

Spurious Emissions



The Newsletter of the South Bay Amateur Radio Society



Volume 4 Number 1

Winter 2015

New Members & Upgrades

Submitted By Fred Curtis, K16GRO

We would like to welcome the following new members to SOBARS:

Jerry Stafford	WA6KIN
Hans d'Oleire	KK6QWD
Elias Rhoten	KK6PWL
Ray Rhoten	KK6PWM
Norm Briggs	KK6DW

Congratulations to Norm Briggs, KK6DW for upgrading his license to Extra at the Yuma Hamfest in February. ✈

Editor's Notes

This is a fairly full issue. Included are a couple of columns from Dan Romanchik, KB6NU, who always has some good insights into ham radio, an article and lots of pictures of the recent work at the repeater site and the installation of the new Yaesu System Fusion® digital repeater.

There is also a short obituary for Dick Cupp, the long-time member that passed away in February. Thanks go out to his family for gracious permission to use the remembrances from his memorial service at Ft. Rosecrans National Cemetery, April 2, 2015.

Other articles in this issue are related to this time of year... ✈



The club's new Yaesu System Fusion® repeater installed and operating at the repeater site. Story and pictures on Page ...
John Wright, K6CPO

From the President's Shack

By John Wright, K6CPO

Now that the first quarter of 2015 is past, we have lots of news to report.

We are saddened to report the passing of long-time SOBARS member Dick Cupp, K6SJA. Dick passed away on March 9, 2015 at the age of 94. He will be greatly missed.

The repeater issues have been resolved and the new digital repeater is in place and operating. There is an article and pictures elsewhere in this issue. As more members acquire digital radios, we will be having more discussion and presentations regarding digital voice and

it's entirely possible we might even consider some training in the use of the radios.

With the passing of Dick Cupp, we need a new Club Emergency Coordinator. If there is anyone interested in this position please contact me.

The next quarter promises to be extremely busy, especially during the month of May. There are a number of events scheduled for May, starting with the Fry's Operating day on the 2nd. We will be needing members to help staff this event. The National Weather Service will be holding the 2015 WeatherFest and All-Hazards



1957 2015

**SOUTH BAY
AMATEUR RADIO
SOCIETY
(SOBARS)**

K6QM

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SOBARS is an ARRL-affiliated ham radio club with members from San Diego, National City, La Mesa, Chula Vista, Bonita, Imperial Beach, and San Ysidro, California.

OFFICERS

President: John Wright, K6CPO
president@sobars.org

Vice-President: Nestor Puñales
K6JTT
vp@sobars.org

Secretary/Treasurer:
Fred Curtis, KI6GRO
secretary_treasurer@sobars.org

Call-Sign Trustee:

Jim Beckman, N6RSL

Emergency Coordinator:

Dick Cupp, K6SJA

Property Trustee:

Louie Vignapiano, KI6SRR

SOBARS meetings are held at the Chula Vista RV Resort, 460 Sandpiper Way, Chula Vista, CA 91910
See the website for dates & times.

Club Repeater: 146.085 (+)
PL: 100.0

CLUB NETS

Club nets are held every Tuesday evening on the following bands:

1830: (PT) 449.980 (-) PL 88.5
223.840 (-) PL 107.2
1900: (PT) 146.085 (+) PL 100.0
1930: (PT) 28.480 USB
7.183 LSB

Preparedness Expo at their offices in Rancho Bernardo, May 9th. ARES will be participating in this event.

On May 20 there will be a statewide emergency drill, with a massive failure of the electrical grid (sound familiar?) as its scenario. SOBARS has been asked to participate in the City of Chula Vista portion of this drill. We may be activating the emergency communications trailer and operating out of the city EOC. Anyone wishing to participate please contact one of the club officers and we will put you in touch with the proper individuals.

The city emergency communications trailer has been returned to its place at Fire Station 4. A group of us went over to check on it and discovered that it seems to be operational, with a couple of minor exceptions.

The batteries have been replaced and the burnt fuse block was replaced with one of the proper size for the fuses used. The solar panel and controller are keeping the batteries at full charge and all the radios come up just fine when turned on. Because they sat for so long, they are all going to need to be reprogrammed. The fuse blocks have been labeled with the proper values.

The installed power supply is still undesirable for battery charging as it puts out 13.6 volts at high amperage. We suspect this is what might have destroyed the original batteries. Currently, we are

relying on the solar panel to keep the batteries fully charged.

