



January, 2019
Volume 57 Issue 01

MARANews



Our next meeting January 15, 2019 at 6:30pm at the Bridgewater Public Library

Our February meeting is February 19th

Membership Renewal

With the beginning of each year comes the time for membership renewal and the payment of dues. Since Washington did not fall off the cliff I guess it is all right to use US dollars to make payment. You can bring your check to the next meeting or send it along to our post office box at **MARA P.O. Box 428 Bridgewater, MA 02324**. Our smiling treasurer will be happy to see or hear from you.

NEWSLETTER: KB1TEE Rick report's that he will be stepping down as the newsletter editor. His last newsletter will be the February news 2019.

Presidents KC1CFO Denise Sisson



Presidents Notes from KC1CFO Denise Sisson

MARA Facebook page: Our Massasoit Amateur Radio Association Facebook page with club events, meetings, photos, etc. It is occasionally updated so that it can be another resource for us on which to spark interest of our club, amateur radio and keep members informed of what we are doing outside of our club meetings and in our community. If you go to the "about" tab on our page you can find our <http://www.w1mv.org/> web page for our present and past newsletters and other club information. Please send Denise KC1CFO denigs1@aol.com any articles or photos you would like to see in our MARA newsletter, W1MV-MARA Website and Facebook page. Jeff N1ZZN has created a link to twitter to help get the word out even more!

Happy New Year to all.

Looking for ideas for speakers and activities. Please let us know if you have any ideas.

We are in need of a new newsletter person; Thank you Rick for the time and wonderful job you have done over the past years.

I am looking forward to seeing everyone on Tuesday, January 15th, for our 2019 start of monthly meetings.

73 Denise KC1CFO

President-Massasoit Amateur Radio Association

There was no December meeting
I Just thought that this was a good filler
TV show M.A.S.H.



To reflect the reality of war, a lot of nurses were cast on *M*A*S*H*, and they didn't last long. They didn't have large parts, so writers gave them bland names. The writers drew inspiration from the HAM operators and military, giving the nurses names from the phonetic alphabet. Kellye Nakahara, an actress who was frequently credited as Nurse Kellye, also appeared under other nurse names.

N1MM Logger+ Update Better Supports RTTY Roundup Participants Using FT8

An *N1MM Logger+* software update provides some good news for those who are planning to use both RTTY and FT8 in the [ARRL RTTY Roundup](#) on January 5 - 6. *N1MM Logger+* version 1.0.7422, released on January 1, [includes changes](#) to better support working in conjunction with *WSJT-X* in contests, including color coding of multipliers and duplicate call signs.



The *N1MM Logger+*/*WSJT-X* interface. Participants in the ARRL RTTY Roundup should be using *WSJT-X* version 2.0 or higher. [Image courtesy of Larry Gauthier, K8UT]

When configured correctly, *WSJT-X* decodes a general call and shows it in the program's left-hand band activity window. It will also be sent to *N1MM Logger+*, which will display that call sign in a new *WSJT-X*-specific window -- new in the January 1 release. The call sign color will be set to red if it's an unworked multiplier, blue if the call sign is a new station but not a new multi, or gray if the call sign is already in the log. Clicking on that call sign in the *N1MM Logger+* window will enter it in *WSJT-X*, poised to be worked using *WSJT-X*.

For stations using RTTY and FT8 in the ARRL RTTY Roundup, the status of any particular call sign or multiplier now will show in either program. Previously, it was not possible to initiate a contact in *WSJT-X* from *N1MM Logger+*.

