsequent stages, requiring additional buffer circuitry.

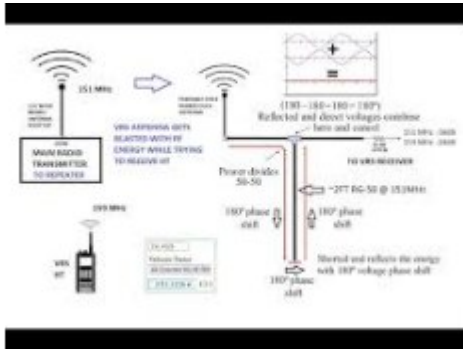
A less expensive alternative to using the band pass filter is a **coax stub**. We made one of these at one of our tech nights.

A coax stub is a length of coaxial cable connected at one end to the main transmission line and left either open or shorted at the other. By precisely cutting the stub to a specific electrical length—often a quarter or half-wavelength reflects specific radio frequencies out of phase, creating an effective notch filter.

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For a visual breakdown of how these stubs filter out unwanted signals and help clean up your RF setup click on the link to see a youtube video:



How it Works

By carefully choosing the length of the stub, you can control the phase of the reflected wave. If the reflected wave returns to the main connection point exactly 180° out of phase with the original signal, the two waves cancel each other out. This turns the stub into an efficient "notch" filter, blocking or attenuating that specific frequency while allowing all others to pass.

- **Shorted Stubs:** The center conductor is connected to the outer shielding at the far end. A short-circuited stub that is exactly $\frac{1}{4}$ of a wavelength act as an open circuit (blocking the frequency completely), while a $\frac{1}{2}$ wavelength stub acts as a short circuit.

Key Concepts for Cutting a Stub

- Calculation:** To figure out how long to cut the cable, you calculate the physical wavelength in free space and multiply it by the velocity factor of your specific coax. For example, a quarter-wave stub is calculated as:

$$\text{Length} = \frac{300}{\text{Frequency (MHz)}} \times \frac{\text{Velocity Factor}}{4}$$

Because stubs are inexpensive and easy to make using scrap cable and basic adapters, they are widely used.

- Impedance matching:** By altering the length and position of a stub, engineers can perfectly match an antenna's impedance to the transmission line.

So, there you have it. I hope to see some of this in action at our next event.

Meeting July 9th: Don't miss our meeting.

Program: Important business including repeater status and expenses. Field Day recap.

Tech night: Please make suggestions on what you want to work on.

Hamfests:

08/21/2026 - 08/22/2026 [Joplin Hamfest](http://joplinhamfest.org) <http://joplinhamfest.org>

09/26/2026 - [Central Arkansas Hamfest & Swap Meet](https://www.w5ola.org) Perryville <https://www.w5ola.org>

Please comment or make suggestions concerning our newsletters. kf5sde@gmail.com

**Arkansas Diamond
Amateur Radio Club**

P.O. Box 1262
Morrilton, AR 72110.

The Arkansas Diamond Radio Club (KE5FSY) of Morrilton News Letter This bulletin is published 4 times a year for the promotion of HAM radio. Ham radio is for enjoyment and is the emergency back bone of communication for the communities. When all else fails we will be there, we have in the past and will be in the future. Editors are KF5SDE Roger Alabach kf5sde@gmail.com All HAM related stories are welcome.


Organization

Club Officers

David (W5WUP) is the Club President, Conway County ES Training & Resource Officer, County Emergency Coordinator for ARES/RACES/AUXCOM.

Roger (KF5SDE) is the Club Vice-President and the Deputy Communications Officer for Conway County ES/911. He is also in charge of the quarterly newsletter.

Steve Beavers (KF5DIF) is the Club Treasurer and Director of Conway County Office of Emergency Services/911

We are on the web

<https://arkansasdiamondarc.com/>

Here are a few Special Event Stations that might be of interest.

