

CLALLAM COUNTY AMATEUR RADIO CLUB

QTC
FEBRUARY 10

DRT's Shack:

Happy February Club Members,

It's been a full month for all our Chairs to get comfortable, {I hope}, in their positions, and if there are any questions as to what your duties are, please feel free to ask, especially ask those who have had the seat before you, or myself. I want to be available to all for any reason what so ever.

With that, is what I would like to do is have a meeting once a month with each Chair person, to see if there are questions or comments to help make your job easier, share with one another ways we can improve the way each committee is coming along, so perhaps at the meeting we can talk, take a vote, and if it's decided, I think it would help in communications with members who have questions I can't answer.

If this sounds like something that would be workable, or even on a bi-monthly schedule, we could at least get together for coffee and cookies at my home. Let me know!

You'll enjoy the presentation this month, presented by George Hutchinson, W7TTY, on itty bitty rtty...hi hi. It's RTTY, but thought the rhyme was cute. If I started saying exactly what it was, I'd mess it up so bad no one would come, so learn with you I will.

All I know is it's communications over the Internet to a printer, 24/7, which reads out on paper. He's tried to explain it to me, and I'm sure most of you pros know what it is and how it works, but to me it sounds interesting and I'm always up for new ways to learn how to get and give news, or communications. Whether we like it or not, it's not 1999 no longer my friends. New Technology, or even if it is old, let's keep up.

So see you all back at our home port, Olympic Medical Center, down stairs in Linkletter Room.

I have a letter they insisted on sending apologizing for last month, so I'll bring it and share with everyone. Thanks to all who came to the EOC on such short notice!!

Remember, it's almost Valentines Day. Forget, dog house for you.. hi hi

73,
Nita~KE7DRT
CCARC President

Get Your License Here!

Our January testing session produced 2 new Technicians; 1 General Class upgrade and 1 Extra Class upgrade.

Congratulations.

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We will be having a three week training class April 10, 17, 24. The Exam session will be at 1300 on the 24th. To register:

Call Chuck, N7BV  
360-452-4672  
or  
Tom, KE7XX  
360-452-8228.

Thanks, Chuck, VE-L

**CCARC QTC Newsletter**

Just a little background on the QTC.

We use ccarcqtq@yahoo.com as a repository for information for the newsletter. So if you have something for the QTC, please send it to the yahoo address. Do not sent it to one of the editors as they will just have to turn around and resend it to the yahoo address.

Please make sure the article or information is complete. As we rotate editing the newsletter you cannot be sure which editor will be piecing the newsletter together.

Please remove as much formatting from within whatever program you are using (MSword, edit, clear, formatting) if you know how, before sending it to ccarcqtq. If you feel the creative urge to design a document—please open a design shop, but don't do it and then send it to us expecting to see your creative work transferred to the newsletter.

We do not edit, except to change fonts to a standard non-serif font (Arial which is easier to read than Times Roman). We will run a spell checker.

When first conceived the editors were given free license, it still is that way. It was understood they would endeavor to include everything submitted, within reason. For instance, off color jokes etc are not going to be printed.

Thanks,  
Chuck, N7BV & Bob K6MBY



**PROGRAM  
For February**

will be given by our own W7TTY. George has been invited by Pacificon (see: <http://www.pacificon.org/>) to once again present RTTY, the mechanical way. George is revising his presentation to "RTTY and ITTY" - The Old And The New. At Wednesday's meeting he will be giving the "Shakedown Cruise" of his new presentation. George will have some handouts.

Have an idea for a club program?  
Pass them along to the members of the program committee: Bill Carter, Janet Parris, or Chuck Jones.  
Thanks.

We need articles for the QTC newsletter. This is your newsletter.

Tell us how you became interested in Ham Radio. What did you do over the summer (just like school) huh!

The more you submit the less we have to think of.

Thanks, the staff!

**2 METER NETS**

**CCARC :**

Every Thursday 7:00 pm on the W7FEL Repeater.

**ARES/RACES:**

Every Tuesday except 1st Tuesday of the month at 7:00 pm on W7FEL Repeater.

W7FEL Repeater: 146.76 MHz., offset down 600 KHz. with a tone of 100 Hz.

## Electronic Fundamentals, Part-1 (Analog Circuits) Unit-22 RF Transmission lines

We accept without question that the speed of light is a constant 186,000 miles per second. Actually, the speed is 186,282.397 miles per second as it travels through the vacuum of space but who's counting? In glass, or some other transparent medium, it travels a bit slower. If it didn't, a prism wouldn't break it into pretty bands of color; there wouldn't be any rainbows, and eyeglasses wouldn't be able to compensate for poor vision. It's the same with radio waves. Although much longer than light waves, they exhibit some of the characteristics of light. They can be reflected; focused; diffracted, and they travel slower as they move through transmission lines and antennas. So when calculating the length of an antenna or a transmission line, we have to take this into account.