Switching between RTTY and FT8 (from the *WSJT-X* suite) will require different configurations for *N1MM Logger+* for each mode. Either *N1MM Logger+* or *WSJT-X* can directly control a transceiver at any time, but not both. Using separate .ini (configuration) files for *N1MM Logger+* could ease the process. One configuration would be the "normal" RTTY configuration for *N1MM Logger+*, and the other would be a configuration that doesn't control the rig but does allow contacts to be logged from *WSJT-X*. [See](#) the *N1MM Logger+* help file for more information. --Thanks to Larry Gauthier, K8UT, and Brian Moran, N9ADG

FCC Outlines Impact on its Operations of Potential Funding Lapse

The FCC suspended "most operations" at mid-day on Thursday, January 3, due to the continued partial lapse in federal government funding. The agency spelled out the impact of the funding lapse in a January 2 [Public Notice](#). Some systems that have gone dark in prior government shutdowns will remain operational this time, however. That includes the FCC website, although it will not be updated except for matters related to spectrum

auction activities and those necessary for the protection of life and property, until normal operations resume. The FCC *Daily Digest* will continue to appear.

The Electronic Comment Filing System (ECFS), the Universal Licensing System (ULS), the Electronic Document Management System (EDOCS), and the Commission Online Registration System (CORES) will remain available, but no support will be provided except that necessary for spectrum auction activity that covers the costs involved.



According to the *Public Notice*, ULS and ECFS filings, among others, "will not be reviewed or processed and will be considered accepted on the day following the day of return to normal operations." This would include the processing of Amateur Radio applications.

Also down will be the Consumer Complaint Center and the Experimental Licensing System, among several others.

Still available will be the Network Outage Reporting System (NORS), the Disaster Information Reporting System (DIRS), the Public Safety Support Center (PSSC), the Licensing Management System (LMS), the Consolidated Database System (CDBS), the Auctions Public Reporting System (PRS), the Auction Application System, and the Auction Bidding System.

"All other Commission electronic filing and database systems will be unavailable to the public until normal agency operations resume," the FCC said.

The FCC released its overall [shutdown plan](#) in late December. The resumption of normal operations will also be announced on the FCC's website.

FEMA Region 10 will conduct monthly communications exercises

(COMMEX) on the third Wednesday of each month, starting on January 16, 1730 - 1900 UTC.

Amateur Radio operators are invited to take part. The intent of these exercises is to test and exercise interoperable communication (federal/state/local/tribal/Amateur Radio) during a major disaster in which the communication infrastructure is significantly damaged or destroyed. FEMA Region 10 will use the call sign WGY910. Other stations associated with agencies and organizations that provide response support in accordance with the National Response Framework are encouraged to participate. The COMMEX will use these "dial" or "window" frequencies on 60 meters -- including 5,330.5 kHz, 5,346.5 kHz, 5,357.0 kHz, 5,371.5 kHz, and 5,403.5 kHz -- as part of the exercise. The area of operation is the continental US.

ARRL's Logbook of The World Tops 1 Billion QSO Records

As of December 19, more than 1 billion contact records have been entered into ARRL's [Logbook of The World](#) (LoTW) system. And, while 1 billion QSO records represents a significant milestone, a more important statistic may be the nearly 187 million contacts confirmed via LoTW over its 15-year history.

The one billionth record was uploaded by 7X3WPL, the Sahara DX Radio Club, at 2332 UTC for a 20-meter SSB contact with Davide Cler, IW1DQS, that took place on December 28, 2016. The upload resulted in a match (QSL).



LoTW debuted in 2003 after a lot of behind-the-scenes planning and development. Initially, LoTW got off to a slow start. While user numbers gradually grew to about 5,000, a lot of hams didn't fully understand what LoTW was or how it worked, and opening an account could be cumbersome.

LoTW continued with few major changes until October 2011, when a perfect storm struck -- a large ingestion of logs after the CQ World Wide DX Contest and a freak snowstorm that knocked out power for more than a week in most places.

Field Services and Radiosport Department Manager Norm Fusaro, W3IZ, said uninterruptible power source (UPS) backup power quickly depleted in the days-long power outage. "When the system came back online, it was overwhelmed with the amount of data coming in and could not keep up," Fusaro said. "The water was coming in faster than the pumps could pump it out. *Crash!*"

The disaster was a blessing in disguise, though, because it revealed weaknesses in the LoTW software and hardware.

