



Home of the
GMRS 1900 Net
on the White Tanks

462.5500 Mhz

The AZ GMRS Connection

August 2025

Upcoming Events

Introduction to Two-Way Radio Class

Date: Saturday, August 9, 2025 10am - 2pm

Location: Class available online

Details: A class involving the fundamentals of two-way radio for those interested. Free of charge. Make sure to sign up. Open to AGRC members and the public. We will cover the following topics:

- The benefits of two-way radio
- Comparison of GMRS, FRS, MURS and CB radio
- FCC licensing
- Repeater use and protocols
- How to get assistance with programming
- Emergency communications
- Much more

More information will be sent to those who register. Get involved and sign up at the following link:
<https://www.azgmrs.org/event-calendar/>

Member Get-Together at Barro's Pizza

Date: Saturday, August 16, 2025 at 11am

Location: Barro's Pizza, 51st Ave and Bell Rd, Phoenix, AZ (SW corner)

Details: A monthly get-together of AGRC members. Not an official meeting. A great way to meet people you hear on the air. Bring your appetite and your interest in radio!

General Membership and Board Meeting

Date: Saturday, September 6, 2025 at 1pm

Location: Denny's Restaurant, 5161 W Thunderbird Rd, Glendale, AZ

Details: This is our General Membership and Board Meeting. It gives everyone the opportunity to meet your fellow members and keep updated on what's going on with your organization. Don't forget to bring some cash for the raffle. We always have a winner!

Information is available about other events at:
www.azgmrs.org/event-calendar/

In This Issue:

Latest News

New Repeater in Mesa

Communications Digest (Antennas and Gain)

Resources for Members

Community Spotlight

Contact Information

Welcome to the AZ GMRS Connection Newsletter!

Latest News

GMRS License Numbers in Arizona Continue to Climb

The number of GMRS licensed operators continues to rise each and every month, as it has for years. As of August 1st, that number sits at 14,338. Between January 1st and August 1st of 2025, the long list of GMRS operators expanded by 1,257. Currently, our AZGMRS organization has 537 members. Here are some facts about GMRS call signs and license requirements:

- Fifteen of the thousands of issued GMRS call signs in Arizona are grand-fathered "original" call signs, which consist of three letters (starting with a K) and four numbers. For example, KAA1234. The call signs that are currently issued by the FCC start with a "W."
- The majority of new GMRS operators indicate they became interested in GMRS two-way radio to stay in touch with family and friends when outside cell phone coverage or during an emergency.
- Any U.S. citizen that meets minimum requirements can apply for a license. Once the license is granted (usually within 2-3 days), they are issued a call sign that is valid for ten years.
- The individual who applied can operate the station, along with family members. According to the FCC rules, the immediate family covered by the license include the license holder's "spouse, children, grandchildren, stepchildren, parents, grandparents, stepparents, brothers, sisters, aunts, uncles, nieces, nephews and in-laws."

Contest Winners for July

- Trivia Tuesday Net Contest winner was John WSCZ462
- Thursday night Roll Call Net Winner was Brian WRPA802

Each of the winners received a \$25 certificate for purchase of merchandise on the AGRC website (www.azgmrs.org). The contests take place randomly once each month during the nets. Make sure to check in!

10-Year Anniversary of AZGMRS Coming Up

Coming up in March of 2026, it will be time to celebrate the 10 year anniversary of our exceptional group. Back in March of 2016, a small group of GMRS radio enthusiasts got together and officially formed the AZGMRS organization. Do you have some ideas for the celebration? Let us know. Send an email to: president@azgmrs.org.



New Repeater in Mesa

Additional Coverage for Mesa and Tempe

A new repeater is now on the air in the Mesa area. It has been made available to all AZGMRS members by Brent WQWZ299. The repeater will cover a large area of the Southeast Valley, including Mesa and Tempe. It is centrally located near the US 60 and Gilbert Rd.



Repeater Equipment

The equipment itself is a Motorola GR1225 UHF 40 watt continuous duty community repeater. The repeater is housed in a metal box that is roughly 13 inches wide, 16 inches long and 7 inches high. The inside compartment that houses the single radio, a power supply as well as a 6-cavity Celwave duplexer. The controller is a ZR340 which is made by Zetron Inc. The whole unit weighs about 15 pounds and sits on a desk so that it gets adequate air flow. This allows the on-board cooling fan to not operate continuously.

Antenna

The base antenna is attached to a 40 foot mast. It is a Tram 1486, which will eventually be replaced by a Decibel Products, omni directional antenna model number DB404. This new antenna will help with tremendous gain.