For our purposes, we use the metric rate of travel for radio waves in a vacuum as 300,000,000 meters per second and we use MHz to represent frequency. So, the formula for wavelength in meters is:

$$l = 300 / f \text{ where } l = \text{wavelength in meters and } f = \text{frequency in MHz.}$$

Using this formula, a signal at a frequency of 7.15 MHz has a wavelength

$$l = 300 / 7.15 = 41.958 \text{ meters in free space.}$$

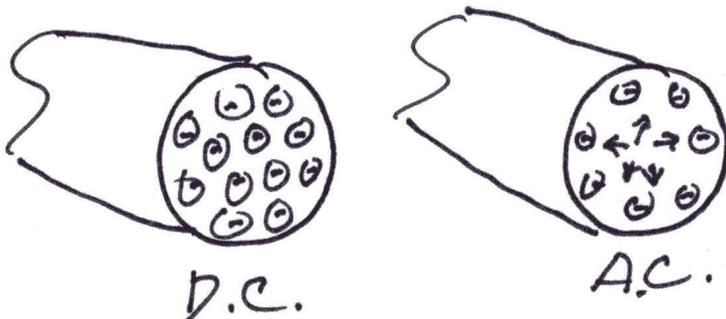
Since radio waves travel more slowly through wire than they do through a vacuum, we have to introduce a velocity factor into the equation to get the electrical length of an antenna or a transmission line. This measurement will always be shorter than free-space wavelength. The amount of speed reduction depends on the kind of material the wave is traveling through. Let's take a coaxial cable for example. If we look up the specifications for a polyethylene filled RG8/U cable, we find it has a dielectric constant of 2.3. The velocity factor is related to the dielectric constant by the formula  $V = 1 / \sqrt{\epsilon}$  where  $V$  is the velocity factor and  $\epsilon$  is the dielectric constant of the insulating material in the coaxial cable. This gives us a velocity factor of  $V = 1 / \sqrt{2.3}$ ,  $V = 1 / 1.5$ ,  $V = .66$ . We can now apply the velocity factor of .66 to get the electrical length of the coax cable using the formula

$$l = V(300 / f), \quad l = .66 (300 / 7.15), \quad l = .66 \times 41.958, \quad l = 27.7 \text{ meters.}$$

This is the distance a single cycle of 7.15 MHz RF will travel through polyethylene filled RG-8/U coax cable.

Why would we want to know this? Because the physics of transmission lines is important to us if we are going to construct an antenna system that will work instead of one that looks pretty but serves no useful purpose. Besides channeling the RF signal from the transmitter to the antenna, sections of transmission lines can serve many useful purposes. For instance, they can be used as elements to delay or tune a signal, or to present inductive or capacitive loads to a signal. To do these things, we must know how transmission lines behave in an RF environment.

It all begins with a phenomenon called skin effect. Direct current flows throughout all parts of a conductor but Alternating Current behaves differently. As frequency increases, current flow concentrates more and more toward the surface of the conductor and if conditions are right, it leaves the conductor altogether and launches itself into space.



(Fig 22-1)

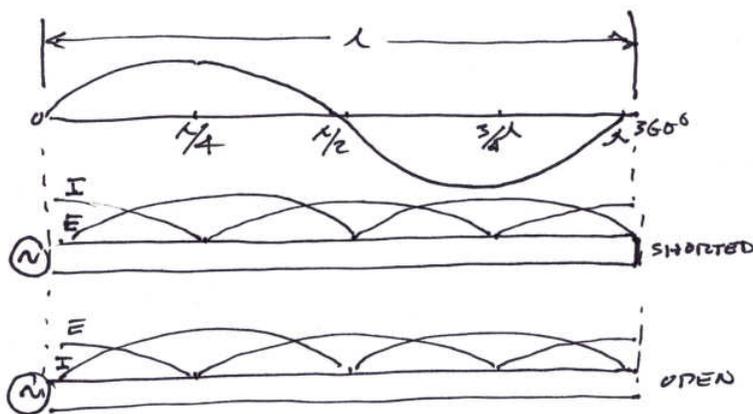
You can think of an antenna in this way -- as a wave-launching conductor.

This is where impedance enters the picture. Impedance is the resistance of a conductor to the flow of alternating current, and it's a very slippery thing indeed. Your transmitter will have an output circuit designed to match a particular load impedance, usually 50  $\Omega$  to feed a coaxial transmission line or 400  $\Omega$  to feed a ladder line. If you'll remember from earlier discussions, the nominal 50  $\Omega$  or 400  $\Omega$  impedance of the transmitter output is frequency dependent. It will be 50 or 400  $\Omega$  at a specific frequency. At any other frequency it will either be inductive or reactive, changing the impedance somewhat. Now, let's see what that transmission line might look like to the transmitter.

The transmission line will have a characteristic impedance ( $Z_0$ ), that is reasonably constant over a broad frequency range. The characteristic impedance is constant, regardless of the length of the line. If the line is rated at 50  $\Omega$ , it should appear as a resistive load of 50  $\Omega$  to an RF source regardless of length. It would be nice if that were the end of it but transmission lines are a bit more complicated than that. Because they have conductors that are parallel or coaxial, with a dielectric material between them, they exhibit reactance -- as if they were made of endless strings of tiny inductors and capacitors. If the impedance of a transmission line is matched to the source and to the load, it will appear as a "perfect" conductor for RF and all of the source energy will be transferred to the load. But the real world isn't perfect. Let's see just how imperfect it is.

Any mismatch between the antenna and the transmission line, no matter how small, will cause some of the transmitted power to be reflected back from the antenna to the source, and if there is even a slight mismatch at the source, it will be reflected back again toward the antenna. Like a ping-pong match, the energy will shuttle back and forth dissipating as heat instead of doing useful work. There will be places along the line where outgoing and reflected waves will add and subtract, causing current and voltage peaks or standing waves. In a perfectly matched system, the standing wave ratio, SWR, of reflected to transmitted power is 1:1. A mismatch will result in an SWR greater than 1:1.

