HAPPY AND HEALTHY NEW YEAR

YARC-MITTER

PRESIDENTS CORNER

NEXT MEETING SUNDAY JANUARY 13TH.

January,2013

THE OFFICIAL NEWSPAPER OF THE YONKERS AMATEUR RADIO CLUB

HERE WE GO WITH A BRAND NEW YEAR, HOPEFULLY IT WILL BE A GREAT YEAR FOR EVERYONE AND A PRO-DUCTIVE ONE. STILL WAITING FOR THE GO AHEAD TO PUT THE REPEATER ANTENNAS BACK UP. I KNOW THEY GOT THE SANDING DONE AND THE PAINTING SHOULD BE DONE BY THE WEEK AFTER CHRISTMAS. I KNOW WE ALL CANT WAIT FOR THE REPEATERS RETURN, I KNOW I CANT WAIT. I WANT TO THANK THE LADIES OF THE CLUB WHO MADE THE CHRISTMAS PARTY A GREAT SUCCESS. BY SETTING UP AND PREPAIRING THE PARTY BUFFET TABLE. THANKS AGAIN. REMEMBER DUES ARE DUE SO PLEASE SEND THEM TO THE CLUB PO BOX ADDRESS OR PAY THEM AT A CLUB MEETING. AT THE DEC. MEETING A NOMINATING COMMITTEE WAS FORMED FOR THE FEBRUARY ELECTIONS. TO BE NOMINATED OR SERVE AS A OFFICER OR BOARD MEMBER OR TO VOTE YOUR DUES MUST BE IN BY JANUARY 31ST. AFTER MANY YEARS AS MEMBERSHIP SECRETARY.PAUL AC2T, IS GIVING UP THAT POSITION,I KNOW WE ALL THANK HIM FOR HIS SERVICE IN THAT POSITION AND SAY THANK YOU VERY MUCH. I WAS ADVISED BY PAUL THAT WE NEED MORE VE EXAMINERS AT THE TEST SESSIONS. WE NEED A MINIMUM OF THREE EXAMINERS AT THE SESSIONS, IF YOU CAN HELP GET IN TOUCH WITH PAUL OR DAN AT 914-237-5589 AC2T OR 914-667-0587 AA2HX. THE BACKUP REPEATER SHOULD HAVE BEEN PICKED UP BY KNOW, WEATHER PERMITTING. I HAVE BEEN TALKING WITH DAVE N2EHG AND KF2FK MIKE ABOUT A FEW IDEAS AND WE WILL SEE IF WE CAN WORK THEM OUT.

JOIN RENEW THE ARRL THRU THE YARC, THE CLUB GETS $2.00 FOR EVERY RENEWAL AND $15.00 FOR EVERY NEW MEMBERSHIP FOR DETAILS CONTACT WB2AUL

SPECIAL SERVICE CLUB

NEED HELP, HELP STUDY ING FOR UP-GRADE. GET IN TOUCH JOHN, WB2AUL,HE MIGHT BE ABLE TO HELP YOU STUDY AND PASS YOUR EXAM.

YOU MIGHT BE A HAM IF.....

1. YOUR WIFE SAID "LETS GO SEE AUNT ANNA" AND YOU THOUGHT SHE SAID ANTENNA!

2. YOUR WIFE SAID "COULD YOU CUT THE GRASS?" AND YOU THOUGHT SHE SAID POUND THE BRASS!

3. YOU*R* WIFE SAID "WE'VE BEEN INVITED TO BREAKFAST" AND YOU THOUGHT SHE SAID HAM FEST!

4. YOUR WIFE SAID "SOMETHING IS WRONG WITH THE CHECK BOOK" AND YOU THOUGHT SHE SAID LOG BOOK.

GUEST SPEAKER-------

AT THE JANUARY MEETING, DAVE N2EHG WILL BE GIVING A TALK ON AMPLIFIERS, HF AND THE DIFFERENT TYPE THAT ARE OUT TH.ERE AND WHAT IS NEEDED TO SET UP ONE IN YOUR SHACK.