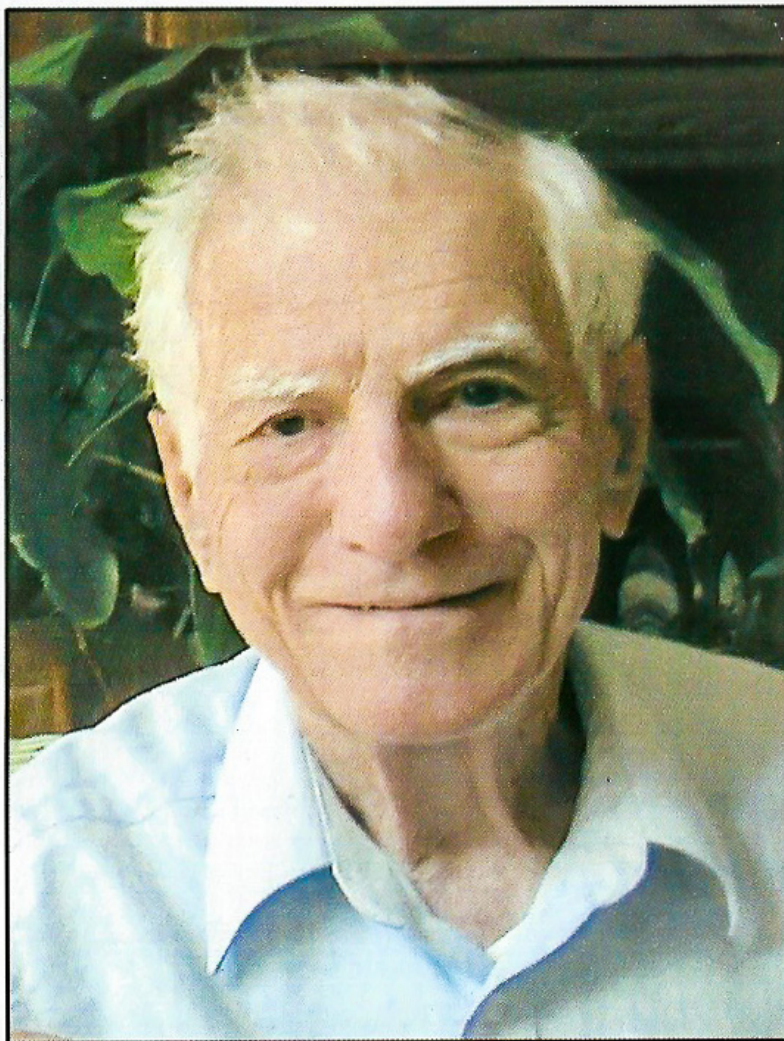
As a matter of routine, we checked to ensure the city 800 MHz radios were operating properly. It was discovered that one was in a fault mode. At the same time we discovered two 1990's vintage laptop computers in the trailer. The computers were returned to the city and the information about the defective radio was forwarded to the Chula Vista Emergency Coordinator.

To the best of our knowledge, there is no operating manual for the trailer. Our plan is to develop one and keep copies in the trailer. We will be forming a Trailer Committee and anyone interested in being part of this effort should contact one of the club officers.

Field Day is just around the corner—June 27-28, 2015. This is the big event for the year and we'd like to get the maximum turnout from the club. This is our opportunity to be seen by the public. We will probably hold a license testing session at the Field Day location as well. I recommend reading the ARRL Field Day packet on their website at <http://www.arrl.org/field-day>. Anyone interested in participating in Field Day can contact Field Day Chairman Mark Wallace, KJ6NMJ.

All in all, there has been a lot happening and there's a lot more to come. ✈





Richard Franklin Cupp

November 23, 1920 - March 9, 2015

Richard “Dick” F. Cupp was born and grew up in Lima, Ohio. He served with the 355th Engineer Regiment during WW II. After marriage, Dick and Jane moved to San Bernardino, California where they raised their three children, Barbara Ann, Norma Lee and James “Jimmy” Robert. Barbara and Jim Bowser gave the Cupps two grandchildren, Kimberly Lee (DeYoung) and Sybil Elizabeth.