Now, let's look at the effects of reactance. In any reactive circuit, current and voltage are generally out of phase with each other. So, a length of transmission line will have predictable phase shifts, depending on its length and whether it is open circuited or short circuited.

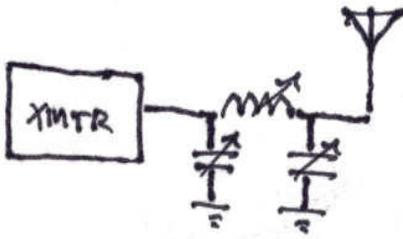


(Fig 22-2)

It can be seen from these diagrams that an open ended transmission line exactly 1 wavelength long, and fed with a matched source, will appear resistive at the source and at quarter-wave multiples along its length. For the first quarter wave it will react like an inductance, with voltage leading current. For the second quarter wave, the reactance would appear capacitive, with voltage lagging the current. The process repeats along the whole length of the line.

Exactly the reverse occurs for a full wave length of transmission line that is shorted at the far end. It will still appear to be resistive at quarter wave intervals but it will appear capacitive for the first quarter wave and inductive for the second, and so on. You can see from this that a random length of transmission line, whether terminated or not, may appear to be a resistive, inductive or capacitive load to a source. Currents in the forward and reflected direction will either lead or lag the voltages and, like waves sloshing back and forth in a bathtub, can add to create very high voltage and current standing waves.

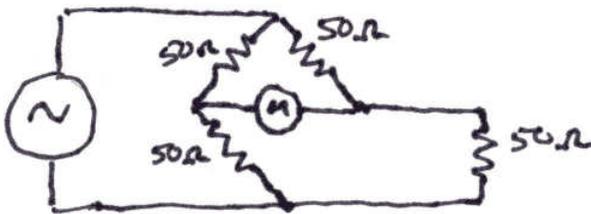
We can -- sometimes must -- insert an antenna tuner between the antenna and the transmission line to create an impedance match between the transmitter and the antenna system. The tuner can be as simple as an LC circuit with variable inductors and capacitors.



(Fig- 22-3)

The tuner doesn't improve antenna efficiency, it just fools the transmitter into thinking it is operating into a perfect load. There will be some loss but the standing waves will not be seen by the transmitter and no damage will result.

A mismatch between the transmitter and transmission line/antenna system can be seen using a simple bridge indicator inserted between the transmitter and the antenna tuner.



(Fig 22-4)

If the resistors in this circuit are each 50 ohms, no current will flow through the meter. However, if one of the resistors varies from 50 ohms, the imbalance will show as a current through the meter. All we need to do is to substitute the antenna and feed-line for one of the resistors. When the reactance of the antenna system is balanced using the tuner, it will appear to the bridge as a pure 50 ohm resistance.

A primary goal, then, is to match the transmitter impedance to the antenna impedance so as to radiate as much RF energy as possible from the transmitter into space without losing most of it along the way or turning it into heat.

In this unit, we've shown how transmission lines react to RF. In the final unit, we'll take a look at how radio signals are propagated through space.

Terms to remember

|                                      |                                               |                     |
|--------------------------------------|-----------------------------------------------|---------------------|
| 1                                    | Wavelength                                    |                     |
| Coaxial cable                        | Transmission line with one conductor          | sur-                |
| rounded by another and filled with a |                                               | dielectric material |
| Dielectric constant                  | Velocity factor of RF as it travels through a | spe-                |
| cific dielectric material            |                                               |                     |
| SWR                                  | Standing Wave Ratio                           |                     |
| Standing waves                       | Periodic buildup of current or voltage in a   | trans-              |
| mission line                         |                                               |                     |
| Velocity factor                      | Speed reduction as RF travels through a       | con-                |
| ductor or a dielectric material      |                                               |                     |
| Skin effect                          | Tendency for RF current to travel along       |                     |
|                                      | the surface of a conductor                    |                     |
| Characteristic Impedance             | Impedance constant of a                       | trans-              |
| mission line                         |                                               |                     |

## Are we ready to play raffle – again?

This time the rig is a YASEU FT-990, 160m-10m, plus general coverage receive. Just look at all them buttons to push – well worth one raffle ticket alone!!



And if the Front Panel doesn't do it – check out the rear panel. Two tickets??



Coming to a ticket seller near you (David, Becky, Chuck). \$10.00 a ticket, 1 in 50 chance. Members only.

*Dave Tyler, N7DRT now SK, a former Club President and Trustee purchased the FT990 on January 7, 1994 from HRO in Portland, OR. In 1997 he had the radio aligned to Yaesu specifications by Richmond 2-Way Radio in Port Angeles. Dave purchased a MD-1AX8 microphone for the radio. The radio has been used by Dave and his son. It was also used during the 1995 Clallam County Fair. The radio comes with said microphone, purchase documentation, power cord, and operating manual. . After Dave's passing his wife offered the radio to the club for its use. The writer checked out the operation of the radio into dummy load and found it to be sound, but he did not test it on the air. The radio is in very good cosmetic shape. While this radio is a bit dated as it does not have DSP circuitry, it meets most of the requirements of an Amateur Radio Operator.*

*Roger Uhden, K7RGR*

## Electronic Fundamentals, Part-2 (Digital Circuits) Unit-11 (Sound cards)

Every modern PC or Laptop computer contains a sound card or an equivalent wired directly onto the PC Motherboard. This allows you to record DVDs and play video games. The basic architecture of a sound card looks something like this.

