



# Squelch Tales



Newsletter from the Merrymeeting Amateur Radio Association for January 2014



## Ham of the Year announced at Year End dinner

The annual End of Year dinner at the Kennebec Tavern on the riverfront in Bath had a nice turnout of MARA members and friends. A good time was had by all. The food was good and the company even better.

After the meal KS1R Trustee, Bruce Randall, W1ZE announced the annual Ham of the year recipient. This year it went to the well deserving Harry McNelley, N1TTT for his enthusiasm and dedication to the Amateur Radio community here on mid coast Maine. His willingness to step in and help the MARA and CERT/ARES was a big asset. Well done Harry.

Unfortunately Harry and his lovely wife were unable to attend the dinner due to vehicle malfunction so the award will be presented at the January MARA meeting.

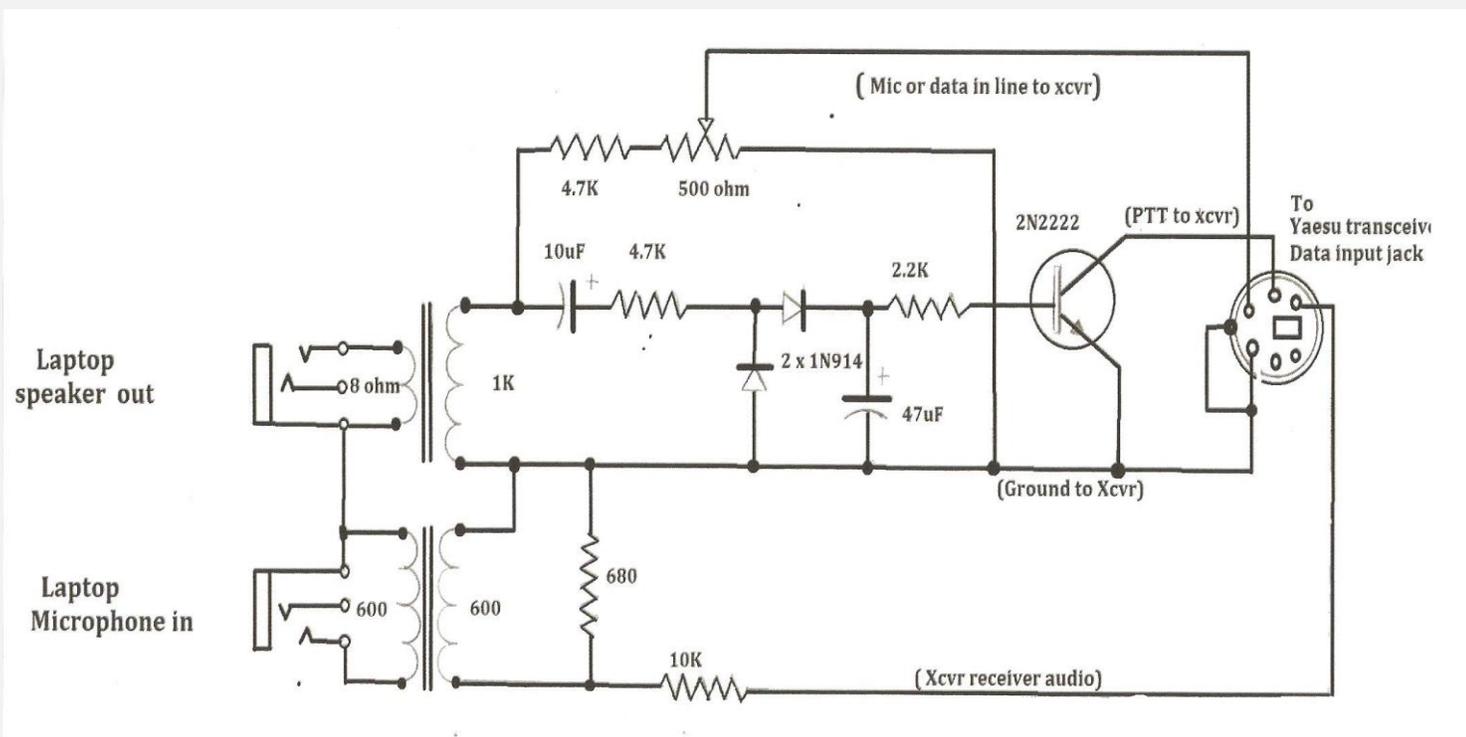


## Audio keyed soundcard Interface for digital modes

By Bruce Randall, W1ZE

Last January while basking in the southern California sunshine I determined that I needed a practical soundcard interface to connect my little notebook computer to my Yaesu FT-897D so I could do PSK and other digital modes. Like all newer laptops and notebooks there is no DB9 serial connection port, just USB ports to attach a soundcard interface to. There are several commercial soundcard interface units out there such as the Signalink, Rigblaster and MFJ that use the computers USB port for keying and audio coupling but they are not giving them away.

If at all possible I like to build my own ham accessories and hopefully use the KISS (Keep It Simple Stupid) method of construction. There are dozens of diagrams on the internet showing how to build your own soundcard Interfaces, however most use a keying circuit driven by serial port data on older PCs. Very little information on a roll your own



interface using a USB port was available. I could have used a USB to serial interface cable but they are not giving those away either.