WHEN ENTERING THE POLICE STATION FOR A MEETING OR VE TESTING ,PLEASE TELL THE DESK SEARGEANT THAT YOU ARE THERE FOR A MEETING OR VE TEST SESSION AND IF HE WOULD LIKE YOU TO SIGN IN. THANK YOU

JAN. 6TH

NEXT VE TESTING WILL BE HELD ON JAN. 6TH AT 830AM . PLEASE BRING TWO FORMS OF ID. ONE ID MUST BE A PICTURE ID. TESTING IS HELD AT THE 1ST PRECINCT ON EAST GRASSY SPRAIN ROAD IN YONKERS NY. FOR FURTHER INFO CONTACT AC2T AT 914-237-5589

THE NEXT MEETING OF THE RETIRED GUYS/GALS WILL BE HELD ON JAN.17TH THURSDAY AT MONT OLYMPOS RESTAURANT IN YONKERS THE TIME IS 1200 PM NOON, YOU DO NOT HAVE TO BE RETIRED TO JOIN US EVERYONE IS WELCOME MEMBER OR NON MEMBER ALIKE IS INVITED. FURTHER INFO CONTACT WB2AUL @9 1 4-969-6548

ARTICLES OR PICTURE

IF YOU HAVE ANY ARTICLES OR PICTURES FOR THE YARC-MITTER PLEASE SEND THEM IN AND THEY WILL BE PRINTED. WB2AUL@YARC.ORG

QRP -- Restricting final input power to the transmitter to anything less than 500 watts, on 20 meters.

HAPPY HOLIDAYS TO EVERYONE AND MAY WE ALL HAVE A HEALTHY NEW YEAR

IF YOU WANT YOUR OWN CLUB EMAIL ADDRESS AND STILL RETAIN YOUR OTHER ADDRESSES,GET IN TOUCH WITH MIKE KF2FK AND HE WILL TAKE CARE OF IT RIGHT AWAY KF2FK@YARC.ORG

ITS THAT TIME OF YEAR AGAIN, DUES IS DUE AGAIN. IF YOU GET A CHANCE REMEMBER THAT THE YEARLY DUES ARE DUE. PLEASE SEND YOUR CHECKS OR GIVE YOUR DUES IN AT THE MEETINGS. S TO-: YONKERS AMATEUR RADIO CLUB

PO BOX 378
CENTUCK STATION,YONKERS,NY
10710

DONT BE EXPUNGED

ANTENNA ROMANCE ... From The Internet

Two antennas met on a roof, fell in love and got married.
The ceremony wasn't much, but the reception was excellent.
Since they were a perfect match, soon they generated harmonics.
Wrapped the harmonics in dipoles.
But later the harmonics turned out to be parasitic elements.

The true story -- she was a tri-bander and he felt trapped, so they went on separate beam headings

SWAP MEET

1 ALINCO 220 MOBIE RADIO—WB2AUL
1-HEATHKIT 2040 ANTENNA TUNNER/ROLLERINDUCTOR
1-HEATHKIT 2060 ANTENNA TUNNER FULL LIMIT
1-RohAN 25 TILIT OVER MOUNT NEW
6-SECTION ROHAN 25 TOWER
2- 220 HT 5 WATTS

CALL WB2AUL/914-969-6548 FOR ABOVE

MONDAY—730PM—
INFORMATION
NET
K2JJ MODERATOR—146.865—
PL110.9

WEDNESDAY—800PM—
TECHNICAL NET
WB2AUL MODERATOR---
146.865—
PL110.9

THURSDAY—800PM—JUNIOR OPS
NET
KF2FK MODERATOR—
146.865—
PL110.9

SUNDAY---700PM—10 METER NET—28.456MHZ—USB—
WB2AUL
MODERATOR

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HF AMPLIFIER INSTALLATION------A linear amplifier is a major improvement for an amateur radio station. Here's what it takes to hook one up to your transceiver.