- 07/12/2026 | Union Pacific Big Boy 4014
- **Jul 12-Jul 13, 1400Z-2000Z, K8R**, Struthers, OH. Struthers Regional Operators of Amateur Radio - W8RAR. 14.270 7.240 14.074 7.074. QSL. Struthers ROAR, 9011 Market St. Suite G, North Lima, OH 44452. The Union Pacific Big Boy 4014 is expected to stop in Struthers approximately: 11:30 AM – 12:00 PM Eastern Time The K8R Special Event Station will be located immediately adjacent to the train stop location, allowing visitors to experience both the historic locomotive and amateur radio operations. <https://www.qrz.com/db/W8RAR>
- 07/17/2026 | W3A Commemoration of Apollo 11 Live TV From the Moon that Allowed the World to See Mankind's First Steps on the Lunar Surface
- **Jul 17-Jul 21, 1300Z-2200Z, K3NEM**, Middle River, MD. Amateur Radio Club of the National Electronics Museum (ARCNEM). 14.269 14.069 7.269 7.069. Certificate & QSL. ARCNEM, c/o Fred Heath AI3Z, 202 Baltimore-Annapolis Blvd., Severna Park, MD 21146-1368. WW-2.us
- 07/20/2026 | EAA Airventure Worlds Largest Airshow
- **Jul 20-Jul 25, 1300Z-2000Z, W9ZL**, Oshkosh, WI. Fox Cities Amateur Radio Club. 7.250 14.275 50.150. Certificate. FCARC W9ZL special event station, PO Box 2346, Appleton, WI 54912. FCARC.club
- 08/08/2026 | Navajo Code Talkers Day
- **Aug 8-Aug 14, 0024Z-0004Z, N7HG**, Chinle, AZ. N7HG. 14.265 7.265. Certificate. Herbert Website HRO Goodluck, PO Box 06, Chinle, AZ 86503. Celebrating Navajo Code Talkers day,
- 08/15/2026 | 50th Anniversary of the Middletown & Hummelstown Railroad
- **Aug 15, 0800Z-1300Z, W3R**, Middletown, PA. Central Pennsylvania Repeater Asso. 7.050 7.190 14.025 14.260. QSL. Richard Lenker, 3809 Griffin Lane, Harrisburg, PA 17110. We request you apply on the W3nd.org Web site for your card. We will check it agents the logs. We will be sitting in a 1920's dinning car making contacts. I will be on the IRLP link 7060 from Harrisburg. Look for us on Voice, CW, and FT-8 Richard KB3YRC W3nd.org
- 08/29/2026 | Auburn Cord Duesenberg Festival Special Event Station
- **Aug 29-Sep 12, 1300Z-2300Z, K9A**, Auburn, IN. Northeastern Indiana Amateur Radio Association. 7.180MHz 14.250MHz 28.350 MHz. Certificate & QSL. Northeastern Indiana Amateur Radio Association, P.O. Box 145, Auburn, In 46706-0145. W9OU@W9OU.ORG
- 09/05/2026 | Route 66 100th Anniversary
- **Sep 5-Sep 6, 1700Z-2100Z, W9SPI**, Springfield, IL. Sangamon Valley Radio Club. 7180 khz 14250 khz 21325 khz 28400 khz. QSL. Sangamon Valley Radio Club, PO Box 9162, Springfield, IL 62791-9162. SASE to: Sangamon Valley Radio Club Box 9162, Springfield IL 62791-9162. Primary operating hours from 17utc to 21utc both days. <https://svrc.org>
- 09/12/2026 | Route 66 On the Air
- **Sep 12-Sep 20, 0000Z-2359Z, W6H**, Rio Rancho, NM. Albuquerque DX Association. 7266 14074 14266 18080. QSL. Bill Mader W6H, 4701 Sombbrero Rd SE, Rio Rancho, NM 87124. <https://www.qrz.com/db/W6H>
- 09/16/2026 | The Saving of The Liberty Bell
- **Sep 16-Sep 24, 0000Z-2359Z, W3L**, Harleysville, PA. WV2M. 7.030 7.240 14.030 14.240. QSL. Frank Gallo , 106 Tweed Way, Harleysville, PA 19438. <https://www.qrz.com/db/W3L>

I suggest printing this page and posting it in your ham shack.

For a more complete list of upcoming special event stations go to: <https://www.arrrl.org/special-event-stations>

Get on the Air!