There were a couple designs out there that take the FSK audio from a laptop/PC speaker, or line out jack and rectified it to a DC voltage that drives a FET that activates a relay that grounds the PTT line. That looked like the way to go, but I thought maybe I could design a unit with did the same thing with fewer components and fit into a small project box that did not take up much room on the small operating desk.

The design I came up with was the standard audio coupling configuration used in many other designs that employed an 8-ohm to 1K ohm audio transformer (RS# 273-1380) and a 600 to 600 ohm audio isolation transformer (RS#273-1374). These transformers couple the audio going to and from the

transceiver and computer, plus isolate the grounds in the computer from the grounds in the transceiver eliminating any possible ground looping problems (hum).

To key most transceivers today you apply a ground to the PTT key line. My design eliminated a FET and small keying relay arrangement by just let a small general purpose NPN transistor act as a switch to take the small voltage on the PTT key line to ground.

In the above drawing you will note that on the transceiver side there is a mini-DIN6 plug on the end of a connection cable. If you are using a Yaesu HF transceiver the DIN6 will go directly into the data jack on the rear apron of the rig. If you are using another transceiver brand you may need a different plug and pin-out. You can also connect directly to the transceiver microphone jack. In the case of Kenwood and some ICOM models

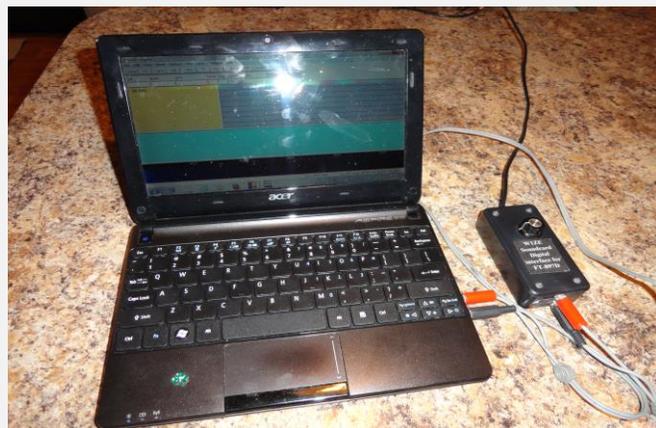
the receive audio appears on a pin in the microphone jack.

If you purchase most of your parts from the Rat Shack you may have to make a minor substitution of the resistor and pot on the transceiver microphone/data line because Radio Shack does not offer a 500-ohm pot. You could replace the 4.7K and pot with a 470-ohm resistor and a 5K pot or use a 4.7K resistor and a 1K trimmer pot and install it on the circuit board rather than on the project box as shown on my unit.