Backup Power

The repeater system is complimented with emergency power from a interruptible power supply (UPS) unit. A UPS is a type of continual power system that provides automated backup electrical power when the main power fails.

Link for Programming Information

Members can go to the link below for information on programming the new repeater, which will be listed as the Mesa 650.
<https://www.azgmrs.org/repeater-programming-scheme/>



COMMUNICATIONS DIGEST

The Basics: Antennas and Gain

Contributor this month – Gary E. Hefley

A Series: The Basics

There are many of our members who are just getting into the General Mobile Radio Service (GMRS) and two-way radio itself. This is part of our series known as "The Basics" that will go over the fundamentals. To help out our friends who are new to this somewhat technical subject, a glossary is available that lists the acronyms and definitions of the various terms that are used. To obtain it, just visit this link and click on the glossary:

<https://www.arizonaemergencyservicesgroup.org/fundamentals>

The Right Antenna System

- **General:** Having the best antenna system for your radio can make a significant difference in how well your radio operates. A basic UHF antenna system consists of these three components: the antenna itself, the coaxial cable and the connectors. It's important that each component matches your radio. Why? Well, it's the wavelength.
- **Make it Match:** Every radio signal has three important factors. (1) The frequency, (2) wavelength, and (3) the amplitude (strength). The wavelength is the actual physical length of a radio wave. Antennas need to match the wavelength, or a fraction of it, for transmitting. If it doesn't match, it can cause high SWR (think reflected power). That's why a CB antenna can't be used with GMRS radio. The wavelengths are very different. A full CB radio wave (27 MHz) is about 36 feet long, while a GMRS radio wave (462 MHz) is around 25 ½ inches in length.
- **Hand-Held Antennas:** A hand-held or portable radio antenna is connected directly to the radio unit. There is normally not a cable between the antenna and equipment. It should be kept in mind that most manufacturers ship a very basic antenna with a new hand-held radio. In some cases, it may be a good idea to purchase a better antenna.
- **Mobile Antennas:** These are for use when a radio is installed in a car or truck. There are many different sizes and types of antennas for this purpose. A coaxial cable (normally RG-58U) is used to connect the antenna to the radio. For best results, the antenna should be installed at the highest location with an adequate ground plane (metal surface under the antenna).

Above left: Hand-held radio
Right: Mobile gain antenna
Below left: Mobile low profile antenna



Notice: This article may contain comments or opinions of the contributor. Such opinions may not be the official position of the Arizona GMRS Repeater Club, Inc. If certain companies, manufacturers or brands are mentioned, no compensation is received for doing so.



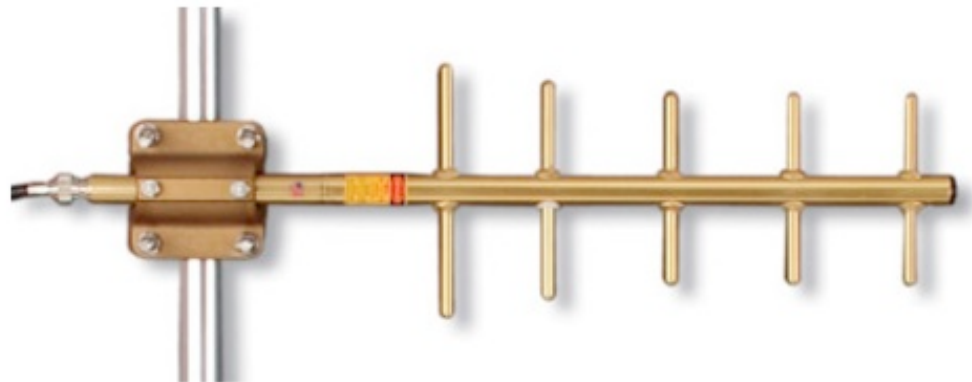
COMMUNICATIONS DIGEST - continued

The Basics: Antennas and Gain

Contributor this month – Gary E. Hefley

Directionality

Antennas can send out radio signals in most directions, known as omni-directional, or in a specific direction, referred to as directional. There are many types of antennas that can operate omni-directional. These are often used for mobile antennas. Directional antennas are normally used in base station operations at a fixed point. A very popular antenna for this purpose is known as a "Yagi" and operates directionally with high gain.