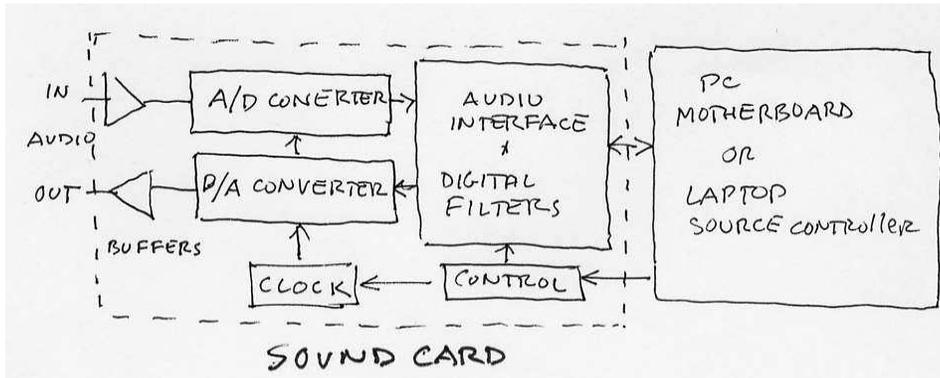


Fig 11-1

The circuit includes a high impedance microphone input and a low level output for external amplified speakers. The audio isn't bad if you are accustomed to table-model radio quality but it is not good, either.

Input from the microphone is buffered and then converted to binary code using a standard A/D converter. From there, it's filtered and passed on to the PC or laptop main bus for whatever use it is intended. Output binary code is passed from the main bus to a D/A converter where it's turned back into analog audio. A crystal controlled clock determines the sampling rate of the A/D-D/A converters, and the whole thing is controlled by the PC through a software application driver.

It didn't take long for musicians and composers to see the possibilities for computer aided music and Musical Instrument Digital Interface (MIDI) was born. Soon, hams began to realize the possibilities for audio tone-modulated TTY and other digital modes of operation. Well and good, but the quality of the internal PC circuitry wasn't good enough. Enter the high quality plug-in sound card.

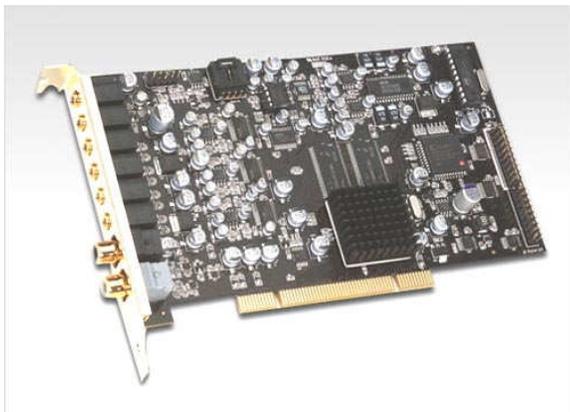


Fig 11-2

There are as many sound cards available as stars in the sky. Not all are high quality though. The cheaper ones (in the \$20 range) are hardly better than the processing circuit that

comes with the PC. The high-end (\$200 and more) cards offer excellent distortion and noise performance and very pure sound quality due to high sampling rates and improved stability. This is important for ham radio use. PSK-31, for instance, uses two audio tones, only 31 cycles apart, and they must be clean and free of distortion. Both the receiver and the transmitter must be tuned to exactly the same frequency for the audio to be detected, so the computer generated audio tones must be frequency stable.

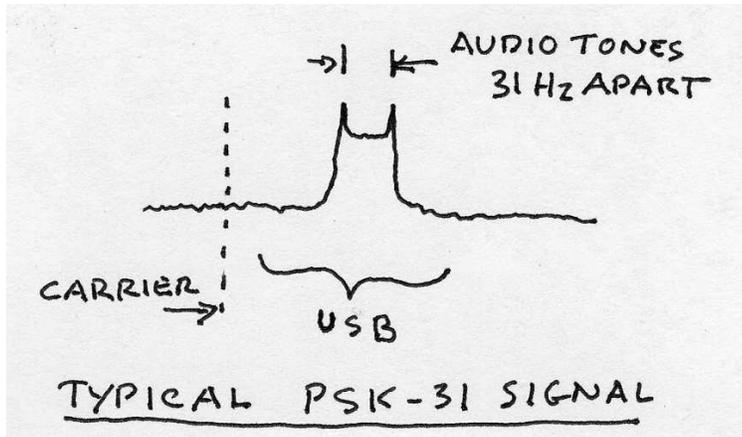


Fig 11-3

That means an investment in a good, high-end sound card. Don't despair, however. Serviceable high end cards can often be purchased for a fraction of their worth. I was able to find a "Soundblaster" card that normally retails for \$300 for only \$25 from a computer repair shop. Not all of the inputs and outputs work but I don't need them. What does work is good enough.