Radio Shack does carry a 8 to 1K ohm audio output transformer but they do not always have a tiny 600 to 600 ohm isolation transformer. If you see an old computer at your towns rubbish recycling center (dump) grab it up and take the small 600 to 600-ohm (1:1) isolation transformer off the soundcard. Some soundcard boards have two of them. Nice things to have in your junk parts box.

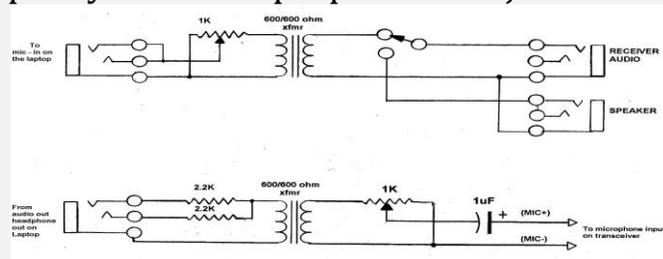
The two diodes that make up the audio rectifier are 1N914 or 1N4148s general purpose high speed silicone type (RS 276-1122). The transistor is any general purpose switching NPN such as a 2N2222A, MSP2222A, 2N3904, etc., all available at Rat Shack.

I built the entire circuit on a small project PC board (RS 276-149) and placed it into a 4"x2"x1" black plastic project box (RS 270-1802). You may want to install two stereo, 3-conductor 1/8-inch phono jack sockets to facilitate the computer microphone and speaker audio cables.



With my FT-897D and this little interface module I have made hundreds of PSK, RTTY and other digital mode contacts. By keeping the sound levels adjusted properly a very clean signal (IMD of -20db or better) can be transmitted.

Before I built this nice little interface for my FT-897D I used just a simple audio coupling device made from two 600:600-ohm isolation transformers, yes, taken from a junk computer soundcard board. It coupled the Tx/Rx audio between the PC soundcard to the microphone and speaker connectors on the transceiver. Digital Audio from the PC speaker jack was used to activate the VOX circuit in the 897D and in turn key the rig. It worked pretty well after proper VOX adjustments.



This little audio coupling circuit should work OK with almost any HF transceiver with VOX.

**73, Bruce W1ZE**



## ***New Ham Radio promotional video and tutorial, a must see***

If you have not already seen this very well produced and informative Amateur Radio promotional video I highly recommend you do so. It does a very good job of providing a wide overview of our great hobby and the services it can provide. It was produced by the World Genesis Foundation and they have a web site at:

<http://www.radioqrv.com/>.

On the site there is a link to a You Tube video that is several minutes long at:

<http://www.youtube.com/watch?v=ivUMIADFSDw&feature=youtu.be>.

For those of you that make presentations to other non-Ham community groups, schools and government entities this video would be a great tool to enhance your presentation. Go take a look.



## ***News From Newington***

***Bulletins from December 5<sup>th</sup>, 2013***



### **ARRL Granted Use of W100AW for League's Centennial**

The FCC has authorized the Maxim Memorial Station W1AW to also use the call sign W100AW during 2014, the ARRL's centennial year. Contacts made

from the Maxim Memorial Station in Newington, from regional Centennial conventions, and during the IARU HF Championship will use W100W, with portable designators as appropriate. The "W1AW WAS" operations throughout 2014 from each of the 50 states will use W1AW, not W100AW.

Bulletins and code practice transmissions during 2014 also will still use W1AW. Contacts with W100AW will be worth 100 points in the ARRL Centennial QSO Party. To help kick off the ARRL Centennial, special W100AW activity will begin at 0500 UTC on January 1, 2014 (midnight in Newington), and will include participation in ARRL's Straight Key Night; one CW station will use Hiram Percy Maxim's straight key. Activity will continue throughout New Year's Day

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## **Canada Issues Short-Term 472-479kHz experimental License**



[Industry Canada](#)

has issued an experimental

radio license to the [Marconi Radio Club of Newfoundland](#) (VO1MRC). Experimental station VX9MRC has been endorsed to conduct transmissions on 472-479 kHz for just two days -- December 14 and 15 -- to call attention to the potential new Amateur Radio band there and to the role ham radio plays in emergency communication.