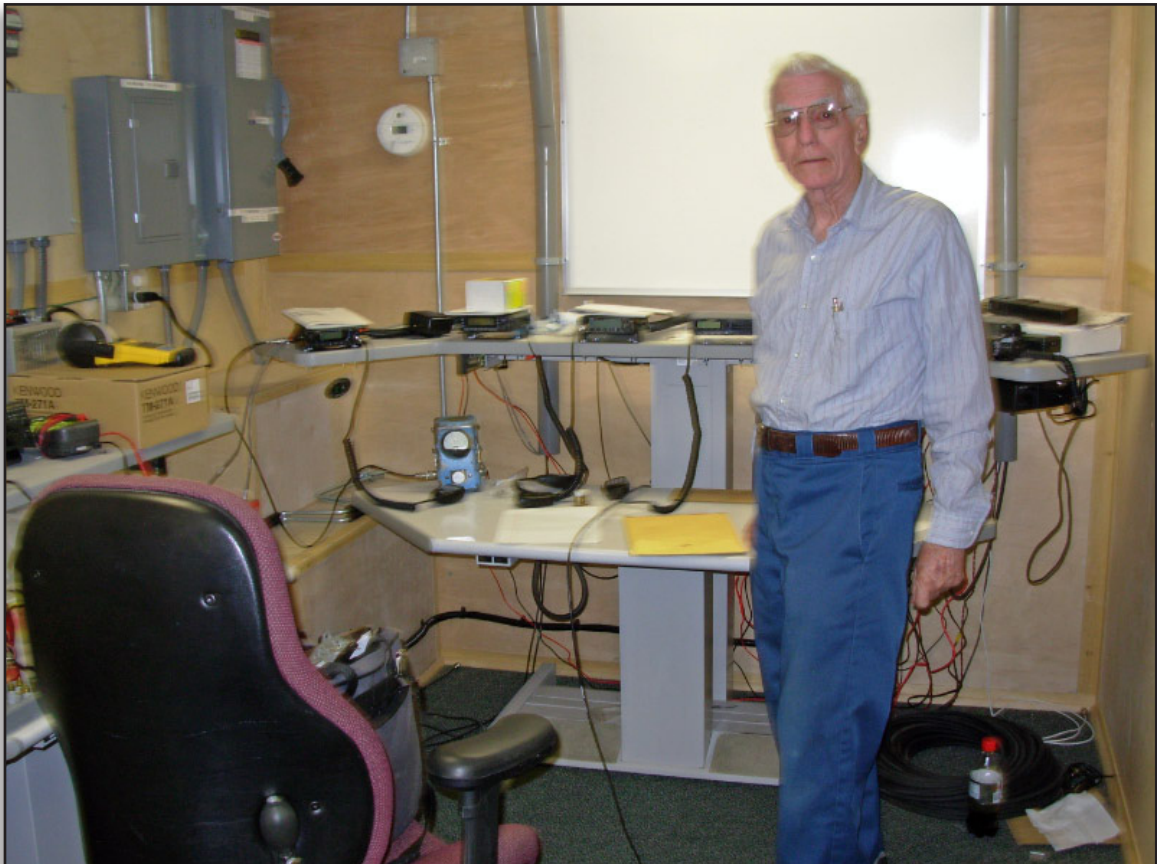
Dick was a ham radio operator for fifty-five years. It gave him deep satisfaction that his

great-granddaughter Corrin Vondale Condren earned her ham license.

Dick, Jane and Daughter Norma moved to San Diego following his retirement from the City of Riverside in 1975. Richard volunteered his skills to the South Bay Amateur Radio Society, the San Diego Maritime Museum, the Pacific Southwest Railway Museum in Campo and others. He was preceded in death by their son Jimmy in 2011 and Jane in 2014. Dick and Jane’s legacy is profound and immeasurable.



The urn containing Dick's ashes and a telegraphy key as displayed at his memorial service, April 2, 2015.
William Torre, W9QEM



Dick Cupp at the console in the City of Chula Vista Emergency Communications trailer. Dick served as the club's Emergency Coordinator for many years.
Jim Beckman, N6RSL

Repeater Repairs and Upgrades

Article and Photos By Dave Kaltenborn, N8KBC

It is here! Finally we have the new repeater on the air. Many thanks to all that helped. We are very lucky to have the new coax donated by Bob Davies Jr. of Davies-Electric Co. through Patrick Knighton KK6OUX.

We also have a new antenna to go with the coax. We had a great deal of help from Cesar Alvarez, KD6BHJ, who climbed the tower several times at no cost to the club. He first took down the old antenna and coax, then returned and put up a new antenna.



The old antenna at the top of the tower.



Cesar removing the old antenna.

Once the new antenna was installed, we discovered VSWR problems with it and determined it needed to be raised higher above the tower. We actually changed the entire mast and antenna. This enabled us to get back on the air with the old analog repeater.