Fusaro said the League spent tens of thousands of dollars for new hardware. IT Manager Mike Keane, K1MK, implemented code changes to expedite log processing by giving priority to small- to medium-sized logs and inserting mega-files as openings occurred. Fusaro said a lot of the large files contained duplicate data, bogging down the process so much that users were resending logs already in the queue. Through all of this, not one QSO record was lost, because LoTW uses a redundant backup process, Fusaro said.

A LoTW users' group reflector and a queue-processing status page were set up. With better communication, Fusaro said, the system attracted additional numbers. Today, LoTW boasts some 112,000 users in all 340 DXCC entities, and 75% of all DXCC applications are filed via LoTW, which accounts for 86% of confirmations applied.

Now, ARRL is looking at the development of LoTW 2.0, Fusaro said. "Over the years, we have added more awards that can be applied for using LoTW QSL credits: VUCC, Triple Play, and two CQ awards -- WPX and WAZ."

"The service still has room for a lot of improvement, but it continues to grow and is the preferred method of confirming QSOs because it strives to protect the integrity of DXCC and all awards," Fusaro said.

Radio Amateurs Support Emergency Communication in Tsunami's Wake

Radio amateurs in Indonesia's Banten Province are in position to support any necessary emergency communication in the wake of a "stealth tsunami" on December 22, that struck without warning. Indonesia's Meteorology, Climatology, and Geophysics Agency concluded that "the eruption triggered a landslide underwater" at Anak Krakatau.



Chairman of the Banten Regional ORARI, Panji, YB1DVB (center), went directly to the location of the tsunami disaster in several areas in Banten. [Photo courtesy of ORARI]

damaged. President Joko Widodo, YD2JKW, vowed on December 24 to have all equipment used for the detection of tsunamis replaced or repaired.

The tsunami struck in the Sunda Strait between the islands of Java and Sumatra, which connects the Java Sea to the Indian Ocean. Rescue and relief activities are under way. The death toll was expected to top 400, with some 1,500 injured. Many were reported to be still missing. Fatalities occurred in the Pandeglang, South Lampung, and Serang regions of Indonesia.

IARU Region 3 Disaster Communications Coordinator Dani Hidayat, YB2TJV, said in the immediate aftermath that ORARI, Indonesia's IARU member-society, would use 7.110 MHz for any relief and recover communication.

"The disaster management agency warned that the death toll is likely to rise further," Hidayat said. Some believe that high seas resulting from the full moon may have contributed to the force of the waves.

The disaster management agency said hundreds of buildings were

Google Assistant, Now Available On Ham Radio

Depending on who you talk to, Google Assistant is either a tool capable of quickly and clearly answering audio queries in natural language, or a noisier and less useful version of Wolfram Alpha. [William Franzin] decided it would be particularly cool to make the service available over ham radio – and that's exactly what he did.

[William] got the idea for this project after first playing with the Internet Radio Linking Project, a system which uses VoIP technologies to link radio networks over the internet. Already having an IRLP node, it seemed only natural to make it into a gateway to the wider internet through integration with Google Assistant. Early work involved activating the assistant via DTMF tones, but [William] didn't stop there – through the use of Picovoice, it became possible to use the system with the custom wakeword "Bumblebee".

[William]'s project could prove particularly useful for when he's out of cell coverage, but needs a little information like a weather report or a piece of trivia to settle an argument round the campfire. Additionally, it's even possible to control the IRLP node through voice commands, too.

If you're just getting started with ham radio, check out this build to get you started for under \$100.

<https://hackaday.com/2019/01/05/google-assistant-now-available-on-ham-radio/>

How To Make a Simple Powerful AM Loop Antenna For Free

BY: C. Crane



There are few truly magical things in this world that are practically free.