Installing an amplifier is one of the fastest ways of getting more satisfaction out of your ham radio experience. While it's true that improving the antenna is the best overall way of improving the station, antennas are a lot of work to put up and the land under them is apt to cost a lot more than any amplifier.
We'll show you here how to hook up any of the commercially available amplifiers, generally called linear amplifiers, to your transceiver covering all or part of the 160 through 10 meter amateur bands.

Get the amplifier's manual out and make sure it's input level, expressed in watts, matches that of your radio. If you don't have a manual, get one from the manufacturer, the internet, or a manual company because amplifiers are one of the easiest things to literally blow up if you're careless or don't operate correctly. You also should have the manual for the transceiver handy as we'll soon see.

Most high power amps require 50 to 100 watts from the transceiver and that's what most transceivers put out, but you may have something else.

If you have a 200 watt radio and the amp requires 50 watts drive, not a problem as long as you always reduce the output of the radio. Too much power from the radio will destroy the amplifier. However if there's a bigger difference - if you have a hundred watt output radio and the amp is designed for 5 watts of drive - you won't be able to cut the power down enough and you'll destroy all or part of the amp very quickly. There is a correct way to do this, and that's with a resistive attenuator between the radio and amplifier, but using one is very unusual these days and well beyond the scope of this discussion.

Also check the manual to see what kind of power supply it needs - you'll need AC or DC at the right voltage and perhaps a separate power supply.

There are five basic connections you'll have to make for your new amplifier, plus a few optional ones. You'll be setting up the ground connection, the power supply, the transmit-receive control, the signal connection to the radio and another to the antenna.

However, amplifiers aren't all the same and you will have to read the manual that was written for yours. Some amps require assembly of such major parts as tubes and transformers as those things are shipped separately. You may have to wire a power connector for 220 volts. You may have options on blower wiring, control circuits, and such that are unique to your unit.

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Remember the electricity used and the transmitted signal can and will kill you if it goes into you instead of the antenna. Both the electric power for the amplifier and the transmitted output are lethal. Don't make mistakes because you may not get a second chance.

The most important thing to get right in the installation is a radio frequency ground for the amplifier, and the whole station. If you've had 'RF in the shack" problems before - house lights getting brighter on voice peaks, squeals when you turn up a microphone gain control, instability when you touch a metal radio part, it will be far worse when you turn on the amp.

A piece of heavy wire going to a rod in the ground is useless for this. If you want it to work, you'll need several rods and connect everything in your ham shack with 2" (5cm) or larger wide copper strap, which is available from ham radio stores. Check any of the handbooks on grounding if you're not sure of your station ground - it's vital.

Next comes power. Any amplifier will work much better on 208/220/240 volts than on the US standard of 120 volts. The higher voltage is always more efficient and you'll likely see much less light dimming when you transmit and you'll have a cooler longer lasting amp.

Whether you're using an amp that's AC powered directly or DC powered with an auxiliary supply, if you're in the house you'll likely be plugging the amp into the house wiring.

Read your manual. For a thousand watt amplifier, it will draw about 10 amps from a 220 volt AC line, about 20 amps from a 120 volt line. So you'll need a dedicated electrical line and probably the services of an electrician to install it.

Once you have a line set up, don't plug anything in 'til we're done with the process.

The connection of the RF signal is easy. It will just take one more piece of coaxial cable. Just disconnect the cable from the antenna connector on the radio - that's the cable that goes to your antenna or antenna tuner - and plug that into the output connector of the amplifier. Make sure these connectors are snug. A pair of locking pliers can be used to turn them an extra 1/8 of a turn and no more to make sure. Then you'll need a jumper coax to go between the radio's antenna connector and the input of the amp.

When you push the microphone button on the radio, or press the key down, you need to have the amplifier come on at the same time. To do this, your transceiver and the amp have a transmit/receive jack on them, usually abbreviated T/R, to connect them. The convention is that the amplifier sources a current for its relay coil, the transceiver switches that current.

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Usually, this is a simple matter to hook up, just a simple jumper cable to match the supplied connectors. But, some amplifiers, and just about all the older ones, send more current through their T/R jacks than modern transceivers can handle.

