



West Valley Amateur Radio Club
EMERGENCY COMMUNICATIONS
Since 1961



Club Meets First Mondays.

Short Skip is a monthly publication. The intention of the club and newsletter staff is education and encouragement for everyone to either become a ham or enjoy being a ham. Articles may be submitted by club members up to two weeks prior to end of month. Email: suncitywvarc@gmail.com

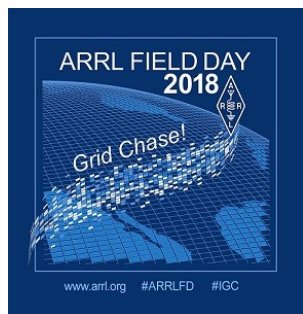


WVARC
Is an
ARRL
Affiliated
Club

Click here
for website:

<http://westvalleyarc.com/>

West Valley Amateur Radio Club Inc is an Arizona
501(c)3 not for profit corporation



Field Day 2018



Sign up with Chairman Dave Porta WA0ZVM for a couple of hours to be one of the operators, or you could just ask one of the operators if you could log the contacts for them for a little while. It could be fun! (We use N1MM for logging)

<http://www.arrl.org/files/file/Field-Day/2018/2018-Field-Day-Rules.pdf>

A Simple Field Day Exchange:

June 23-24th

- 1) When you hear "CQ Field Day", this is another station asking you to call him. Immediately repeat his call sign and say, "Here is **Kilo-Seven-Victor**." (Use the phonetic alphabet.)
- 2) If the station hears you, he responds with your Call Sign.
- 3) Listen for his Number-Letter Combination and the abbreviation designating his Section.
- 4) Send your information back to him. "QSL, Please copy Four Alpha-Arizona." (**4A-Arizona**)
- 5) He may or may not acknowledge, or he may say "NIL" or "No QSO", meaning he could not copy and has moved on.
- 6) End the contact with a "73" or "Good Luck at Field Day!"
- 7) Log it and move on, but most of all **HAVE FUN!**

PRESIDENT SAYS FOR JUNE 2018:

We had another outstanding gathering and exceptional attendance at our June 4 meeting. I know everyone enjoyed the presentation by our own Gordon Bousman, NW7D. Gordon's excellent presentation included Aircraft Communications and much of its support system. Gordon, you are great. Thank you!



Field Day is around the corner. Our Field Day Chairman this year is David Porta, WA0ZVM. David took over this task late in the planning stages and is working very hard to get all the aspects of this event in alignment. We all owe Dave a debt of gratitude as well as our support.

Also thank you to all of the volunteers who signed up with David to help make this event a success. There is still time, so if you would like to sign up, contact Dave at: davidporta684@gmail.com

Field Day operations will be held in the air-conditioned comfort of the fire house, as it was last year. This year's operation will be via the fire house power, and our call sign will be the very familiar NY7S. The focus of our Field Day will be a learning experience, with the competitive aspect being important, but secondary.

I would like to receive member input regarding programs and presentations for our club meetings. Your input is greatly appreciated and, in fact, necessary. Please may I have your suggestions and thoughts? Be sure to peruse our new website, as the Website Committee has done a fantastic job! <https://westvalleyarc.com/>

July 2018



1st Monday
 Shepherd of the
 Desert Church
 11025 N 111th Av
 Sun City, AZ
 6pm Social
 7pm Meeting
 8pm VE Test
 JULY 2

EmComm
 Meeting 7 PM
JULY 16
 Contact
 Dave P. WA0ZVM
 Or Bob KG7FIL

JB's (Lunch)
 9889 W. Bell Rd.
 Sun City , AZ
 1 PM
3,10,17 and 24th
 JB's 2 PM
 Board Meet
JULY 17th

Tivoli Gardens
 12535 W. Bell Rd.
 Surprise, AZ
 (Breakfast) 7 AM
5,12,19 and 26th

Preparedness
 Net 8 PM
 147.300
6th and 20th

Newbie
 Net 8 PM
 147.300
JULY 13

1	2	3 	4 Happy 4th 	5 	6 	7
8	9 	10 	11	12 	13 	14
15	16 	17  	18	19 	20 	21
22	23	24 	25	26 	27	28
29	30	31	Please Stay Hydrated 			



**North
County
Fire
Medical
Station**



**West
Valley
Amateur
Radio
Club**



Amateur Radio Field Day- June 23-24, 2018

Field Day is designed to simulate the kinds of conditions an operator or group might experience in a real incident or Public Service Event. For 24 hours during the fourth weekend in June, over 40,000 U.S. and Canadian hams **Get-On-The-Air** and exchange information.