Once the sound card is plugged into your computer you'll need to install a "driver" to get it to function. Depending on the age of your computer, you might have a suitable driver already available in the computer's suite of applications. If none is present, you can download a driver, free, from the internet. The rest is easy. A simple interface circuit to connect the computer sound card to your radio will get you started. Here's a home-brew isolation circuit. It isolates the radio from any DC voltages present in the audio and PTT circuits. Here's the interface I built using parts from the junk box. It has some extra features, like a remote speaker and an RS-232 connection for my bench-top DMM. You can get as creative as you want to but the object is to isolate the audio and PTT circuits so your radio isn't damaged by non-compatible voltages from the computer. Audio isolation is straightforward but the PTT circuit is best isolated by using an opto-isolator. This is a chip that contains an LED and an photo sensitive transistor switch. This can be purchased from an electronic parts store like Digikey or Mouser

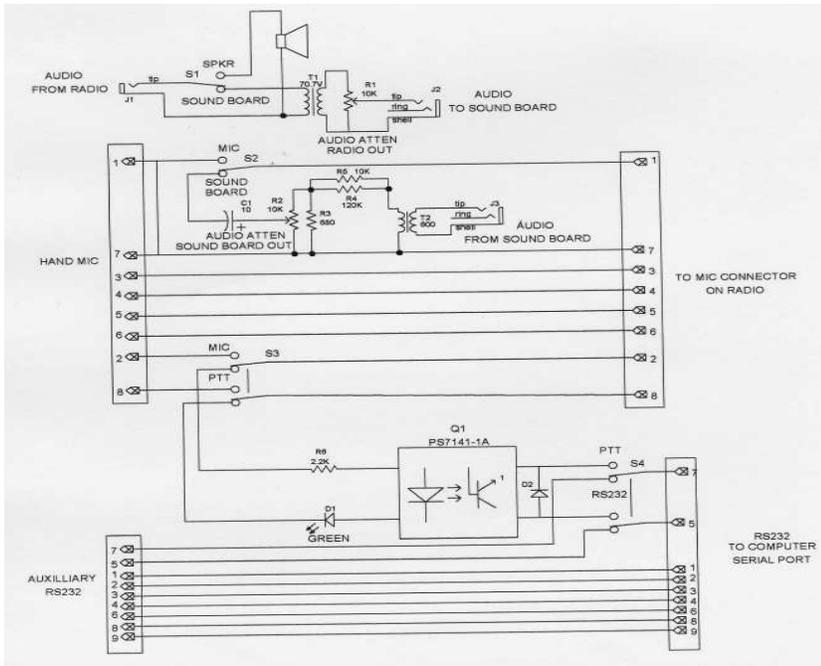


Fig 11-4

All digital operating modes are software controlled from the computer and PTT is initiated via the computer's serial port. If you don't have an available serial port, you can get a plug-in card with additional ports at a nominal cost -- usually around \$20. .

If you don't want to build your own interface, you can purchase a commercial Terminal Node Controller (TNC) to do the job. It's not as much fun but it will do a whole lot more than the simple interface shown here. Here's a typical commercial TNC.

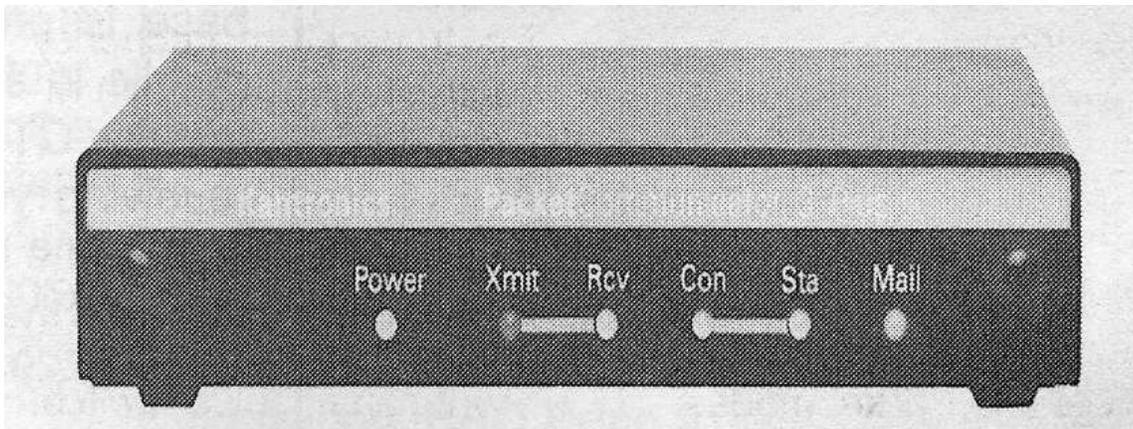


Fig 11-5

This one's made by Kantronics and costs about \$200. It will support PACKET and a lot of different digital applications like GPS, APRS and WEFAX and has an internal mailbox to store incoming and outgoing messages.

Be aware that with an interface or a TNC connected, you MUST turn on your PC BEFORE you switch on the radio. The PC goes through a test routine when it is turned on and it

will actuate your PTT several times during “boot-up” and put a carrier on the air.

Well, this completes my worm’s eye tour of basic digital technology. I hope it helped to take some of the mystery out of it and make the plunge into the world of digital communications a little less intimidating. Now that I’ve peeled the first layer off the onion, I hope someone with more knowledge and skill than I have will carry forward and chip away at subsequent layers. The better we understand the hardware and software that enables us to operate in these new modes the more proficient we can become as communicators.

Paul Honore’ W6IAM

Hi Guys,

Take a look at these folks having fun.