This DIY AM antenna is best used outdoors but you can make it work inside by somehow re-routing the wires. It amplifies all weak AM signals, so a powerful local station might be heard over your entire AM radio dial. Here is what you need:

- 100' or more of any type of insulated wire you can easily work with
- Twist or Zip ties or tape to hold the shape of the coil
- (2) alligator clips (available at most electronics stores)
- (1) three or four foot ground stake (any metal stake or 1/2" diameter or greater pipe)
- (1) adjustable pipe clamp that fits around your metal stake

1. Form a three inch coil with seven turns. Secure into a round shape with ties or tape. The attached alligator clip shown below will be connected to no less than 60' of your antenna wire. Generally the longer the antenna wire the better so if you have a 100' antenna wire, that's good.

2. The other end (not shown) of the coil will go to the ground stake so leave enough wire. The ground stake can be driven into a convenient and safe place nearby.



3. For maximum reception, stretch the antenna wire out perpendicular to the station you want to listen to. That means if you draw a make-believe line toward the station, you want to lay the antenna wire out 90 degrees to that imaginary line. You can mount the wire at any height, but consider eight feet for safety.



4. Bare the end of the antenna wire (I use a knife or diagonal pliers) and clip it to the coil. You really don't need the alligator clips, but it is much more reliable than twisting wire together.



5. Our antenna did not work on the pipe we used until we sanded the rust away on a small section under the clamp. What you can't see is that the dirt is damp. This is also important to make the ground work. If you have bone dry soil you may have to dump quite a bit of water on the dirt to make the soil more conductive. Clip the wire to the clamp.



6. **Grand Magic Test:** Tune your radio to a very weak station. You don't need a signal meter but it is fun to watch it register the gain. Move the coil near the radio until you hear the station improve. You don't actually attach this antenna to the radio. The coil intensifies the signal which is inductively picked up by the ferrite antenna inside the radio. A 1400 KHz station in our area went from "no discernible signal" to "full power". Please let us know of your successes or failures so fellow listeners can benefit from your experiences.

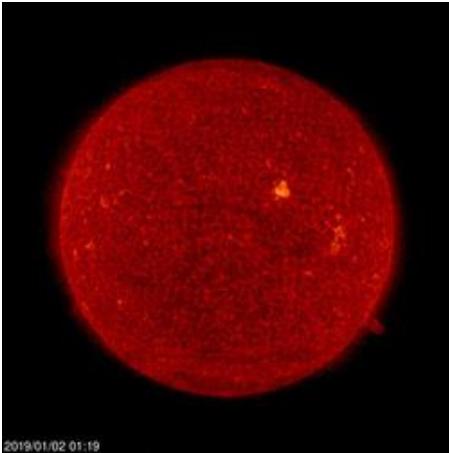


You can experiment with the diameter of the coil, the number of turns and the length of antenna wire you use. If you want to see some other great AM antennas try searching am loop antenna DIY. We would love it if you send a [comment](#) and/or picture that we can post.

This antenna works great on the AM band because of the properties of these frequencies. Loop antennas can work on other frequencies also but need some modification because of the frequency property differences. There are probably some discoveries to be made in the future with loop antenna research.

The K7RA Solar Update

Tad Cook, K7RA, Seattle, reports: Sunspots returned with the New Year, with sunspot numbers of 13 and 16 on January 1 - 2, resulting in an average daily sunspot number of 4.1 for the week (December 27 - January 2), compared to zero for the previous 7 days. The average daily solar flux rose slightly from 70 to 70.4, the average daily planetary A index increased from 4.9 to 9.3, and the average mid-latitude A index went from 4 to 7.6.



Predicted solar flux for the next 45 days is 75 on January 3 - 6; 72 on January 7; 70 on January 8 - 9; 71 on January 10 - 19; 69 on January 20 - February 2; 71 on February 3 - 15, and 69 on February 16.

The predicted planetary A index is 5, 14, 20, 14, and 8 on January 3 - 7; 5 on January 8 - 15; 12 on January 16; 5 on January 17 - 23; 20, 12, 12, and 10 on January 24 - 27; 5 on January 28 - 30; 12 on January 31; 15, 15, and 8 on February 1 - 3; 5 on February 4 - 11; 12 on February 12, and 5 on February 13 - 16.