**Go To: <https://westvalleyarc.com/>
For More Information**

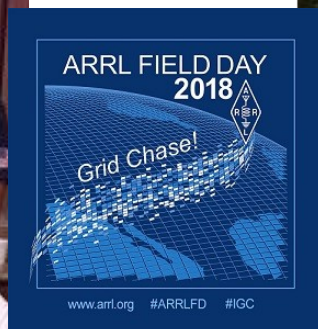
Field Day is a:

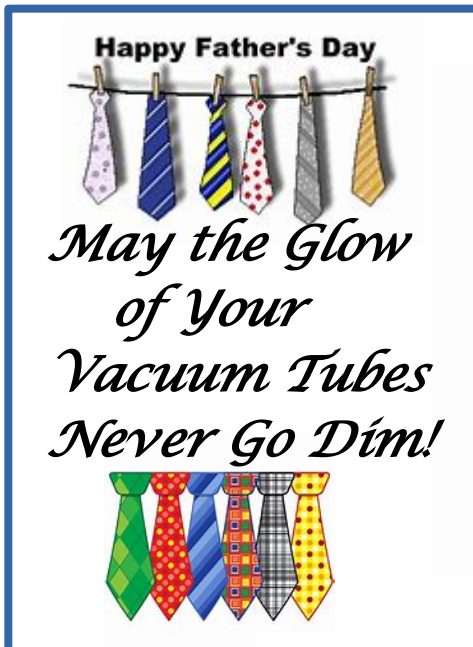
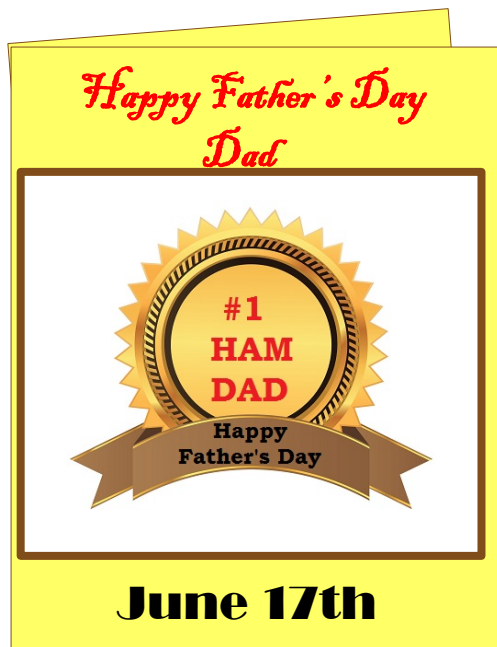
- ★ Social Event
- ★ Learning Experience
- ★ Emergency Prep Exercise
- ★ Radio Contest



Location: No. County Fire Station #103
13431 W. Deer Valley Drive
Sun City West, AZ 85375
(Corner of Deer Valley & N. 135th Ave.)

Appx. Time: Noon Sat-Noon Sun





Did You Know??

Your donated ham gear can be sold (recycled) to other hams? How great it is to be a brand-new ham with all of these resources! Hams who are just starting, can fill up their ham shack with all kinds of neat gadgets! Personally, I have a fascination with old QSL cards, so if you hear about an estate sale with a bunch of old cards, drop me a line, ok? In the meantime, you can get a hold of either one of these two guys, who create a list every month, which is then posted to the club website: <https://westvalleyarc.com/shop-here>

Scroll down to "Used Equipment For Sale". The two hams to contact are: Bob Kettler WA6MIO at rdkettler@msn.com and Ken Jenkins WB6MMV at kjenkins5623@gmail.com



MagLoop Mania



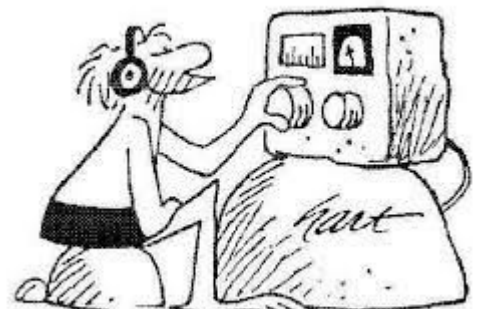
Hello:

I attended one of your meetings as a guest, and I'm interested in future meetings, although I'm a snowbird and will leave the first of May.

I brought all my gear this year (handheld VHF/UHF and KX-2 for the HF bands. I'm very interested if another club member has had success with a **magnetic loop antenna for HF**. My back patio would work for temporary use with a loop. Back home, I've had success in listening on 40 meters with a Packtenna and the KX-2, but you need a tree or relatively high object to attach one end. The internal auto tuner works with the Packtenna.

Perhaps in the fall, a "demonstration" of a group member's portable HF antenna could be considered. Particularly, how he/she tunes the magnetic loop to the portable unit for each band (you must disable the auto tuner on the KX-2 with a magnetic loop). A "hands-on" seminar. This would be very helpful for me. Thank you for the consideration, and I hope to attend in October/November.