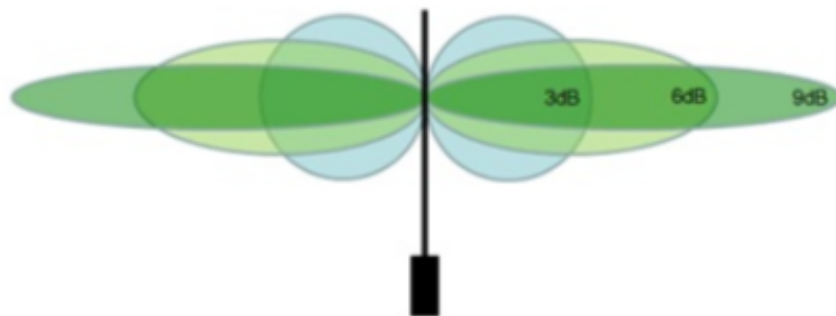


Right: Directional yagi

Antenna Gain – The Fundamentals

An antenna is a radio's window to the world. How well it operates can make a major difference. Any radio can operate with just a wire for an antenna, but in order to operate efficiently, it must match the wavelength of the radio signal. An antenna with gain results in better performance.

- Definition: Gain is a measurement of how effectively an antenna concentrates (or focuses) radio frequency (RF) energy, when transmitting or receiving signals.
- Units: Antenna gain is measured in decibels (dB). The higher the number, the better the performance. Units of dBi are relative to an isotropic antenna and dBd are relative to a dipole type antenna.
- Power: Gain is achieved without an increase in power, but by using the existing power in a more efficient way.
- How does it happen: Like a flashlight with a wider beam (no gain), power is spread out over a larger area. When a beam is focused (higher gain), the power is sent in a specific direction and is more concentrated in that area. This can result in increased range. (See figure below.)



3, 6, & 9 db Gain Overlay

Notice: This article may contain comments or opinions of the contributor. Such opinions may not be the official position of the Arizona GMRS Repeater Club, Inc. If certain companies, manufacturers or brands are mentioned, no compensation is received for doing so.