<http://picasaweb.google.com/3tiltons/20100206#>

<http://picasaweb.google.com/3tiltons/20100205#>

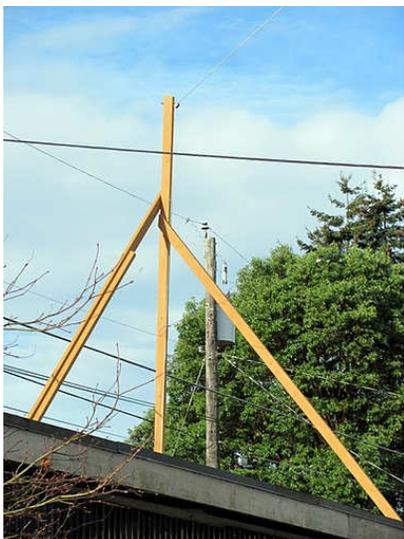
Technical details: The mast is eight 4 ft. sections of fiberglass surplus military tent pole, supporting a 135 ft. off-center fed Windom which goes between the "A" frame mast on the storage building with the other end tied to the 30 ft. point on a spruce tree in the front yard. The mast was assembled from the top down. It was supported by guys as each section was added to the bottom and then pushed up.

Dennis AD7TV assembled all the components and then erected the first six sections by himself and then chickened out and asked for help putting in the last two. Chuck N7BV, Rik WX7RIK and April KE7NGT were kind enough to volunteer. WX7RIK demonstrated his ladder climbing ability as encouragement for the rest of us to be more careful when we’re more than two feet off the ground.

Actually, a good time was had by all. KE7NGT took all the roof-top pictures.

The other antenna on the short metal mast is a two band (40 & 80 meter) NVIS about 20 ft. off the ground.

73, Dennis AD7TV



**NOTES FROM ALL OVER    NOTES FROM ALL OVER    NOTES FROM ALL OVER**

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The Northern California Contest Club is pleased to make the following webinar available for viewing.

This is a webinar that concentrates on some practical aspects to get your station up and running for RTTY contests. It is not intended to be an all-encompassing video about all details of RTTY and contesting.

It should hopefully be just enough to make you dangerous. Most of you on this list do not need this webinar at all. Perhaps this video would be helpful for your friends who are new to RTTY contesting, or for your local club that might be interested to participate next month in CQWW WPX RTTY or as a team entry in NAQP RTTY.

RTTY Contesting for Newbies

- A. RTTY fundamentals
- B. RTTY interfaces
- C. Common RTTY problems for newbies
- D. MMTTY and N1MM RTTY setup with live demos for both programs
- E. Writelog RTTY setup with a live demo and live RTTY QSOs

Presenters: Dean N6DE, Iain N6ML, John K6MM, Fred K6DGW    Length of recording: 1 hour, 48 minutes

Recording:

<http://bit.ly/rtty-recording>

This file size is 115MB. The recording is in .WMV format. This should make it easy to view, as most of you already have a .WMV player on your computer (i.e. Windows Media Player). The file should automatically start to play while still downloading. In Windows Media Player, the dark blue line at the bottom (barely visible) indicates the download status. The light blue line indicates what part of the recording you're currently viewing. After the file has finished downloading (dark blue line scrolled all the way to the right and then disappeared), if you want to save it on your computer for future viewing, just go to the top of the Windows Media Player window, right click, select File, Save As, and type a filename with a .WMV extension (such as rtty.wmv).

73...

-Dean - N6DE

NOTE: The first 38 minutes is an excellent primer on RTTY.

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Looking for current news about HAM radio on the Internet, I came across a very interesting web site called Amateur Radio Newline, or AR Newline for short.

<http://www.arnewline.org/index.php>

This web site produced daily news reports about HAM radio and it's many facets. You can click on the MP3 link and download their entire radio program and listen to it as an MP3, or click on the Scripts link and read the new casts as text.

Their information is up to date and very professionally done. If you really like what they are trying to do for the HAM community, they do accept donations. You will find one of their news cast texts elsewhere in this QTC.

I think it is a good web site and current source of HAM news and information. I hope you will think so as well.

73, my friends  
David Hannon  
KE7TTT

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**HAMs May Come Under the Crosshairs of Distracted Driving Laws**

The following news article is submitted by David Hannon KE7TTT with permission of Amateur Radio Newsline

<http://www.arnewsline.org>

**COMMUNICATIONS LAW: NEW GROUP FORMED TO FIGHT DISTRACTED DRIVING**

A new group with government support is targeting all forms of distractions while driving. And while amateur radio is not yet in its gun-sights, hams will want to keep a close eye on this one as we hear from Frank Haas, KB4T, has the details:

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The National Highway Traffic Safety Administration has teamed up with the National Safety Council for form a new organization to end distracted driving. This through the creation of a new organization called FocusDriven which is the first nonprofit organization devoted to combating distracted driving and supporting victims of distracted drivers.

The National Highway Traffic Safety Administration defines distracted driving as any non-driving activity a person engages in that has the potential to distract him or her from the primary task of driving and increase the risk of crashing. It notes that there are three major types of driving distraction that include visual, manual and cognitive.

In simple terms this means any activity that causes a driver to take one's eyes off the road, ones hands off the steering wheel, or one's mind off of driving.

While distracted driving has always been a safety issue. Now, with the advent of mobile communication devices and other mobile technologies, it has become what the FocusDriven calls a growing epidemic. The group considers cell phone texting the most alarming of newer distractions, because it involves all three types of distraction. Other forms of distracted driving includes driving while using a cell phone, changing a radio station, eating and drinking, talking to passengers, grooming, using a CD or Mp3 player, watching a video or reading, or using a PDA or navigation system or other portable electronic devices.