We put the old repeater back on line to get people used to hearing it again, run a net and make sure everything was going to work properly.



Cesar preparing to climb the tower.



John (on the building) and Nestor guiding the new antenna up the tower.



The new antenna on the top of the tower. The antenna is now roughly 90 feet above ground.

We had the opportunity to purchase a new repeater that incorporates the latest technology from Yaesu. It is the DR-1 System Fusion® repeater that will work with both analog FM and C4FM digital transmitters. It is software upgradeable if any new options are available or if Yaesu needs to make any changes.

We currently have it set to operate with anything coming into the repeater is going out on analog FM, so, if you have one of the new FT1DR HT's, you can operate either digital or analog to the repeater and everyone will be able to hear your transmission on analog FM.

We have noticed a greater range in coverage since we changed the coax and antenna. Tell us what you are hearing and your experience with the new repeater.

Are you planning on getting one of the new radios? ✈

Editor's Note: *After extensive discussion at the April 8 meeting, it was decided to change the setting on the repeater so that digital signals input to the repeater would not be converted to analog FM. This will give owners of the new C4FM radios, specifically the FT1DR handi talkie and the FTM 400 mobile, the opportunity to experiment with all the features that are available with the Yaesu System Fusion®. This will remain in effect until the May meeting, at which time it will be evaluated further.*

A New class of Amateur Radio License Coming Soon

Get ready to hit the books! A new class of amateur radio license is coming.

There are about 140,855 Amateur Extra Class hams in the USA who thought they were done taking tests. Although some might be, there will be a percentage of those amateurs who will begin studying for the next round of incentive licensing brought to you by our good friends at the FCC.

Prepare yourself for the Amateur Master Class Exams!

Factual Radio has learned from a well placed source that the FCC intends to release details in an NPRM (Notice of Proposed Rule-making) in the spring of 2015. It turns out that they have been working on this program for more than 2 years!

Incentive Licensing revisited:

The real goal of any "incentive" program is quite simple, really. It's all about money. Even if only some of the nations 140,000 plus Extra class licensees pursue the Masters Class license, there's revenue in this for

everyone, especially after you explore of a few of the details that have leaked out.

Licensing details:

What we know so far:

- Must be an Amateur Extra Class Licensee for 10 years or more
- Will require both a written and practical examination
- Will carry a separate fee schedule
- May include new band privileges exclusive to Masters class licensees
- May also offer other perks relative to vanity call-sign upgrade
- May also include "speciality" endorsements

Time in grade:

The general feeling among those in the industry that have quietly supported the new license class is that amateurs should have "paid their dues" with time as an Amateur Extra before being allowed to pursue the Masters class license. This is very consistent with receiving an advanced degree from an educational institution.

Practical exams:

Examination for the new license class will include both a written and a practical examination. Applicants will not only be required to answer a 100 question exam, with questions pulled from a 1200 question pool, but must demonstrate ability in several areas related to amateur radio.

Details on the "practical" side of the new Masters test are a bit sketchy, but it's been suggested that it might include things as simple as soldering on a PL259, drawing a block diagram of a superheterodyne receiver, or troubleshooting a PSK31 configuration.

New VE Team Requirements:

VE testing teams will be required to have at least 3 Masters level amateurs to administer the practical exam. The written test will be allowed to be given by Extra class VE members.

Because of the new testing complexities, and the desire to make a little extra money, the Masters license will require a \$60 application fee. Testing fees are being hinted at being another \$60.

Special Frequencies:

There is a strong potential that some new amateur radio frequency allotments in the US may be assigned to Masters class amateurs only. We have no details on what those might be at this time.

Other Perks:

One of many new additions being considered is that Masters license holders would be able to change their callsign ahead of any other vanity requests for the same call. The example that was explained to us was, say that the callsign NOASS became available. If multiple folks applied, Masters applicants would jump to the head of the line, and then be sorted by their application time and date. Additionally, the 1 year wait to recycle old callsigns would be waived for Master class amateurs. There are some other options being considered for Masters class amateurs as well, although we were not offered any details.