73,
David KA8ZWC



**Would You
Like To
Be A →**

**WVARC needs summer
Net Controllers.**

Contact Ed
WA6PNJ@yahoo.com



Preamble:

9:00 AM or 8:00 PM

- 1) Welcome to the **West Valley Amateur Radio Club's** morning or evening call-in net. This is [YOUR NAME, YOUR CALL] and I will be your net control.
- 2) This is an open, directed, net and all licensed amateur radio operators are welcome.
- 3) Our club's NY7S Repeater, is located on top of Del Webb Hospital in Sun City West, AZ and operates on a frequency of **147.300 MegaHertz**, which requires a standard positive 600 KiloHertz offset, and a 162.2 Hertz tone.
- 4) We will break at any time for Emergency or time critical traffic. Our normal format is to ask for any QST's then mobiles, short timers and EchoLinks and finally any other general check-ins.
- 5) We ask that you check in 3-5 at a time and allow the repeater to drop completely and wait 2 seconds to allow EchoLink traffic to connect.
- 6) As the Net Control, you will announce your trivia or discussion topic and begin taking check-ins, making sure to keep them in order individually and with short-timers, mobiles and EchoLinks before the general check-ins. (If someone has a radio difficulty, you can check back.)
- 7) Don't forget to identify yourself every 10 minutes with YOUR CALL and the NY7S morning/evening CALL-IN NET, inviting people to login.
- 8) Following the History Lesson and the Trivia answer or ending the discussion, close out the NET, turning the frequency back over to normal operating airwaves, and thank everyone for their participation.

Note: this is a suggested format and is not written in stone.



Helpful Info



Listen to 147.300 (+) PL 162.2

9 AM every morning and 8 PM M-F (except 4th Fri)

<https://www.qrz.com/lookup/> -Look Up By Call Sign or Name/Address or Grid

<http://www.arrl.org/field-day> -ARRL has Lots of Good Info on Field Day + Books + Technology + Regulations + Equipment + Public Service + Much More!

<http://www.mcecg.org/guest/events.php> -Local **EmComm** Events

<http://www.aen-mar.org/> -Maricopa County Emergency Net Information

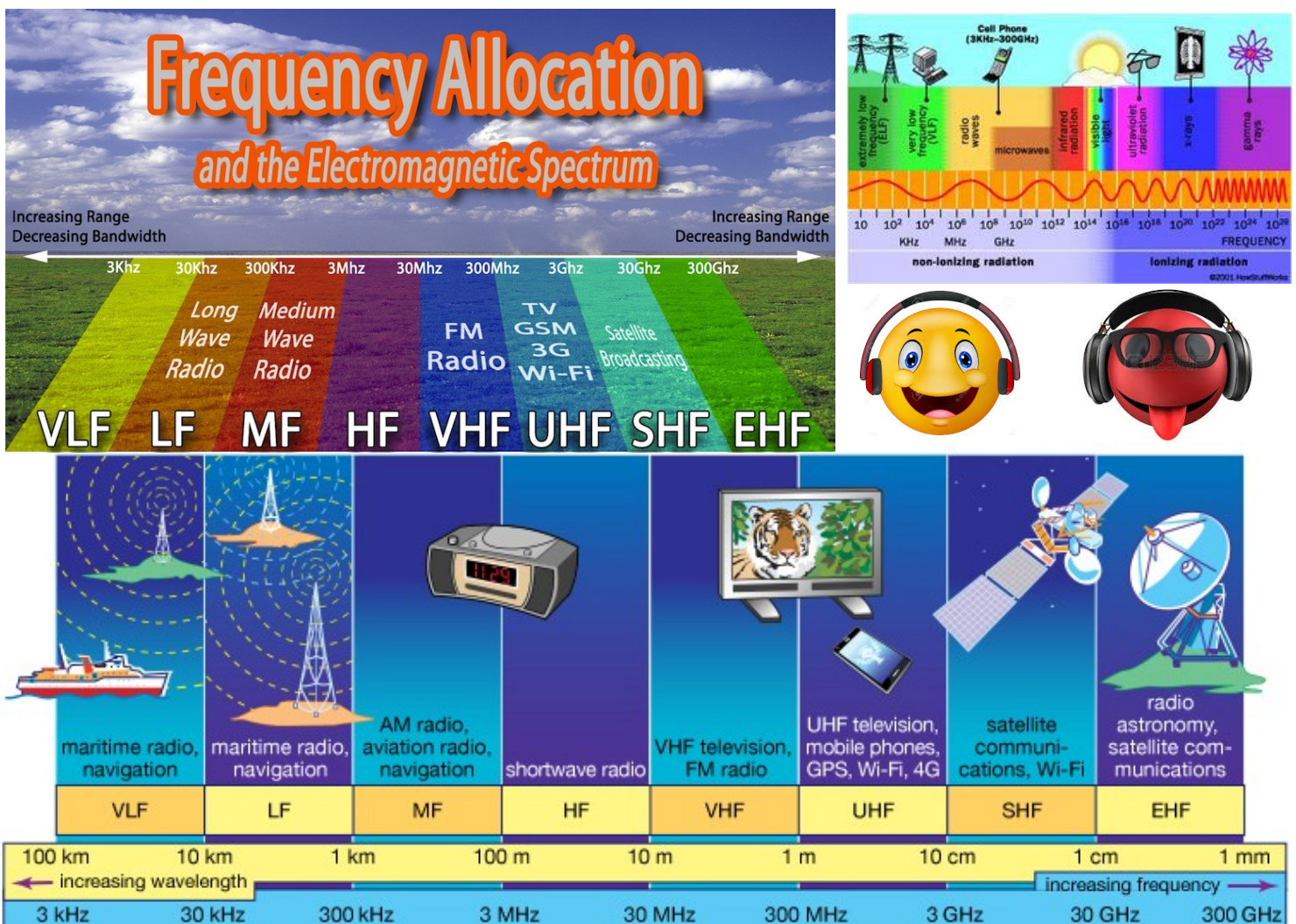
[Link to many Ham Radio books-Amazon](#) -Study for License or Learn Ham Radio