Sunspot numbers for December 27 - January 2 were 0, 0, 0, 0, 0, 13, and 16, with a mean of 4.1. The 10.7-centimeter flux was 68.5, 69.3, 69, 69.4, 69.3, 71.9, and 75.2, with a mean of 70.4. Estimated planetary A indices were 5, 24, 11, 10, 7, 6, and 2, with a mean of 9.3. Estimated mid-latitude A indices were 5, 19, 9, 7, 7, 5, and 1, with a mean of 7.6.

WA1NPO Winterfest

The first hamfest of the year Whitman Amateur radio club will be at the K of C hall route 18 in Whitman. 9am-1pm vendor set up 7am \$5.00 entry fee with raffle prizes drawn at noon. VE sessions for tech/general/extra talk in on Whitman club repeater 147.225 + pl67.

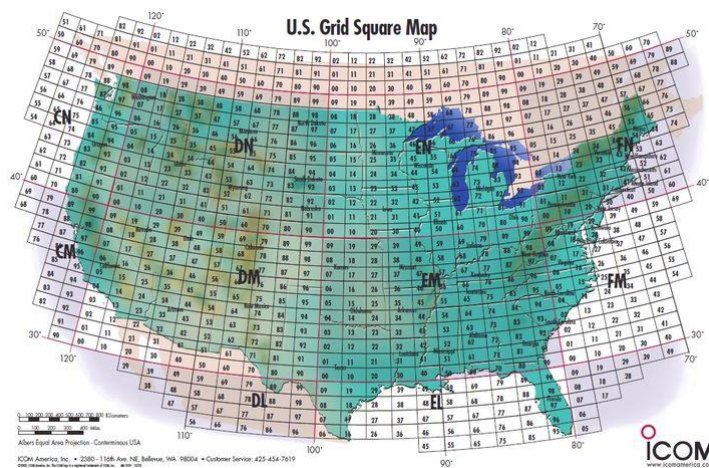
Vendors call 781-523-5010 or visit www.wa1npo.org table cost \$15.00

Connecticut Valley FM association

You are invited to a Springfield Amateur Radio Swap Fest. It is sponsored by the Connecticut Valley FM Association an ARRL affiliated Amateur Radio Club. Door Prizes, 50/50 Raffle. Coffee and donuts will be available to stave off those early morning hunger attacks. Saturday February 2nd, 2019 at the VFW Post 771, Springfield, VT is the date and place. Setup starts at 7:00AM with the main event kicking off at 8:00AM. NOTE: The entrance to the VFW is to the right of the Mobile gas station at the junction of River Street and Route 11, across from the Springfield Shopping Plaza. Free admission for all attendees! Winning the 50/50 raffle could pay for that new handheld you always wanted or cover the cost of gas, snack, and possibly a table or two. There will be a \$5.00 per table charge for hams and vendors with a two-table maximum. Set up a table to make some room in your shack for that new radio you have been looking at and recycle some of your older equipment to another Ham. Maybe set up a table to show off your favorite aspect of the hobby. (Free tables will be available for anyone wishing to present only No selling!) Can you demonstrate your logging program, do a satellite demo, showoff your home brew antennas? This day is for "us"(you), to socialize with each other, make new friends and catch up with old friend. Bring your favorite presentation and share it with others. There will be plenty of fun, good times and good friends to be had by all.