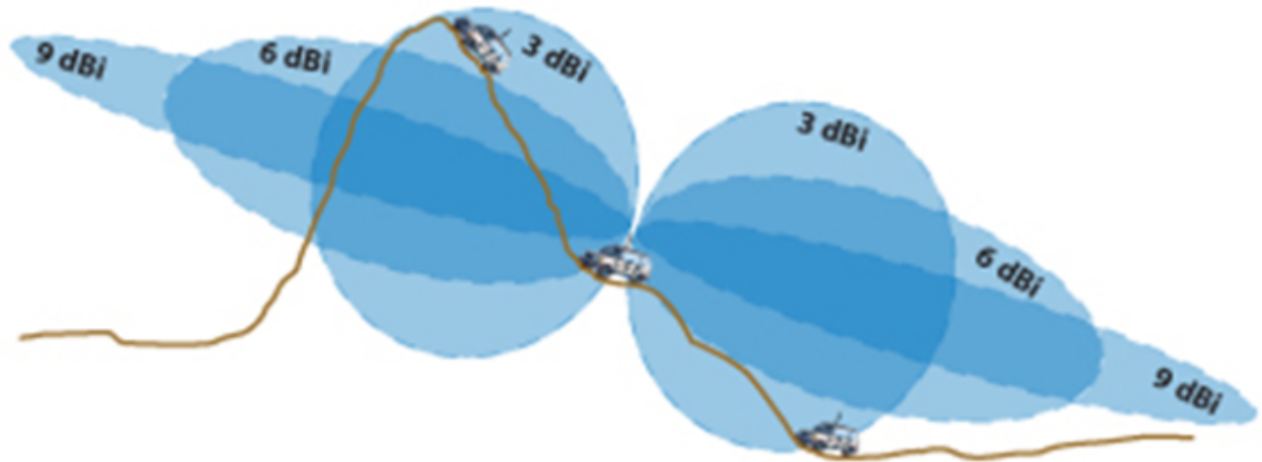


COMMUNICATIONS DIGEST - continued

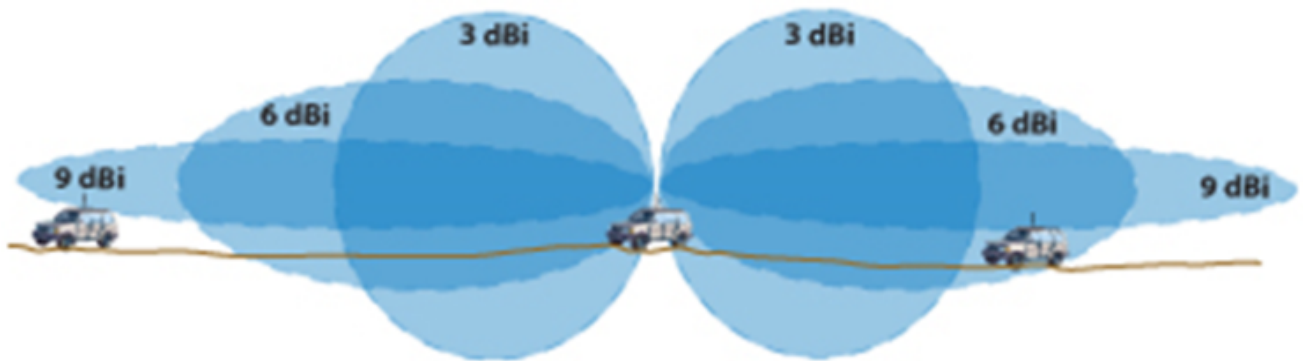
The Basics: Antennas and Gain

Contributor this month – Gary E. Hefley

- Antenna gain and terrain: Gain antennas are best used in certain areas. For example, a high gain mobile antenna will work well in flat or nearly flat areas. However, it may not have very good performance in very mountainous areas. Lower gain antennas may work best there. (See figure below.)



Lower gain in hilly terrain will produce better coverage



Higher gain in flat terrain will produce better coverage

What do you gain? - Performance

In most cases, when a gain antenna is used, it results in stronger signals for transmitting and receiving. This improves overall performance of the system and provides a larger coverage area.

This article is copyright American Safety Dynamics, Inc.

Notice: This article may contain comments or opinions of the contributor. Such opinions may not be the official position of the Arizona GMRS Repeater Club, Inc. If certain companies, manufacturers or brands are mentioned, no compensation is received for doing so.



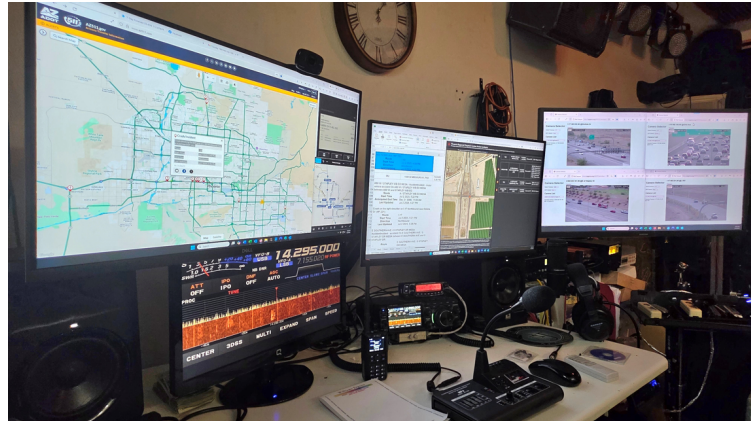
Arizona GMRS Repeater Club

A Recognized 501(c)3 Nonprofit Organization

Community Spotlight

John (JC) Chavez WRWR725 / K7BLZ – Radio Shack

Let's take a look at the radio shack of JC, our Communications Officer. With all that equipment, someone might get the idea that he likes radios.



His radio equipment includes:

BASE STATION		
Power Supply: 50amp Regulated		
Desk Mic: MFJ-299		
Radio	Frequencies	Antenna
Anytone AT5888UV	GMRS/2m/70cm	Comet GP-6NC
Radioddity DB25D	GMRS/2m/70cm/DMR	
Yaesu FT-710	HF-6M	Palomar 71' End Fed
MOBILE		
Radio	Frequencies	Antenna
Anytone AT5888UV	GMRS/2m/70cm	Comet CA 2x4
Yaesu FT-891	HF-6M	ATAS-120A
HANDHELD		
Radio	Frequencies	
BTEC DMR 6x2 Pro	GMRS/2m/70cm/DMR	
Baofeng UV82C	GMRS/2m/70cm	

All GMRS capable Radios are part 90 certified



JC got involved and licensed in GMRS in March of 2023. He initially was interested in communication for off road activities, but always had a fascination with 2 way radio since childhood. He also became a member of the AZGMRS Repeater Club in March, 2023. JC then obtained his Ham Technician license in June of 2023 and added an Extra Class Ham upgrade in September of 2023. JC was then elected as AZGMRS Communications Officer/Board Member in January of 2025. He spends most of his on-air time on GMRS and enjoys running nets. On Ham radio, JC uses HF primarily for regional rag chews. He also participates in AESG nets and exercises.

Do you have a photo and description of your radio shack? Send it in and we will share it. Email it to: editor@azgmrs.org.