[Link to Amazon Echolink App](#) -Free Echolink Download

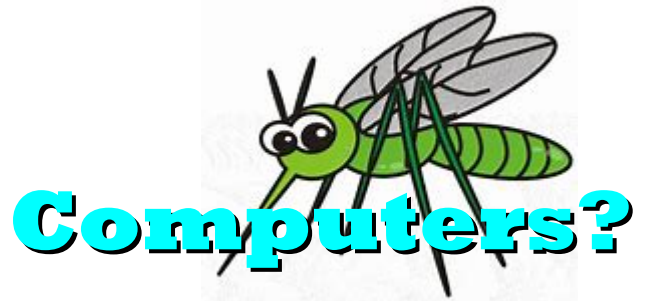
<http://www.ylrl.org/index.php/about-us/ylrl-info> -For Ladies Eyes Only



<http://n7tw.net/> -Club Member David M. Site with **Palo Verde Siren Test Info**



Air-Gapped



Ok, so I guess I am not the only one who is having issues with my computer acting up. People all over the place are getting hacked, by either our own country or someone else. As I was skimming over the ARRL newsletter: <http://www.arrl.org/arrlletter?issue=2018-05-31>

I began reading the MARS article-

[“MARS Urging Members to Use Computers that are Isolated from the Internet”](#)

It seems that the U. S. Army Military Auxiliary Radio System headquarters, is recommending that their members use a dedicated or standalone computer system for their radio operations. They claim that the computers should be “air-gapped” from the internet.

Of course, my first question was, “What is air-gapped?”

Well, according to a 2014 article from Wired.com: [“Hacker Lexicon: What Is an Air-Gap?”](#) , “A true air-gap means the machine or network is *physically* isolated from the internet, and data can only pass to it via a USB flash drive, other removable media, or a firewire connecting two computers directly.” It seems that **firewalls** can also be breached, and now USB-transferred malware is something of an item. <https://www.wired.com/2014/12/hacker-lexicon-air-gap/>

The article’s author used Stuxnet as a famous example, where contractors brought their laptops in, and transferred data (and malware) with USB drives. Read further into the article to see how hackers have **also used radio waves**. “...radio signals generated and transmitted by an infected machine’s video card, which are used to send passwords and other data over the air to the FM radio receiver in a mobile phone.” They mean up to 8 miles away!

Check out this recent article from thehackernews.com, which talks about a smartphone in a **Faraday bag** receiving data from a nearby computer:

<https://thehackernews.com/2018/02/airgap-computer-hacking.html>

If you would like to read/see even more about this subject, this article talks about a new technique from a group of researchers which establishes a **covert** ultrasonic transmission between two air-gapped computers, using speaker to speaker communication: [Mosquito Attack Article](#)



**NO
MOSQUITOES
ALLOWED!**





NEXT EXAM SESSION: Saturday July 7, 2018

TIME: 9:00 AM TO 11:00 AM(ALL tests are finished by 11 AM)

NEW LOCATION: The exams have moved from the Library on the second floor to the lounge on the first floor near the elevator. Room 107. Just follow the signs to the lounge.

EXAM INSTRUCTIONS: Bring original and copies of current **Ham license** and **Certificates of Successful Completion of Examination (CSCE)** if you have one, and a pen and pencil.

ARRL VEC **Exam Fee is \$15** for all elements taken once. An additional fee applies for a retest of any element. Retest is at the option of the Volunteer Examiners. Pay Fee by check payable to ARRL-VEC, or pay exact amount in cash, as Volunteer Examiners cannot make change.

June 2nd Candidates at DeVry

Administering VE's
David Morrill N7TWT Liaison

Josh Montano WX7JM

Verdamae Cutitta KF7UJB

6 Earned Technician Class License

Robert Miner KA7NPQ

Bill Martin AI0D

2 Earned General Class License

Daniel Ford K2LH

Joe Cutitta W0SLL

Steven Miner KI7FQT

Michael Miner KA7RGW

SHORT SKIP

ADVERTISEMENTS

UPDATED for JUNE 2018



Paul Prinke KF5EU

Victim of: Identity Theft? Stolen Medical Information? Paid an unfair bill? Moving Violation? Need a Will?

Contact me regarding affordable options to protect all that you worked hard to achieve. Call or email me for more information.
Mobile: 602-828-2868 or
email: PAUL.PRINKE1@GMAIL.COM



MUSIC and VOCALS

Bill Ciccone
623-388-3443



Call now
For
Appointment

* Oldies
* Rock
* Sinatra too!