"A special message from Bauline, Newfoundland, Mayor Christopher Dredge

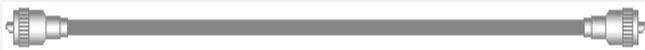
will be sent on CW on 478 kHz as a beacon transmission on these days," said Joe Craig, VO1NA, a low-frequency enthusiast and MRC leader. "Those receiving the message are invited to forward it to their respective municipal representative." Craig said the ERP should be about 2 W on 478 kHz, with the message sent at approximately 12 WPM.



*VO1NA says this tower serves as a monopole antenna for 2200, 1600, 600, 160, 80 and 60 meters and holds up the far end of a wire that also is used on these bands.*

Delegates attending the 2012 World Radiocommunication Conference ([WRC-12](#)) approved the secondary allocation between 472-479 kHz for the Amateur Radio Service. Industry Canada has proposed creating a new MF Amateur Radio band at 472-479 kHz on a secondary basis. Last year the ARRL asked the FCC to carve out the same band for US hams.

In November 2012 the FCC released a [Notice of Proposed Rule Making and Order](#) (ET Docket 12-338) proposing the creation of a new LF ham band at 135.7 to 137.8 kHz. Canadian hams already have such an allocation.



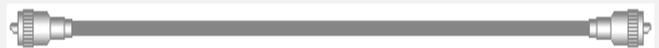
*George Szadis, K1GDI (aka, Kris Cringle) At the Town of Winthrop Christmas parade on December 7<sup>th</sup>.*



## Radio 101

The [Government Printing Office Bookstore](#) has a subscription blog service on topics of interest to readers. The ARRL received a post entitled *Radio 101: Operating Two-Way Radios Every Day and in Emergencies*. Readers can view it [here](#). The majority of the post is about Amateur Radio and features ARES and information provided by ARRL.

Key publications from the government's *Radio Communications Collection* including the US Frequency Allocations Radio Spectrum Chart are reviewed. It appears to be done quite well. A training publication on the above topic is available [here](#). -- Robert Bauer, KC4HM, Louisville, Kentucky, [Robert.Bauer@ky.gov](mailto:Robert.Bauer@ky.gov)



## A sad day for anyone who got into ham radio via SWL.

Provided by Steve Kerchel, AA4AK

**Voice of Russia (VOR)**, the former Radio Moscow during the USSR era, will cease shortwave broadcasts as of January 1, 2014.

From the 1950s through the 1980s, the station, as Radio Moscow, was a virtual beacon for short-wave listeners

(SWLs), many of whom gravitated into Amateur Radio. Voice of Russia currently

broadcasts to 160 countries in 38 languages for an aggregate 151 hours per day on short and medium waves, on FM, via satellite, and via the Internet. Earlier this year shortwave transmissions were cut to 26 hours a day in all languages, down from more than 50 hours a day in 2012.

VOR, which claims to be the first radio station to broadcast internationally, will continue to broadcast online and via three medium-wave transmitters. In 2003 VOR was among the first major international radio broadcasters to launch daily broadcasts to Europe in Digital Radio Mondiale ([DRM](#)).

As a result of a decree signed earlier this month by Russian President Vladimir Putin, the Voice of Russia radio company officially ceased to exist on December 9 and merged



with several other state-run news agencies as part of *Rossia Segodnya*, a Russia-based international news service. Putin's decree also abolished the State Fund of Television and Radio Programs, placing it under control of All-Russia State Television and Radio Broadcasting Company.

*For more information about shortwave listening, check out the following websites:*

<http://swling.com/>

<http://www.hamuniverse.com/shortwave.html>

<http://www.lutins.org/kc2klc/shortwave.html>

<http://www.k5kj.net/swl.htm>

[http://support.radioshack.com/support\\_electronics/doc66/66356.htm](http://support.radioshack.com/support_electronics/doc66/66356.htm)

<http://www.naswa.net/swlguide/>



# Happy New Year & great DX in 2014