The result is destroyed transistors and relays in the radio. You'll have to check the amplifier manual to see what current and voltage it produces for the T/R operation, and make sure that figure is less than the maximum the transceiver can handle for its T/R function.

Several radio accessory makers supply a "transceiver interface" box to solve this. It's simply another relay so the radio only sees a small amount of T/R current but the relay in the interface box switches the amplifier's higher current. You can easily make an interface, if you know how relays work.

If you're a CW (morse code) operator you'll probably want to set up the amp for break-in, also known as "QSK". This requires the radio and the amplifier to switch very quickly together, and in the correct sequence, from receive to transmit and back again so you can hear band activity between each CW character. Just study this topic in both manuals and follow instructions; they vary too much to cover here.

All modern HF amplifiers have relays in them so the amp is bypassed when not transmitting.

If you are installing an older amplifier, it may have no such relay, which means it's in line all the time. This means that you can't transmit unless the amp is turned on and in transmit mode and it means you won't hear anything much on receive no matter what. These amps were designed in the days when hams used separate transmitters and receivers.

You can use an amp without a built in bypass relay, but don't expect to receive through it. That means you'll have to provide your own transmit/receive bypass relay, use two separate radios, or separate antennas with overload protection.

Another hookup you might want to make is ALC. ALC stands for Automatic Load Control. The idea is that if the amp gets hit with too much driving power from the radio the amp will tell the radio to reduce the drive power.

While it's nice to have it's not absolutely needed and if your amp doesn't provide it, or if you can't hook it up to your radio or don't want to, you can still operate perfectly well as long as your levels and tuning are correct.

ALC equipped amps have an ALC connector on them. Typically the amp will produce a negative-going voltage up to about 20 volts. The transceiver will sense the voltage and as the voltage becomes more negative, the transceiver's output drops.

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ALC is useful because amplifiers have too much drive they will produce distortion, and that won't make your signal any louder, but will make it sound worse and cause interference.

Now not all amps produce a negative going ALC, and not all radios have the ability to handle that, so again, you'll have to use the manuals for each. It is possible to convert a positive going ALC to a negative one, and vice versa, but that's beyond the scope of this article.

Amplifiers tend to be large and heavy, so you'll have to find a strong bench or other stand for them. They also tend to have noisy blowers that can be easily heard on the air through a microphone. Or give you a headache if they're too close to your ears. Find a spot where the noise won't be quite so close.

Amplifiers also put out a lot of heat, so the vents on the box should not be blocked.

To check out the amplifier, make sure you follow the instructions exactly. First tune up your radio and antenna so they're working perfectly with the amp powered off.

As you go through the procedure in the manual, if you hear any arcing and sparking noises, or see smoke, stop. You can cause a lot of destruction with things that aren't working right - some antennas and antenna tuners, even though rated for "full legal limit" can be destroyed with a few hundred watts. Manufacturers design things with certain assumptions as to impedances and voltage levels and if you've been getting away with things out of spec, a poor ground, or a myriad of other things the high power levels can cause a sudden catastrophic failure.

So if you're following the tune up instructions and it's not working as the manual says, stop. If the instructions say to adjust a control for maximum output, for instance, and the control has no effect, something's wrong. Stop, analyze what it is and fix it before continuing. If you can't talk to the manufacturer, search the net, ask a friend or whatever but you don't want to destroy your station.

Many amps will have "load fault" lights that come on when the design parameters have been exceeded with too much drive or a mistuned antenna. Check the manual for how to reset it.

The best, and usually the only practical way to monitor the correct operation of a transmitter or amp, is with an oscilloscope. It's been said that operating without one is like driving in the dark without headlights. A $5 scope from a flea market will work as well for this as a fancy modern one, check the net or any of the amateur radio handbooks into how to set them up. If you run the amp with too much power from the transceiver, you won't be any louder but you will be illegal and you will hurt other spectrum users.

Once you get past the checkout, you're ready to see what it's like to hit people with a nice big signal, have fun and 73

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