(Ad) Dress up your radio room with a wood call sign made by Shel Stone.



Small lettering is one inch for \$10.00
Large lettering is 2-1/2 inches for \$15.00
French Cut 4-inch letters are only \$25.00

Call Shel Stone K7SLS at 602-526-0212
Or Email: SHEL_BAR@MSN.COM

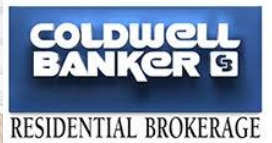
(Ad) Real Estate

Are you or someone you know, looking for a Ham Home? I can help you find a home with a tower, or one where a tower can be added. Call or email me to get started!

CACTUSRICH@GMAIL.COM

Cell: 602-370-1450

Richard Haworth
W7MDQ



Antenna is a BB7V-Diamond. 22Ft vertical-used only once-like new! Asking \$200.00
Contact Vernon Lewis W7VPL at 623-977-4015

Wanted: Johnson Viking Match Box, either -23 or -30. Contact Ted Walker at KB5OF@arrl.net

YAESU FT-757GX Transceiver & FP-757HD Power Supply. 160-10M plus MARS & CAP capability.
Realistic Powered Desk Mic. Great combination for only \$225.00. Contact Fred at KI7FGZ@arrl.net

Newsletter Ad Guidelines:

- * Ads for a business are limited to a 1/4 page or 1/8 page size.
- * For Sale ads are limited to 3 lines of text, and will include your name, your call, the item, the price, a short description and your contact information.
- * For Sale ads will run 1-2 months, with limit of 2 ads per person.

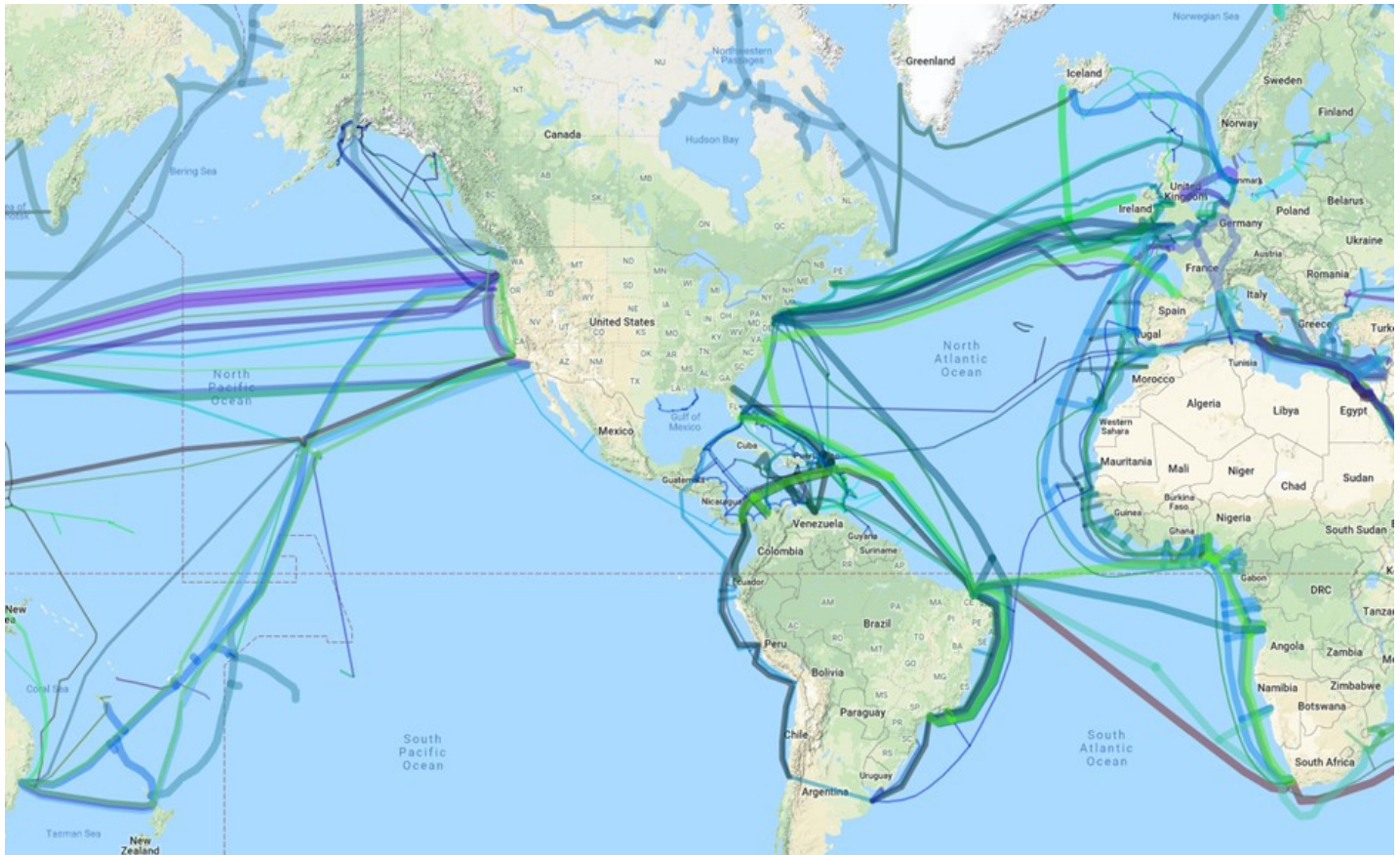
No charge for ads. Use these ads at your own risk. The board reserves the right to refuse any advertisements.