New England Area Ham - Electronic Flea Market DATES 2019

19 Jan Whitman MA WARC @KoC Rt18	Chris N1CFB 508 224 8528 +
16 Feb Marlboro MA AARC @MidSch	Timothy KA1OS 508 919 6136 A+
23 Feb S Burlington VT RAoNV @HI I89x14 \$9@8 \$15@6	Mitch W1SJ 802 879 6589
3 Mar Nashua NH NEARC/NEVEC Radio50@Marriot CourtYard @8A	603 772 7516 F+
9 Mar Chicopee MA MtTomARA @Castle \$5@8:30 S@6:30	Brian N1FI 860 478 6790 +
24 Mar Southington CT SARA \$5@8@HS \$20/sp@6:45	John WA1JKR 860 621 8791 F+
29,30 Mar Lewiston ME AARC ME Conv @Ramada @8	Ivan N1OXA 207 784 0350 +
7 April Framingham MA FARA 9AM@KeefeHS \$25/T	Andy KC1DMM 508 310 5913 +
28 April Thompson CT ECARA @ Raceway \$3 \$15/sp	Jon KA1MPG 508 943 4467 F+
3-4 May Deerfield NH NEARfest XXV @FG	Mike K1TWF 978 250 1235 +
12 May E Greenbush NY EGARA FireCo	Bryan W2RBJ 518 894 3500 A+
18 May Brookline NH NEARC antique	603 772 7516 +
2 June Queens, NY HOSARC @HOS	Stephen WB2KDG 718 898 5599 A+
25 Aug Newtown CT CARA @TownHall \$7@8 \$20/T	John W1JGM 203 417 0160 +
28 Sept Brookline NH NEARC antique	603 772 7516 +
11,12 Oct Deerfield NH NEARfest XXVI @FG	Mike K1TWF 978 250 1235 +



HAM RADIO LOCAL AREA NETS

If you know of a Ham Radio Local Area Net that is not listed here, a typo on the information, or a Net listed which is no longer active, please contact John – N1UMJ at: N1UMJ@arri.net, so this list can be updated. All Frequencies are in MHz and 6 Meters (50.0 MHz and up.), are FM Mode unless otherwise noted. Thanks!

Sunday: WA1NPO – WARPSN Net, 8:30 AM, Whitman ARC Rptr, 147.225 +, PL 67.0

8:45 AM New England phone net, 3.945 +/- LSB

NE Cracker Barrel Net, 7:00 PM Daily (Matt – W1AEM, NCO on Sun), 3.921.00 MHz LSB

Pilgrim Amateur Wireless Assoc. 10 Meter Net, 7:00 PM, 28.375.0 USB

Cape & Island Traffic Net, Mon. Tue. Thur. St. Night at 7:30 PM, Falmouth N1YHS Rptr, 147.375 + PL 110.9

Genesis ARC CW Training Net, 7:00 PM, Plymouth N1ZIZ Rptr, 146.685 – PL 131.8

Eastern MA 2 Mtr Traffic Net, Every Night at 8:00 PM, Boston W1BOS Rptr, 145.230 – PL 88.5

Norfolk County Radio Association Net, 8:00 PM, Walpole Rptr, 146.895 – PL 123.0

Monday: Cape and Islands Weather Net, 6:00 AM, Mon – Sat, Dennis K1PBO Rptr, 146.955 – PL 88.5

Fairhaven Weather Net, 8:00 PM, SEMARA Rptr, 147.000 + PL 67.0

Norfolk County Emergency Preparedness Net, 8:00 PM, Walpole Rptr, 146.895 – PL 123.0

New England DMR net, DMR-MARC repeaters talk group 3181 New England

Falmouth ARA Net, 8:30 PM, Falmouth K1RK Rptr, 146.655 – PL 88.5

Boston ARC Rag Chew Net, 9:00 PM, Boston W1BOS Rptr, 145.230 – PL 88.5

Tuesday: Massasoit ARA Net, 8:00 PM, Bridgewater W1MV Rptr, 147.180 + PL 67.0 (Except 3rd Tue!)

