

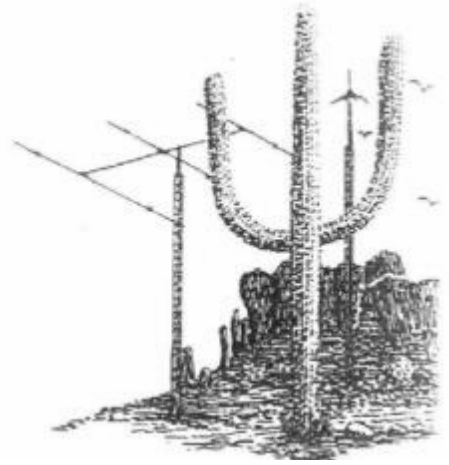
The Communicator
For July 2004

SUPERSTITION
Amateur Radio Club, Inc

PO Box 1551
Apache Junction, Arizona 85217

Editors:
Rodney Bevill, K7RLB
Larry Kuck, WB7CRK

WB7TJD Repeaters
147.12 MHz (+) 162.2
449.60 MHz (-) 100.0
Mesa, Arizona
On the Internet:
<http://WB7TJD.org>



Lightning Basics

by
Steve Gurley, KJ7WK
(Part II)

Grounding

Suffice it to say that no lightning protection device will operate without a good connection to earth ground. I have seen gas capsule type protectors installed in series with the feed line to a radio with no method for grounding provided! The installer might as well have installed a big resistor in line instead. A heavy ground strap or cable must extend from the ground side of the protector to a good earth ground. A copper clad steel ground rod driven 10 feet into the ground will serve the purpose. Always provide the largest ground path possible. (Remember the currents and voltages we are dealing with?) Surface area is actually better for grounding than wire. Many metal surplus scrap yards sell coils of copper or brass strap which is excellent for this purpose. I use a 1" by ¼" thick buss bar mounted to the radio table and the feed one end to a 1/14" 1/16" copper strap which goes outside the house and is welded to the grounding system. The system I use is three 10 foot grounding rods driven into the ground at the BOTTOM of the tower hole. This puts the ground rods at least 15 feet down into the ground. All three rods are cad-welded together using heavy gauge copper strap which comes up to a large copper buss bar at the tower base. Always attach each piece of equipment to the station buss bar individually. DO NOT daisy chain or run grounds of the equipment in series until one actually connects to the station ground buss.

Finally, All of the best methods of station set up, including power protector line strips, good grounding and lightning protectors on every feed line will NOT protect against a direct hit. The current levels generated during a strike, will melt brass and copper into a molten blob, and will destroy some if not all of your equipment as well as most of the house appliances! I a strong storm is approaching, disconnect your radios from EVERY external source attached to your radio. That is the only SURE protection. In the USA, lightning strikes 40 million times each year. Some of these strikes will present mild transient energy to your radio equipment and considering the delicate Field Effect Transistors employed by many manufacturers, it's a good idea to protect your investment by using good transient energy management for your station.

Steve Gurley, KJ7WK
U.S. Western Region Manager
Huber+Suhner AG Wireless Division (retired)

SARC Meeting Locations

July	Kiva Room
August	Kiva Room
September	Pima Room
October	Kiva Room
November	Kiva Room
December	Location to be determined for Christmas Social

W7ASC ADAW Column

The Summer hours 10:00 to 3:00 are in effect for the W7ASC Ham Shack through to Labor Day (Monday September 6th). This is a great chance to volunteer when things are a bit quieter at the Science Center (no large groups of students!). Only one shift per day and two volunteers per shift. We still need new volunteers. Spread the word at your Ham Club! Call Bob at 480-961-1109 and volunteer now! A Volunteer sign-up page is available at www.w7asc.org

A new Volunteer Manual is in the final stages of being written and will be distributed later this summer to all volunteers at the shack. We plan to have sections on various operating modes (IRLP, Echo-Link, PSK31, ATV, etc). We found out the R-7000 vertical loads up very well on 6 meters (SWR of 1:1) so Tech volunteers can take advantage of the Summer 6 meter openings.