So far, a ban against texting while driving has been enacted in 19 states plus Washington D.C. and Guam. Six states plus Washington D.C. and the Virgin Islands have banned the use of all hand-held devices for any reason while driving. Most but not all do have exclusions for users of two-way business communications and some have extended that exclusion to amateur radio.

For the Amateur Radio Newsline, I'm Frank Haas, KB4T, in Holly Hill, Florida.

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The new FocusDriven organization is said to be modeled after the organization Mothers Against Drunk Driving. More is on-line at [www dot focusdriven dot org](http://www.focusdriven.org). (FocusDriven, various news reports)

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**CLALLAM COUNTY AMATEUR RADIO CLUB  
Minutes of the General Meeting 13 January 2010**

The meeting was called to order at 1900 by Bill Carter, W7WEC who lead us in the Pledge of Allegiance.

Our President Nita Lyman, KE7DRT, yielded the floor to Dennis Tilton, AD7TV, as she was still recovering from Cold or Flu symptoms.

Dennis introduced our guest speaker who was Rhonda Curry, Olympic Medical Center Assistant Administrator for Strategic Marketing and Communication. Ms. Curry was skillfully assisted by her Administrative Assistant Jody Jones.

Ms. Curry's presentation was a Technology update of what the Center is doing to maintain their high standards. The center serves 70,000 people on the Peninsula and has 1,000 employees. The 2010 budget for technology is \$1.31 Million. This includes items like a Linear Accelerator which is used in cancer treatment. Purchase digital imaging equipment. Install and implement electronic medical records and possibly to replace the Hospital elevator which is about 50 years old. There was a question and answer period after the presentation.

After a short break the business meeting was called to order by Dennis. The first order of business was about the bylaws. A motion was made and seconded to accept the amended bylaws as revised and circulated. There was no discussion. The vote was unanimous. No nays and no abstentions.

The next item of business was Nita's selections for the various committees. There was some discussion and the final selections and acceptance were

Technical, Bob K6MBY, and Steve W6MPD  
Membership, Valerie, KF7VAL  
Activities, Callie, N7YMU  
QTC, Chuck, N7BV, and Bob K6MBY  
Field Day, Matt, KE7EQO, Bob K6MBY and Chuck N7BV  
Programs, Chuck, N7BV, Janet, WA7JEP, and Bill, W7WEC  
Health and Welfare, Chuck, N7BV, and Rich, N7NCN  
Net Control, Becky, W7RJW

It was emphasized during the Health and Welfare discussion that if you know of any Club member who is sick, or worse, has died, please contact Chuck, N7BV, or Rich, N7NCN.

Janet, WA7JEP, made a plea for everyone to do the Census and encourage everyone else to do it. The Census has a major impact on Federal funding for the Olympic Peninsula.

The meeting was adjourned at 2040.

Bill Carter, Secty, CCARC

Technical Co-Chairs: Bob Sampson, K6MBY  
Steve Debiddle, W6MPD

Membership Chair: Valerie Hannon KF7VAL

Activity Chair: Callie Kroll N7YMU

Program Co-Chair: Janet Parris WA7JEP, Bill Carter W7WEC,  
Chuck Jones N7BV

Field Day Co-Chairs: Matt Lawson KC7EQO, Chuck Jones N7BV,  
Bob Sampson, K6MBY, Al Fisk KD7TFK,

PIO Chair: Becky Winters W7RJW

Net Coordinator: Becky Winters W7RJW

Health and Welfare: Chuck Jones N7BV, Rich Golding N7NCN

One of the first antennas that comes to mind, when asked the about an HF antenna is the G5RV which [Alan Applegate \(K0BG\)](#) describes this way on Eham in a paper called "Mythical Antennas"

"There are as many variations of the G5RV as there are variations of Windoms. There are shortened ones, elongated ones, juniors, seniors, and (no lie) off-center-fed ones! Fact is, Louis Varney, G5RV (sk) published several versions himself, both with and without baluns. Someplace along the line, the notion got started that the G5RV was an all-band antenna. Here is a sentence (a verbatim cut and paste) from the web page of one of the companies which makes and sells a version of it: *The G5RV is an excellent all-band (3.5-30 MHz) 102 Ft. dipole. The 102 Ft. dipole with 31 Ft. feeder of 450 ohm transmission line achieves a resonance on all bands from 80 to 10 meters with only one antenna without any loss in traps and coils. The impedance at the end of the 450 ohm feed line is 50-60 ohms.* No wonder folks are confused!

If you really want to know what kind of antenna the G5RV really is, then [here's \(http://www.w8ji.com/g5rv\\_facts.htm\)](http://www.w8ji.com/g5rv_facts.htm) the nitty gritty, complements of Tom Rauch, W8JI. If you read the data, you'll notice the high input impedance on 30, 17, and 10 meters. Unless you have a very good quality antenna tuner, you might not be able to find a match on these bands. Even then, the overall losses would be rather high. Realizing this, some all-band proponents of the G5RV, suggest removing the coax, and just feed the ladder line directly. When you do this, can it still be called a G5RV?"

Note that all drawings of this antenna show it flat-topped, as soon as it is configured in an inverted-vee fashion patterns and impedances will vary.

Overall this is a great antenna to start with, or for that matter keep as your main antenna. David, KE7TTT put one up and he has a very good signal on 80m during the ARES HF net.