WVARC does not endorse any of these advertised products or services. Email kramer5335@gmail.com

CRITICAL INFRASTRUCTURE – GLOBAL SUBMARINE CABLES

By: Gordon Bousman, NW7D

This article concerns the world's underwater communication system, the global submarine cable networks. While not directly related to amateur radio, most hams use the Internet to support the hobby in some form such as on-line logging, firmware updates from radio manufacturers, propagation reporting, and DX spotting information to name a few uses. Therefore, this article is provided to amateur operators to add to their knowledge about a vast world network that facilitates the flow of global information via the internet. The next time that you utilize the internet in your ham shack or for personal use, know that some of the data likely came to you via oceanic underwater fiber-optic cables.



Map of current global submarine fiber-optic cables (courtesy of www.cablemap.com)

Many are not aware that 95% of the world's internet traffic between continents is carried via submarine cables.....and not via satellite. With the utilization of fiber-optic technology since the early 1990's, internet traffic is now carried at near light-speed under the world's oceans via cables that have capacities soon approaching 60 Tb/s (terabits per second). In today's world, the internet carried via submarine cable is a critical infrastructure supporting such activities as global financial transactions, corporate operations, manufacturing, and transportation networks (especially airline operations). To provide the conduit to carry the vast amount of data that flows between global land masses, submarine cables provide the primary method by which such data travels around the globe. If asked how the internet connects the world, many will respond that it is via satellite. This is a misconception since satellites in fact only carry about 5% of the global intercontinental internet traffic and usually only to more remote areas where submarine cables are not present.

Geo-stationary satellites are not favorable to carry vast amounts of internet data for two reasons:

Latency: The distance from earth stations to geo-stationary satellites is approximately 22,000 miles, thus a micro-wave signal needs to travel roughly 44,000 miles up to and down from a satellite and then back over terrestrial networks to reach the end user. The delay in satellite transmission is about 638 ms whereas a ping on a terrestrial network is generally about 20 times shorter. Future low-attitude internet LEO satellite systems such as the one being developed by SpaceX (Redmond, WA) will significantly reduce this satellite latency but still will have much more limited capacity than current submarine fiber-optic cables.

Limited bandwidth: Geo-stationary satellites compared to fiber-optic cables have more limited capacity with the highest being about 140 Gb/s whereas many submarine cables today typically operate in the 2 to 3 Tb/s capacity range. A newly proposed submarine cable between Oregon and Australia will have a design capacity of 42 Tb/s and one between the USA and Japan financed by Google will run at 60 Tb/s.

Submarine cables came into existence in the mid-1800's when empires such as Britain needed more real-time communication with commonwealth countries such as Canada, New Zealand and Australia. Therefore, telegraph cables were laid with the first being between Newfoundland and Ireland in 1866. Later, cable stations were constructed near shoreline cable landing locations and they employed numerous telegraph (CW) operators to send and receive the message traffic. A typical telegram going from Britain to New Zealand might need to be retransmitted 32 times by telegraph operators. However, automatic telegraph repeaters were developed in the 1920's which then relegated cable station staff duties to being more of oversight and maintenance of the equipment. Very early submarine cables had higher failure rates due to weak currents, high capacitance, and salt water intrusion until better technology was developed. CW rates were limited to about 10-12 WPM due to distortion of the signal caused by the long-distance resistance of the cables which were compensated for by using higher voltages but capacitance and inductance issues were still technological challenges to achieving a good signal.

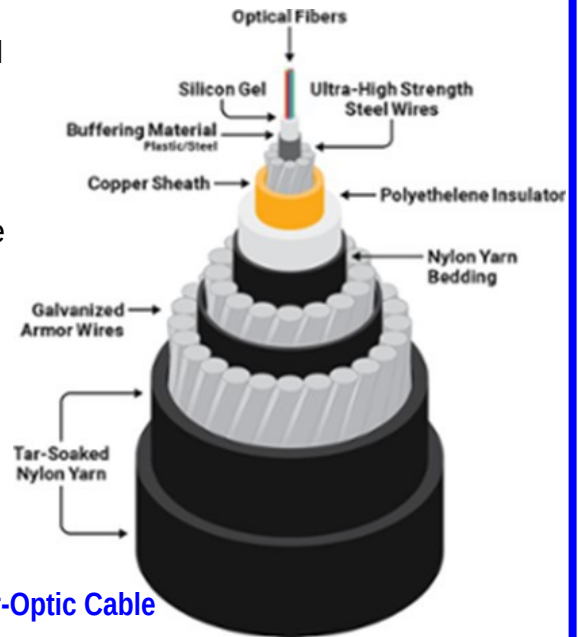
The next phase in cable technology arose with the introduction of coaxial cable in the 1960's to carry not only telegraphic but also frequency multiplexed telephone audio signals. Repeaters were installed along various points of the cable to amplify the signal; the first repeaters used vacuum tubes before transistor amplifiers were later introduced. These repeaters were powered by a high-voltage DC current which was carried on the inner conductor of the submarine cable.