AZ Science Center shirts are now available. Contact Rachel Smith smithr@azscience.org 602-716-2042 if you would like one.

That's about it for this month,

-73 de KG7QJ Bob B.

kg7qj@cox.net 480-961-1109

Who We Are

The Communicator is a monthly published newsletter of the Superstition Amateur Radio Club. The newsletter is e-mailed to all club members. A limited number of printed copies are made available at the monthly club meetings.

Please notify the editor if you do not receive your newsletter, have a change of address, or have found an error.

Please direct all submissions to the editor.

HAM Radio History

Origin of the word HAM

One popular theory is that it is the combination of the initials of the last names of three Harvard students who supposedly had an amateur station in the teens. Their names were supposedly Hyman, Almay, and Murray, and they operated the little station with a call sign of HAM. . The problem with this theory is that an exhaustive search of the Congressional Record turns up no such speech, and Harvard has no record of little station HAM.

Another theory holds that it derives from what commercial operators called amateurs. They referred to them using the old telegrapher's insult of "ham fisted", meaning that they weren't of professional skill. This may be the true origin of the term, but it seems unlikely that amateurs would willingly adopt a term meant to be insulting to them as their name.

A third theory derives from the fact that Hugo Gernsback published a magazine called Home Amateur Mechanic in the early days of radio and it included many radio construction projects. Thus when asked what sort of radio a person had, he might send back that he had one of those HAM radios (using just the initials of the magazine name in true CW shorthand fashion). I like this explanation best.

(source www.qsl.net/kp4vz)

HAM RADIO TRIVIA

You turn on a vintage radio and the air is filled with a strong sulphur (rotten egg) aroma. What component most likely failed?

- A Electrolytic Capacitor
- B Glowbar Resistor
- C Selenium Rectifier
- D Wire Insulation

Arthur Godfrey's ham radio call sign was:

- A K7UGA
- B W3USS
- C K4LIB
- D W6AM

When tuning a trapped vertical antenna for lowest SWR, one should always:

- A Tune the antenna to the highest available frequency first.
- B Tune the antenna to the lowest available frequency first.
- C Tune the antenna to 20 meters first.
- D Use a dummy load to protect the transceiver.

What does MOSFET stand for

- A Mental Operated Semiconductor Field Effect Transistor.
- B Metal Oxide Semiconductor Field Effect Transistor.
- C Most Ordinary Semiconductor Field Effect Transistor.
- D Memory Operated Semiconductor Field Effect Transistor.

If you want to receive SSB on a direct conversion receiver at 3.67 MHz, what frequency should you set the local oscillator to?

- A 3.7 MHz
- B 3.64 MHz
- C 3.67 MHz
- D 455 KHz above or below

**FCC Sets New Vanity Fee
Start Date: August 6, 2004**

The FCC has announced that the new Amateur Radio vanity call sign regulatory fee of \$20.80 for the 10-year license term will go into effect August 6. Applicants for amateur vanity call signs will continue to pay the \$16.30 fee per vanity call sign application received by FCC until the new fee goes into effect. The FCC says it expects to collect close to \$162,000 from 7800 Amateur Radio vanity call sign applicants during Fiscal Year 2004. See the FCC's annual Report and Order (Docket MD 04-73) on the Web at <http://hraunfoss.fcc.gov/edocs/public/attachmatch/FCC-04-146A1.doc> for details on their assessment and collection of regulatory fees for FY2004.

(ARRL Bulletin 20 ARLB020)

Selenium stacks would boil off the surface coating if they got too hot due to drawing excessive current. I have his QSL card. BTW, K7UGA was Barry Goldwater, W3USS is the United States senate club call, and W6AM was Don Wallace, a famous DXer. When tuning a trapped vertical, one should always start with the highest frequency trap, located nearest the feedpoint, and move sequentially upward toward the lowest frequency trap. This method avoids detuning adjustments already made. Metal Oxide Semiconductor Field Effect Transistor 3.67 MHz ("Direct Conversion")

2004 Officers

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Editor: Rod Bevill, K7RLB.. 480-839-0057..rodbevill@earthlink.net

Net Control Station

Wednesdays: KG7FA, John 147.12 MHz Repeater at 8:00 PM

Thursdays: WB7CRK, Larry 147.12 and 28.47 MHz at 7:30 PM

Amateur Radio Newslines both nights: Provided by the net host

COMMUNICATOR is the official publication of the Superstition Amateur Radio Club, Inc., and is published monthly.