73, Chuck N7BV

### COMING EVENTS

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There are no Hamfests or Conventions  
within 100 miles in February

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**6 Mar 2010** Electronics Show and Fleamarket  
Mike & Key ARC Puyallup, WA  
WWa Fairgrounds Pavilion Exhibition Hall

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**FROM OUR TREASURER:**

As of January 31st, 2010:

First Federal Savings & Loan of Port Angeles Balance: \$ 8,532.10  
 Outstanding Cheques: - 87.69  
 Checkbook Balance: \$ 8,444.41

*David R. McCoy,*  
**KE7JEJ** -- . -... .-- . .--  
**CC-ARC Treasurer**

**Birthdays  
 for February  
 and the first  
 week of March:**

Dillard, Don K5MTW Feb-06  
 Baguley, Michael KE7RFP Feb-18  
 McCoy, David R. KE7JEJ Feb-19  
 Tate, Mary AC7IY Feb-20  
 Cain, Jerald C. KE7BVZ Feb-25  
 Ladwig, Lewis R. WB0NAI Feb-26

**YL's Birthdays:**

Dove, Belinda (Barry KE7WGO) Feb-06  
 Popowski, Kathy (Al W7ALP) Feb-23  
 Franklin, Patricia (Michael KE7SLI) Mar-05

**Happy Birthday!**

**FOR SALE OR TRADE**

**For Sale**

- HF Radio. Kenwood TS-430S. With mike, four filters installed and matching power supply. \$500.
- VHF 2M Radio, Kenwood 2550A with mike and no tone module. \$60

This is a Silent Key sale. A portion of the sales benefits the Club. Contact Bill Carter, 360-681-4375

**For Sale:** I have three 2mtr xceivers for sale  
 Clegg FM 27B with Manual. \$60.00  
 ICOM IC-211, 10 Watt Moble or Base with manual. \$60.00  
 ICOM IC-229H, 50 Watt, Moble, with manual. \$60.00  
 contact Jim Cloud, W7LDM, 457-9299

ICOM IC-718 HF Transceiver, IC-FL-222 1.8KHz narrow SSB Filter. Current cost: Radio: \$584.95 Filter: \$189.95 Asking \$525.00 firm  
 Chuck McGilvra N7HFL 457-3051

**FOR SALE ICOM IC-28H 2 METER AMATEUR MOBILE TRANSCEIVER \$90.00** Call Ernie W7EWG 808-6668

**Wanted to borrow**  
 Vector Network Analyzer or a Noise Bridge  
**For Sale:** Norton Goast PC Software v10.0 Manual and disks Best offer  
 AMCom Clear Speach Speaker CSS-1 Best offer  
 Bob K6MBY k6mby@olypen.com

**NEXT YL LUNCHEON**

**February 12th  
Old Mill Café  
721 Carlsborg Rd. Carlsborg**

**Time: 11:30 a.m.**

**Find us on the web at  
www.olyham.com  
Check it out. Lots of  
information about ham radio  
in Clallam County!**

**2010 - CCARC Ladies Luncheon Schedule**

Reservations are made for 11:30 - 2nd Friday of each month

**February** - Old Mill Cafe - 721 Carlsborg Rd. - Carlsborg  
**March** - Gordy's Pasta and Pizza - 1123 E. 1st - Port Angeles

**April** - Oak Table - 292 W. Bell - Sequim

**May** - Downriggers - 115 E. Railroad Ave. - Port Angeles

**June** - Mariner - 707 E. Washington - Sequim

**July** - Toga's - 122 W. Lauridsen Blvd. - Port Angeles

**August** - Tarcisios - 609 W. Washington - Sequim

| Description                                        | Time/Date                       | Location                                                         | Contact                           |
|----------------------------------------------------|---------------------------------|------------------------------------------------------------------|-----------------------------------|
| Clallam County ARES/RACES meeting                  | 7 pm, first Tue of every month  | Clallam County Courthouse EOC,<br>223 E. 4 <sup>th</sup> St., PA | Dan Abbott N7DWA<br>360-582-3824  |
| Clallam County Amateur Radio Club general meeting  | 7 pm, second Wed of every month | Olympic Hospital<br>Linkletter Room, PA                          | Tom Newcomb KE7XX<br>360-452-8228 |
| Clallam County Amateur Radio Club social breakfast | 8 am, first Sat of every month  | Joshua's Restaurant<br>Hwy. 101 & Del Guzzi Dr.                  | Tom Newcomb KE7XX<br>360-452-8228 |
| Clallam Country Amateur Radio Club YL social lunch | 11:45 am 2d Fri of every month  | Rotates - announced on Thursday<br>night Net                     |                                   |

**CLUB OFFICERS For 2010**

**President:** Nita Lyman KE7DRT 360-457-5022 Nita\_lyman@yahoo.com

**Vice President:** Dennis Tilton AD7TV 360-452-1217 3tiltons@wavecable.com

**Secretary:** Bill Carter W7WEC 360-6814375 w7wec@arrl.net

**Treasurer:** David McCoy KE7JEJ 360-457-8550 mccoy.d.r@olypen.com

**Board Member (Chairman):** Johan Van Nimwegen KO6I 360-681-7300  
jvn@olypen.com

**Board Member:** Al Dawson W7YLV 360-457-0752 adawson@tfon.com

**Board Member:** Chuck Jones N7BV 360-452-4672 n7bv@yahoo.com