In 1988, the first fiber-optic cable was laid at a cost of \$335 million between the U.S. and Europe by AT&T, British Telecom, and France Telecom, which was able to carry 40,000 simultaneous telephone calls. One of the problems seen with this first fiber-optic cable was that sharks were somehow attracted by the high-voltage repeater supply voltage and they would bite into the cable (resulting in electrocution) and thus require the failed cable to be raised and repaired. Subsequently, later fiber-optic cables had additional high-voltage shielding installed to reduce cable shark attacks and is no longer an issue for present-day cables. By 1990, the first international internet connection was established between Cornell University and CERN (Geneva, Switzerland) using the first fiber-optic cable with a T1 (1.56 Mb/s) capacity.

Present day fiber-optic cables use optical repeaters which are solid-state laser amplifiers placed approximately every 60 miles along the cable powered by a voltage impressed upon a copper shield placed outside of the inner fiber strands. The fiber strands, which are the width of a human hair, are placed in pairs and newer submarine cables can utilize up to as many as 70 fiber pairs. As new cables are placed in the ocean, many of the fiber pairs may initially remain unused ("unlit") until such time that additional capacity is needed to fulfill new data demands. Cable operators can add more optical transceiving equipment at the cable stations to "light up" these unused fiber pairs as demand grows.

The earliest submarine cables were nationalistic in nature such as those laid to support the British commonwealth. Thus, cables only ran to countries of interest such as from a cable station on the west end of Canada's Vancouver Island to New Zealand. However, today's cable operators only operate cables to serve the demands of internet data and voice traffic and not for political or territorial needs. Particularly in this age of cloud computing, companies such as Google, Microsoft, Amazon, and Facebook have invested heavily in such submarine cable networks. Many present-day cables are owned and operated by consortiums including the big IT organizations as well as telecom operators such as Verizon, AT&T, etc. Planning for and getting regulatory approval for new cables can take several years and require vast sums of financial investment. Environmental interests, as especially seen with attempts to land new cables on California's coastline, can delay cable approvals to the point wherein one such instance, it resulted in abandoning California and instead landing the new cable in Oregon.

To lay a new submarine cable requires the resources of special large ocean-going ships that can transport, splice, and lay thousands of miles of fiber-optic cable. ROV's (Remote Operated Vehicles) are sometimes used from these ships to accurately place the cable on the ocean bottom....and underneath the ocean bottom in many instances using massive ploughs. Some of the longer cables in existence include one that is 12,400 miles in length between the USA and SE Asia. Initial route planning requires a survey of the ocean bottom to avoid areas of underwater volcanic activity and risks such as fishing and anchoring zones. The shortest route is best of course in terms of financial interests since additional route lengths can sometimes add millions of dollars in costs to a cable laying project. Hawaii and Guam play important roles in Pacific cable routing and many USA-SE Asia cables run via cable stations on these islands.



Armored Submarine Fiber-Optic Cable

At present time, there are about 450 submarine cables totaling over 740,000 miles in use around the globe however this is a fluid number as new cables are laid, and older cables are removed from service. One of the hazards that cable operators face are cable failures which can be very expensive to repair but yet can result in heavy revenue losses until repairs are made. There are approximately 100 cable failures per year around the world and over 50% are caused by fishing trawlers who drag their nets along the ocean bottom and break the cable. Ships dragging anchors are another significant cause of cable breakage. Other failures can result from natural causes such as underwater landslides, hurricanes that cause sediment to break cables, and occasional failures of the cable repeaters. Cable ships are stationed at strategic locations around the world to be able to quickly respond to cable failures. The process involves grappling and then cutting the defective cable, pulling the ends to the surface, and splicing in a new segment. Since some cables can lie as much as 7 miles below the ocean surface, it can require as much as a 14-mile new segment to be spliced to the broken fiber-optic cable ends. Nokia, which purchased Alcatel-Lucent in 2016, is a major player in oceanic cable placement and repair utilizing its fleet of Alcatel cable ships. The company also operates a fiber-optic cable manufacturing factory in France.

To protect cables from potential damage, the portions of cable from the shore out to a depth of 1200 feet (effectively out to the end of the continental shelf) are usually of thicker design with additional protective steel armor. The cables can also be buried several feet under ocean bottom using a large plough to circumvent fishing net and anchor damage. Beyond this point, the cable is only about 1 inch thick (about the size of a garden hose) for the deeper parts of the ocean and few cable breaks are ever experienced in these portions of the cable route. Cables generally have a design life of 25 years but that can sometimes be shortened when superseded by newer cable technology which allows for higher throughput.