Beginning with the February 1998 issue, this publication is also being made available via Email for use by the blind.

Superstition ARC COMMUNICATOR and its sources shall be credited if articles are used in other publications. Permission is hereby granted for their use.

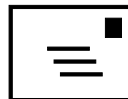
Submitting articles, classified ads

Please submit articles and Classified Ads by the 25th of the month for inclusion in the next month's issue.

Please submit via Email to:
rodbevill@earthlink.net

Or typewritten copy preferred, by U.S. Mail to:

Editor
1358 W. Los Lagos Vista
Mesa, AZ 85202



Meeting House

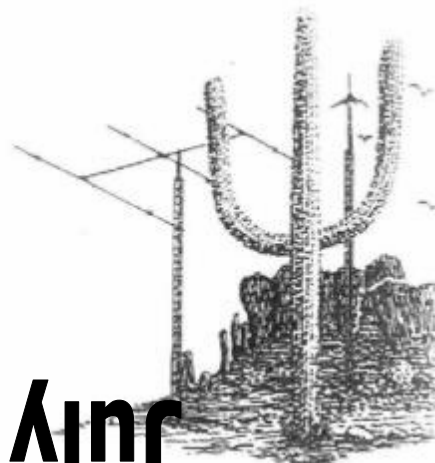
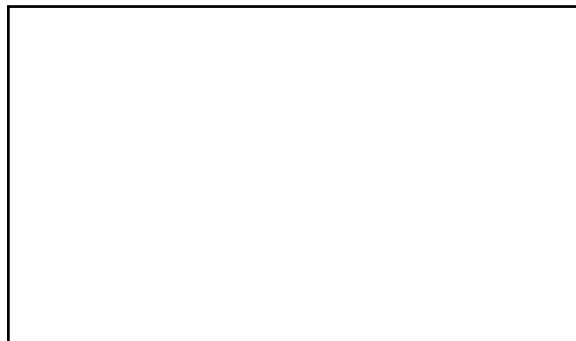
The Club Meets at the Mesa Community College, at Southern and Dobson in Mesa.

Our meeting room is in the basement of the Clock Tower, center of Campus.

Our General Meeting is on the Third Tuesday of the month at 7 PM, July 20, 2004.

The Board meets at Peter Piper Pizza, Gilbert and Main, Mesa, NW corner, at 6:30 PM on the second Tuesday, July 13.

VE Testing is held at 6 PM on the third Monday at Mesa Utilities Office, 640 North Mesa Dr. July 19



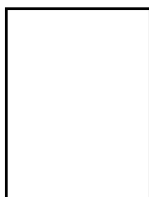
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PO Box 1551

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HAMFest

August 27-29:

ARRL Southwester Division Convention at the Wild Horse Pass Resort & Spa.

September 18:

Hualapai ARC in Kingman, Az.

October 16:

Old Pueblo Radio Club, Tucson Rptr Assn. & Radio Society of Tucson in Tucson, Az.

December 4:

SARC Hamfest at MCC in Mesa, Az.

January 15, 2005:

Thunderbird ARC in Glendale, Az.

There is talks of trying to plan a new Hamfest for Yuma.

Newsline Scripts found on WB7TJD.org

Check there if you miss a week's report or need a Web address.

Classifieds

This space available for advertising items for sell or items wanted to purchase. Also advertise your expertise or the need for help in solving problems. This is limited to Amateur Radio needs.

NEEDED!

We need your article for the Newsletter. Write us about your most embarrassing situation relating to Ham Radio. Send photos as well.

"NO-CODE"

AMATEUR RADIO

LICENSE CLASSES

FALL 2004

STARTING Saturday, October 2nd, 10:00AM to 1:00PM at Mesa Community College (Southern & Dobson in Mesa)

Instructors: Bob Burleson, KG7QJ, Rick Checketts, KA0KZB, and Robert L. Strauss, W7JTR, Amateur Radio licensees and operators.