Special Ratings:

As part of the new Masters class licensing incentive, there has been much discussion about offering special endorsements for fields of study. Each would require yet another testing fee, and a separate (but written only) examination. Specialty ratings may include:

- Digital Focus
- Universal Operator (CW Test of some sort)
- Mobile Operations (special focus on mobile antennas)
- Builder (general equipment construction expertise)

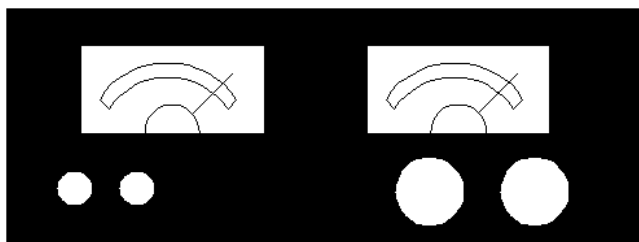
The Master class ham earning these ratings would be entitled to list them after their callsign, for example N1XX, DUMB.

The Real Motivation:

As already mentioned, this new program stands to raise a significant amount of cash for the Federal agency, as well as spur industry related sales of new training materials, study guides, and potentially even new equipment.

Keep an eye out for the upcoming NPRM, and be sure to weigh in on the discussions that will most likely follow! When we latch onto more details, we'll post them here! ✈

Story Courtesy of: Factual Amateur Radio Technology Services



Make Your Own Dipoles With These Center Insulators

By Dan Romanchik, KB6NU

One of the things that always gets my goat is the price some companies charge for dipole antennas. It's not that they're charging an outrageously large sum of money, and I certainly don't begrudge them making a profit for their efforts. It's just that if hams would just buy their own wire and parts, they would not only save money over the long run, but be encouraged to experiment with antennas. That's what I started doing about ten years ago, and I've been very happy with the results.

One of the first things that I did was to purchase ten Budwig HQ-1 center insulators and ten HQ-2 end insulators (<http://www.budwig.com/antenna-connector-insulators.html>). I've made a bunch of antennas with these insulators, including several 40M/20M inverted vees for portable use (such as Field Day and special events), a 17M dipole, and a 10M loop antenna. These insulators are very well-made, and can easily be reused, too.

Universal Radio sells the set (<http://universal-radio.com/catalog/antsup/1782.html>) for \$18.50. I just placed another order for ten HQ-1s and 20 HQ-2s (the minimum number that you can purchase to get a quantity discount). The price, including shipping, is \$143.

There are a bunch of other center insulators on the market, including:

* The Alpha Delta Delta-C antenna hardware kit (<http://universal-radio.com/catalog/antsup/0297.html>) consists of a DELTA-C Center Insulator, antenna connecting hardware, 1 SEP Arc-Plug™ static protector (installed in DELTA-C) and 2 DELTA-CIN end insulators. This is a little heavier-duty than the Budwig insulators, but it costs more, too (\$30 at Universal Radio). Unless you're going to be running a kW, I don't see the need to spend nearly twice as much money on these insulators.

* The TEN-TEC ACRO-BAT Antenna Connector & Hanger (<http://www.tentec.com/products/ACRO%252dBAT-Antenna-Connector-%26-Hanger.html/>) is an interesting product. Unlike the Budwig and Alpha-Delta insulators, this product does not have an SO-239. Instead, this insulator clamps over the coax and antenna wire, and in doing so, provides strain relief. I haven't tried this one, but it seems like a nice design. The cost is \$10, directly from TEN-TEC or from Universal Radio.

* The Unadilla W2AU ANSulator (<http://universal-radio.com/catalog/antsup/0913.html>) is made from PVC

tubing and include eyelets for terminating the antenna wire and for supporting the insulator in the middle. For \$15, I think I'd rather have the Budwig insulator. Also, you should be able to make one of these insulators for less than 15 bucks.

* The Hy-Gain C-1C Center Insulator (<http://www.hy-gain.com/Product.php?productid=C-1C>) has a screw for tightening down the antenna wire, so you don't have to do any soldering, but overall, I don't think I like the looks of this model. And, at 30 bucks, it seems kind of pricey.

* The W8AMZ Dipole Antenna Starter Kit (http://www.w8amz.com/W8AMZ_ACC_Page.html) comes a center insulator made from PVC pipe, similar to the Unadilla W2AU ANSulator and two end insulators. It costs \$18.

If none of these strikes your fancy, you can always make your own. WP4AOH has some very good instructions on how to do this using PVC pipe and fasteners that you can find at your local hardware store (<http://wp4aoh.blogspot.com/2012/07/dipole-antenna-center-insulator.html>).

Whatever route you take, I encourage you to keep several on hand and enough antenna wire and coax to complete the antenna. You never know when the urge will strike you to build an antenna, and if you don't have the parts you've missed an opportunity to do some experimenting. ✈

Should We Weep For Amateur Radio?