Genesis ARC 2 Mtr Rag-Chew Net, 7:30 PM, Plymouth N1ZIZ Rptr, 146.685 – PL 131.8

Fairhaven Weather Net, 8:00 PM, SEMARA Rptr, 147.000 + PL 67.0

Norwood Amateur Radio Club Net, 8:00 PM, Norwood Rptr, 147.210 + PL 100.0

220 MHz Day! Try to find a 220 Repeater near you and give a call out!

Wednesday: Whitman ARC 10 Meter Rag-Chew Net, 8:00 PM, 28.333.0 USB (Except 1 st Wed!)

Blackstone Valley ARC , 2 Mtr Simplex Net, 7:00 PM, 146.565

Fairhaven Weather Net, 8:00 PM, SEMARA Rptr, 147.000 + PL 67.0

Cape and Islands ARES Net, 8:00 PM, Dennis K1PBO Rptr, 146.955 – PL 88.5

Waltham Wranglers Swap Net. 9:00 PM, Waltham W1MHL Rptr , 146.64 – PL 136.5

Thursday: Fairhaven Weather Net, 8:00 PM, SEMARA Rptr, 147.000 + PL 67.0

Genesis ARC CW Training Net, 7:00 PM, Plymouth N1ZIZ Rptr, 146.685 – PL 131.8

10 Mtr General Class Rag-Chew Net, 8:00 PM, 29.470.0 FM

Sturdy Mem. Hosp. ARC ARES Practice Net, 8:30 PM, K1SMH Rptr, 147.195 + PL 127.3

900 MHz Day! Try to find a 900 Repeater near you and give a call out!

Friday: Fairhaven Weather Net, 8:00 PM, SEMARA Rptr, 147.000 + PL 67.0

Saturday: South Shore Skywarn Net, 8:00 PM, Bridgewater W1MV Rptr, 147.180 + PL 67.0

VKEMCOMM Echolink Conference node: 270177/IRLP 9508 (due to *WX-TALK* Echolink

conference node: 7203/IRLP 9219 outage) Refer to: <http://www.voipwx.net/>

Massasoit Amateur Radio Association Executive board

President Denise Sisson KC1CFO

Vice President Jeff Lehmann N1ZZN

Treasurer: Phil McNamara N1XTB

Secretary:

Call sign Trustee: Phil McNamara N1XTB

Repeater Trustees: Carl Aveni N1FY., Lou Harris N1UEC, Bob Mandeville N1EDM

2M Repeater 147.180+ (Tone 67.0)

440 Repeater 444.550+ (Tone 88.5)

APRS Node Node 144.39 W1MV-1

Packet BBS 145.09 N1XTB-4

Packet Node Brockton 145.09 W1JOE-7 (BROCK)

MARA Web page <http://www.w1mv.org/>

Newsletter Editor kb1tee@gmail.com

WARC Web Page <http://www.wa1npo.org>

Qsl via www.eqsl.cc

Skywarn www.powersrvcs.org/w1gmf/skywarn.htm

Mailing Address P.O. Box 428 Bridgewater, MA 02324

Monthly meetings are held the 3rd Tuesday of each month at 6:30PM at the Bridgewater Public Library in Bridgewater Center. Talk-in is on 147.180+

Our **Meetings-On-The-Air** are held all other Tuesday evenings at 8PM on 147.180+ and includes the Westlink News Report with the latest news about happenings in the world of Amateur Radio.

The **South Shore Skywarn Net** is held every Saturday evening at 8PM local time on 147.180+ and is open to all hams.

VE Exams are held the 2nd Saturday of every month, in Braintree contact Steve Cohen , W1OD via email w1od@arrl.net. Walk-ins are no longer permitted. We will be hosting VE exams at 8:45 at the Watson building. If you know of anyone planning to take an exam, please have them drop a note to Steve to confirm a reservation.