Saturdays Oct. 2nd – Nov. 20th 10:00am to 1:00pm

Eight 3-hour sessions Tuition \$23**

(Class VE test at MCC Superstition Hamfest Dec 4th)

To register call MCC Community Education at 480-461-7493.

**Required text "Now You're Talking", 5th Edition, will be available from the instructors at the first class for approx. \$16. The fee for the FCC Amateur License test is \$12 and can be paid by cash or check at the VE Test session. December 2nd.

SIGN UP TODAY for the MCC No-Code Technician license classes. Earn your "Ham" license in just 9 weeks. The classes are planned to prepare you for the "No-Code" FCC Amateur Radio Technician license. Class material is based on the ARRL book "Now You're Talking" (5th edition) containing the **NEW Technician license question pools as of July 1st, 2003**

"Hams" with the Technician no-code FCC Amateur Radio license have privileges on all Amateur frequencies above 50 MHz. With the "No Code" license you can operate SSB or FM voice, Amateur TV, Packet, Satellite, IRLP, and many other modes. One of the more popular modes is FM voice operation on the 2 Meter VHF and 70-cm UHF bands.

Technician licensees can help their communities by assisting in Public Service events, search and rescue, and as communication links in times of disaster.

Morse code instruction will be available on request Technicians who pass a 5 WPM Morse code test are entitled to operate on the 80, 40, and 15 meter bands using Morse code (CW), and on the 10 meter band using CW, voice, and digital modes.

The **No-Code Technician amateur radio license testing session** will be at the **Superstition Hamfest Saturday, Dec. 2nd, 2004 at MCC**. Other testing opportunities will be announced. If you are interested in getting an Amateur Radio license or getting back in to Amateur Radio, contact MCC Community Education at 480-461-7493 or 461-7494.

See Class Outline on Back.



The Maricopa County Community College District is an EEO/AA



No Code Amateur Radio Class Outline

Fall 2004

For more information contact Bob Burlison, KG7QJ, at 480-961-1109 or e-mail at kg7qj@arrl.net

Class #1 10/2

Introduction to Amateur Radio, Radio Frequency Spectrum and Licensing, FCC Regulations.

Class #2 10/9

Operating Practices, VHF/UHF Operation, Repeaters, 2 Meter Operation and Equipment.

Class #3 10/16

Metric system, Electric Principals & Basic Electricity, Ohm's Law, Series & Parallel Circuits, Using Test Equipment

Class #4 10/23

Practical Electronics, Circuit Components, Schematic Symbols, Block Diagrams, Amplifiers, Series and Parallel Circuits, Filters

Class #5 10/30

Radio Emissions and Propagation, Types of Radio Propagation, Modulation, Bandwidth, Emissions (CW, SSB, AM, FM, RTTY, etc.)

Class #6 11/6

Intro to Antennas, Feed Lines, Antennas, Wave Polarization, Dipole, Vertical and Beam Antennas, Antenna Measurements

Class #7 11/13

Safety in the Ham Shack, Electrical Wiring Safety, Station Layout for Safety, Common Technical Problems, RF Safety and Max Permissible RF Exposure.

Class #8 11/20

Amateur Equipment, License, Operating and FCC Regulations. Review for Test

VE Test Session 12/4 (Superstition Hamfest)

Amateur License Testing Session and Superstition Hamfest at MCC. Registration 8:00AM. Testing 9:00AM to 11:00AM

Amateur License Exam Info:

DeVry/West Valley ARC:	Rich, WB2LKU	623-546-4300
AZ DESERT 10-X INT'L:	Denise, AB7KG	602-738-0027
AARC:	George, KQ7C	602-274-6212

Other Classes available:

The West Valley Amateur Radio Club: Contact Dan, W6NTX, phone 623-546-2131 or E-mail dpierson@computer.org for info

Explorer Post:599 Contact Tom, WA9OXY, 602-569-6512, e-mail wa9oxy@arrl.net