By Dan Romanchik, KB6NU

On an amateur radio mailing list that I subscribe to, one fellow wrote, "I weep for the state of amateur radio in the US, since this dispatch is apparently necessary..." He then pointed to an article on the ARRL website that reminded hams that while their local time may be switching to daylight time, Universal Coordinated Time did not change (<http://www.arrl.org/news/view/change-local-clocks-this-weekend-but-not-utc>).

The implication, of course, was that we have dumb-ed down ham radio so much that a reminder like this was necessary.

This thread went on and on, eventually garnering 17 different replies. Before it morphed into a discussion of whether or not DST is a good idea in the first place, the replies echoed the sentiment in the original e-mail:

"It's become a push button, nanny state world, what do

you expect, competence?"

"We are truly in a time of appliance operating, not only in ham radio, but in practically every aspect of our lives. :-(("

At first, I had the same reaction. I thought to myself, "How dumb are we getting in ham radio, if guys have to be reminded that UTC doesn't change when we switch to daylight savings time?" After thinking about this for a while, though, I've completely change my mind on this.

I work with a lot of newcomers to amateur radio, and many of them just don't know how UTC works. This is not their fault—they just haven't had the opportunity to deal with UTC. What these old timers (old farts?) didn't realize is that the ARRL article is not directed at them, but at the newcomers to ham radio.

I'll even go one step further. It's easy for us old-timers to be dismissive of newcomers' lack of knowledge, and then complain that amateur radio is getting dumber, but knee-jerk reactions don't usually help anyone involved. A much better approach would be to roll up your sleeves and teach them something. The only way newcomers are going to get to be old timers like us is if we help them learn stuff like this.

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When not teaching newbies about UTC, you'll find KB6NU working on updates to his "No Nonsense" study guides, teaching one-day Tech classes, or blogging about amateur radio at www.kb6nu.com. ✈

Thoughts on UTC and Attitudes

By John Wright, K6CPO

I have to agree on this one. After careful perusal of all three ARRL license manuals, (Technician, General and Extra) I could find no mention of Coordinated Universal Time (UTC). Since it isn't in the manuals, it's likely it doesn't appear in any of the question pools either.

Perhaps this is something that needs to change. UTC is central to amateur radio, especially in log keeping and QSL card exchanging. It is addressed in the ARRL Operating Manual, but not all new hams read this publication (although they should.) It would be a simple matter to add one or two questions to the Technician pool, thereby insuring UTC is mentioned in the manual.

If it weren't for my US Navy training, I would have had no idea what UTC was when I became a ham. As

it was, the Navy called it GMT (Greenwich Mean Time) or “Zulu” time.

The “dumbing down” of ham radio is a common, if not incessant, complaint on the myriad amateur radio forums found on the internet. I can’t help but think these attitudes are driving new people away from amateur radio. If we want this hobby to survive after we are gone, we need to be more accepting of those new to ham radio. “Elmering” should be the norm rather than the exception. When was the last time **you** helped a new ham? ✈

More Pictures from the Repeater



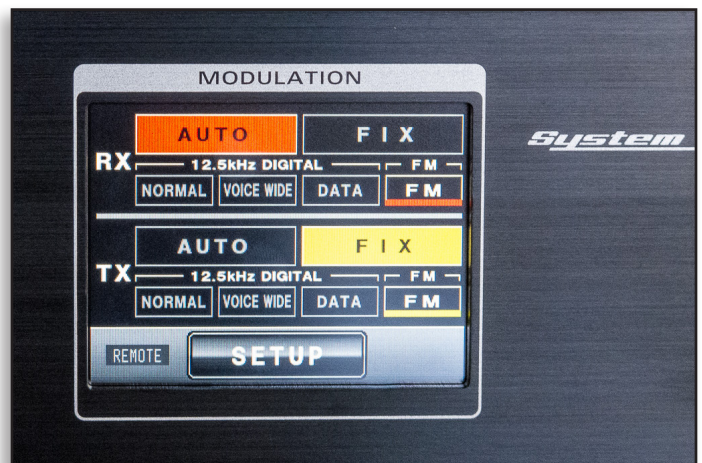
Nestor Puñales, K6JTT, and Fred Curtis, KI6GRO, handling the lifting line in the rain.
John Wright, K6CPO



Cesar Alvarez, KD6BHJ, ascending the tower to work on the antennas.
John Wright, K6CPO



Cesar hauling the antenna to the top of the tower.
John Wright, K6CPO



The Setup screen on the Yaesu System Fusion® repeater showing it setup for analog out operation.
John Wright, K6CPO

QRM