We are in need of a newsletter editor as of February I will not have time to do the news for our club please step up and keep it going
Rick KB1TEE

Editor Rick Emord KB1TEE

TV and Movies using radio communications



Mother, Jugs & Speed is a 1976 American black comedy film directed by Peter Yates. It stars Bill Cosby (Mother), Raquel Welch (Jugs), Harvey Keitel (Speed), and Larry Hagman as employees of an independent ambulance service trying to survive in Los Angeles



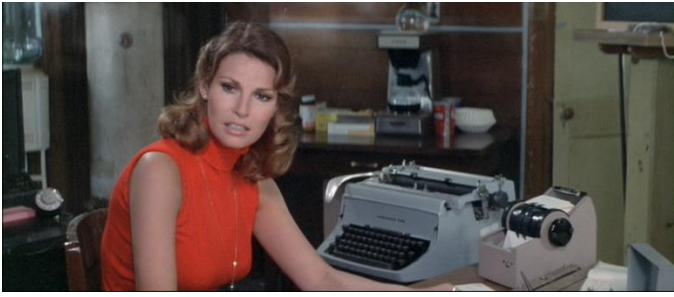
The F+B Ambulance Company is locked in an intense battle with the Unity Ambulance Company to win a city contract for providing ambulance service to a territory within Los Angeles. Their star driver is "Mother" Tucker (Bill Cosby), a talented antihero who drinks alcohol on duty, harasses nuns, and behaves brazenly towards practically everybody he meets, including his partner Leroy (Bruce Davison). Indeed, the entire company is a band of misfits, including the hypersexual John Murdoch (Larry Hagman), his partner Walker (Michael McManus), putative medical student Bliss (Allan Warnick), and brash Texan "Rodeo" Moxey (Dick Butkus). Handling calls at the switchboard is Jennifer (Raquel Welch), whom the drivers nickname "Jugs" for her ample bosom. Harry "Doughnut" Fishbine (Allen Garfield) runs the company, using occasionally underhanded means (such as kickbacks) to maintain an income stream.



When Walker is injured after falling through a staircase on a call, Harry Fishbine hires Tony Malatesta (Harvey Keitel), a disgraced sheriff's detective and former Vietnam War ambulance driver. Upon learning that Tony has been suspended from the sheriff force due to allegations that he sold cocaine to children, Mother nicknames him "Speed". Speed is initially paired with Murdoch, though their partnership is strained when Speed must stop Murdoch from raping an unconscious female college student who has overdosed on Seconal. On a false emergency call, Leroy is shot and killed by a junkie (Toni Basil) demanding drugs. When Mother pulls a gun on the junkie, the junkie commits suicide. Later that night, a drunken Mother assaults Murdoch for stating that Leroy's death "doesn't count"; though Murdoch states this in regard to the drivers' "dead body" pool, Mother perceives it as an attack on the character of his dead partner. Harry then partners Speed with Mother to alleviate his driver shortage.



Meanwhile, Jugs has obtained her Emergency Medical Technician (EMT) and ambulance driver certifications, and forces her way onto F+B's active roster with threats of sexual discrimination lawsuits. When Speed fakes an injury to prevent Jugs' arrest for misuse of an ambulance, the two fall in love. Though Jugs proves a capable EMT, she loses her nerve after a pregnant woman under her care suffers a severe obstetrical hemorrhage and bleeds to death in Mother's ambulance. Jugs secludes herself afterward until Mother counsels her and gives her the courage to return to work.



At a City Hall meeting, City Councilman Warren informs the owners of both Unity and F+B that they will not be awarded the contract—it will instead be awarded to a larger, established company. To save their businesses, Unity's owner, Charles Taylor, proposes that their two companies merge. Though the councilman is agreeable to the merger, Fishbine is not. The discussion is interrupted by an emergency call: Murdoch, intoxicated and armed with a handgun, has broken into F+B's bus garage office with Walker and is holding Mrs. Fishbine hostage. All of Unity's and F+B's ambulances descend on the F+B garage; upon arrival, Murdoch opens fire and hits Speed in the shoulder. When Mother charges onto the garage grounds to rescue his ambulance, he comes face to face with Murdoch; Murdoch tries to shoot Mother, but his gun is empty. A deputy sheriff then shoots and kills Murdoch.