When older cables are retired, some have been turned over to oceanic research organizations for use in acoustic, ocean current, temperature measurements, and other research uses. Otherwise, retired cables are normally recovered from the ocean and recycled.

Many new cable systems have redundancy designed into the network and thus the “ring” network theory comes into play. Thus, cables may leave shoreline cable stations in two directions or travel for a portion over land so as to form a complete ring, for example from the west coast of the USA to Hawaii, then to Japan and then another separate segment back to the USA. Thus, with a failure of one segment, the data traffic can be automatically routed around the remaining usable portion of the ring. Human intervention is not immediately necessary for cable failures due to the use of automatic data sensing and switching equipment.

The higher risk of cable failure comes into play for locations that have no redundancy such as single point cables for example from Hawaii to Tahiti or for some locations in SE Asia. Thus, when a cable failure occurs in more remote locations, the internet and telephone traffic may come to a slow crawl while backup satellite networks are brought into primary use until the cable can be repaired. Viet Nam, in particular, has experienced a high number of cable failures in its relatively shallow waters.

Future cable routes being planned include the Arctic Cable which will take advantage of global warming to run a cable from the north shore of Alaska eastwards across the Northwest passage and onward to England. Another segment will connect the north Alaska cable station to Japan thus effectively giving the UK a direct cable link to Japan (and onward to SE Asia). Another cable route currently undergoing planning is the BRICS cable which connect Brazil to South Africa and onward to India, Russia and China. This will be the first southern hemisphere Atlantic cable route and will run approximately 21,000 miles with 12 Tb/s capacity. One of the driving reasons for this route is to avoid routing internet traffic via the USA and the alleged spying by NSA of such internet traffic. Military organizations are known to operate their own dedicated private oceanic cable networks such as the U.S. Navy’s “black fiber” network. Subterfuge has occurred in the past such as the U.S. tapping of a Soviet underwater cable in the early 1970’s during the “Cold war”. During periods of war, cables have been cut by nations, particularly during WW I. Security of cable networks remains a concern for all nations due to the criticality and importance of the cables to a nation’s communications. For example, certain areas near many cable landing points are now prohibited from trawler fishing and anchor dropping.

Coincidentally, underseas cables are also sometimes used to jointly provide electric power and data communication to remote islands. For example, a 230-mile-long combined power/fiber cable connects mainland Australia with Tasmania. The power portion operates at 400 kV DC providing 500 MW capacity to Tasmania along with a 12 pair fiber-optic portion providing 640 Gb/s for data communications.

In summary, the global submarine cable networks are an often unknown but critical resource in providing global internet and voice traffic to support commerce and personal data needs. Such cables will likely play an important role in future global communications for many decades to come.

For additional information, the reader is invited to visit these resources:

<https://www.submarinecablemap.com/> (an interactive searchable cable map)

<https://www2.telegeography.com/submarine-cable-faqs-frequently-asked-questions>

www.cablemap.info (another interactive searchable cable map)

<https://networks.nokia.com/solutions/submarine-networks>

Book: “*The Undersea Network*”, Nicole Starosielski, 2015, available from Amazon Kindle for \$15.31, [Comment by NW7D: *This 312-page book, while an interesting but somewhat tedious read, is more about the geo-political and economic importance of cable networks including the history of submarine cables but contains little technical info about submarine cables*]

WVARC
2018
Field
Day

Safety Officer

A. Kramer KI7GFJ

Checklist



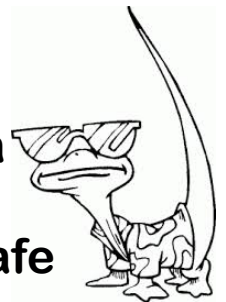
ARRL Field Day 2018 p. 13 of 15:

7.3.17 Safety Officer Bonus: A 100-point bonus may be earned by having a person serving as a safety officer for those groups setting up Class A stations. This person must verify that all safety concerns on the safety checklist (found in the ARRL Field Day Packet) have been adequately met. This is an active bonus—simply designating someone as **Safety Officer** does not automatically earn this bonus. A statement verifying the completion of the safety checklist must be included in the supporting documentation sent to ARRL-HQ in order to claim this bonus.

To qualify for the 100-point bonus:

◆ Designated person must be present at the site from beginning of set-up, until the end of break-down. (Or a qualified assistant.)

◆ Designated person must provide due diligence of safe operation throughout the weekend.



WVARC has many of these items covered, because we will be located within the **North County Fire-Medical Station #103:**

- Fire Extinguisher, First-Aid kit, AED on hand. Safety Officer is Point-of-Contact for Public Safety personnel (also a means to contact Police/Fire/Rescue if needed.)
- Fuel for generator is properly stored.
- Access to severe weather alerts.
- Antennas secured and marked. Tent stakes properly installed and marked, secure of trip hazards with site set up neat and orderly.
- Stations and equipment are properly grounded.
- Minimize risks and hazards to the public.
- Monitor participants for hydration and ensure adequate water supply on hand.