Arizona GMRS Repeater Club

A Recognized 501(c)3 Nonprofit Organization

Membership Resources

Get Involved & Connected with AZGMRS

Our strength lies in our members. The more you participate, the richer our community becomes. As a member of AZGMRS, you have numerous opportunities to get involved, share your knowledge, and help shape the future of our club. Our events are the heartbeat of AZGMRS. By attending and participating in these activities, you help build a stronger, more connected community. Whether you're a seasoned radio operator or just getting started, AZGMRS offers a welcoming community and valuable resources to enhance your GMRS experience.

Dive Deeper with Our Members-Only Forums

For those looking to dive deeper into the world of GMRS, our members-only forums on the AZGMRS website offer a treasure trove of information and interaction. You can access the forums by visiting azgmrs.org/forums and clicking login on the top right.

Here's what you can do on our forums:

Ask Technical Questions: Our forums are the ideal place to get detailed answers to your technical queries from experienced radio operators.

Discuss Radios and Equipment: Talk about the latest radios, antennas, and accessories. Get recommendations based on firsthand experiences and reviews.

Share Tech Tips: Have a tip or trick that has made your GMRS experience better? Share it with the community and learn from others.

Buy and Sell Equipment: Looking to upgrade your gear or sell old equipment? Our buy and sell section connects you with local buyers and sellers, ensuring you get the best deals.

Why Get Involved?

Getting involved with the AZGMRS club means becoming part of a supportive community that shares your passion for GMRS. By participating, you'll gain access to:

Expert Advice: Benefit from the collective knowledge of experienced operators.

Community Events: Join us for regular events, net check-ins, and meetups.

Enhanced Communication Skills: Improve your radio operation skills through hands-on advice and practice.

Club Net Information



GMRS 1900 Net

AZGMRS' primary net, held every Tuesday, is an informal gathering of club members to get announcements, share news and stories and whatever else comes to mind. As it's held on Tuesdays, visitors with the Travel Tone are welcome and encouraged to check-in and participate. The use of only Part 90 & 95 radios is strictly enforced. The use of out-of-band or modified amateur radio equipment is prohibited.



Morning & Evening Traffic

The traffic around the valley can be crazy, avoid the problems by listening in on the traffic reports Monday through Friday from 0630-0900 in the morning, and for your drive home between 1630-1830. Many members also report conditions where they are as they travel throughout the day.



Roll Call Thursday Net

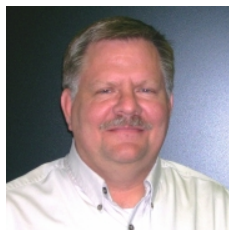
Join us each Thursday at 1900 (7 pm) for the Roll Call Net. It's a great opportunity to hear who's on the air. When checking in you can also ask for a signal check and let us know if you have a comment or question for the club. Looking for a radio-related item to sell or purchase? Pass that on to the net! Throw out your call sign and be counted!



Arizona GMRS Repeater Club

A Recognized 501(c)3 Nonprofit Organization

Leadership Team



Gary Hefley
President



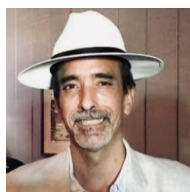
Michael Manning
Vice President



Kelly Cantrell
Secretary



Chris Guth
Treasurer



John "JC" Chavez
Communications
Officer

Club Ambassadors

Our Ambassadors are dedicated members who are ready to field your questions and provide technical support to our entire membership. If you need technical assistance or advice on how to make the most of GMRS please contact one of our Ambassadors listed below.

David Janke – WRJF513
david.janke@azgmrs.org

Steve Morales – WRCS363
steve.morales@azgmrs.org

Frank Scaglione – WRVG584
frank.scaglione@azgmrs.org

Matt Snow – WSAK802
matt.snow@azgmrs.org

Lew Williams – WRKY709
lew.williams@azgmrs.org

Kenneth Mitchell – WQJT335
ken.mitchell@azgmrs.org

Contact Information

General Correspondence Address:

Arizona GMRS Repeater Club
8050 N 19th Ave
Unit 263
Phoenix, AZ 85021

Club Treasurer:

Arizona GMRS Repeater Club
Chris Guth
PO BOX 545
Wittmann, AZ 85361

Club Hotline Numbers:

AZGMRS - 623 - 294 - 4611
AZESG - 623 - 294 - 2374

Social Media Links:

facebook.com/AZGMRS

youtube.com/@AZGMRS

x.com/az_gmrs

Daily Traffic & Weather Nets:

Weekdays (Except Holidays)
6:30am-9am - Morning Traffic &
Weather 4:30pm-6:30pm - Evening
Traffic & Weather

Newsletter Editor

Shaina Van Kilsdonk

AZGMRS Member

If you have any ideas for content or articles in our upcoming newsletters please email her at editor@azgmrs.org