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WAVELENGTH

Official bulletin of
 Scarborough Amateur Radio Club, Inc.
www.ve3we.org

PARTICIPATE – LEARN – ENJOY

January 2012

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Sunday

Tuesday

Thursday

Saturday

SARC Nets

28.730 MHz
 CW 10:00 AM
 SSB 10:30 AM
 147.060 MHz (VE3RPT)
 7:30 PM
 Alternate frequency
 146.520 MHz simplex
 28.730 MHz
 SSB 7:00 PM
 3.740 MHz
 SSB 7:30 PM

Everyone is invited to check in on CW before the nets start.

These are open nets. All licensed hams are welcome. Come and join us.

We also want to emphasize that 28.730 MHz is our calling frequency. Please monitor and/or call your friends. 7:00 PM is a good time.

Flea Markets

- Saturday, February 4 – 9:00 AM: Merriton Lions Community Centre, 7 Park Ave, St Catharines (Niagara Peninsula ARC)
- Saturday, February 25 – 9:00 AM: Royal Canadian Legion - 828 Legion Rd, Burlington (Burlington ARC)
- Saturday, March 24 – 9:00 AM (exhibits and demonstrations start at 8:00 AM): Brampton Fall Fair Grounds, 12942 Heart Lake Rd, Brampton (Mississauga ARC and Peel ARC)

Long Delayed Echoes

Hello to All Scarborough ARC Members and welcome to 2012, our 66th year of continuous operation.

This month's scan is from XTAL Magazine, the bulletin of The Canadian Amateur Radio Operators' Association for January 1949. You can see the advertisement for SARC's Annual Banquet to be held on Saturday, January 29, 1949. It is significant that the Club was having an Annual Banquet only three years after its founding (and four years after WW2). It seems that this was a popular event and it lasted for many years, decades even and is an indication of the effort put into it by the members for the enjoyment of everyone. It seems it was open to everyone, and here was a Saturday evening's entertainment and fun for \$2.75. About all that we can get for \$2.75 today is a coffee and muffin. My how times change.

Looking ahead, we have a whole year coming up and for the HF operators we can see that the sun spot cycle is on the rise once again along with solar flares. Nevertheless, DX is there for the working and that makes for more pleasure.

For those who must operate with limited space for antennas, don't forget that we have HF bands on 14, 18, 21, 24 and 28 MHz and the higher you go in frequency the more effective "short" antennas become. Give it a try as band conditions will only get better for the next few years. It is worth noting that this past Sunday, January 21, we had a check-in from the state of New Mexico on our 10 meter net. That is Sunday mornings, 28.730 MHz, CW from 10:00 a.m. to 10:30 a.m. and SSB from 10:30 a.m. to when finished. Local times of course.

Happy, Healthy and Prosperous New Year to All.

73 de Gord, VE3CNA

was merely moved over and soldered directly to the appropriate terminal on the socket of the "future" buffer-amplifier VT-105. The two 75,000-ohm resistors which originally provided a voltage divider for this tube, were rewired in parallel to drop the voltage on the plate of the oscillator to approximately 300 volts, although this voltage is not critical. The 670-ohm resistor shown in the cathode circuit of the VT-105 is the same resistor as was used for biasing that tube when it was used as a modulator, and was removed from the rear of the chassis and soldered in directly at the cathode terminal of the tube. The remainder of the circuit is self-explanatory, the only comment seemingly necessary being that a choke of approximately 2.5 mH is used in the cathode circuit, and it is across this choke that the RF voltage from the oscillator is developed. A .002 mfd. 500-volt mica condenser was connected between the cathode of the cathode follower and the control grids of the power amplifier stage. The .0002 mfd. 2000 V. mica condenser which was originally connected between the power amplifier grids and the oscillator stage was then rewired to apply the output from the oscillator stage to the control grid of the cathode follower buffer-amplifier. If care is taken not to apply high voltage to the transmitter before the cathode follower has thoroughly warmed up, the plate bypass condenser of the buffer stage need not have a high-voltage rating, since under operating conditions the plate voltage on the cathode-follower does not exceed 300 volts. Otherwise, the bypass condenser should be able to stand the full power supply voltage.

We have not taken the time nor the space to outline the various advantages of this type of buffer-amplifier, but for those who are interested we should refer to QST, October, 1949, in which the characteristics of this amplifier are carefully studied. In that article, the author has used a parallel resonant circuit in the cathode circuit rather than a mere choke, since he felt that the shunting capacity across the cathode circuit would be sufficient to impair the operation of the cathode follower. However, we have found that for frequencies up to at least 9 Mc the shunting capacity is not sufficient to unduly load the cathode follower and that it is not necessary to compensate matters by the substitution of such a parallel resonant circuit in place of the choke.

A true ham never stops experimenting and so we think that the next step we shall attempt will be to once again apply a regulated voltage to the oscillator and to attempt to key both the oscillator and the final. As the situation now stands, only the final is keyed, and the grid return of the oscillator is tied directly to ground so that, when "B" power is applied, the oscillator and buffer-amplifier run continuously. The isolation characteristic of

the cathode follower is such that the change in frequency of the oscillator between key-up and key-down positions is so small it can scarcely be noted even on the 40 meter band. On both bands we are now consistently receiving TBX reports—with the exception of a 'B' report on 40 meters at a time when we were inadvertently operating with a blown 885 in the power supply.

Since the above modifications do necessarily increase the current flow through the biasing network consisting of the 5000-ohm resistor across which the key is connected, sparking at the key may be found to be excessive. In order to reduce the voltage across the key to the original of approximately 150 volts, a 7500-ohm, 10-watt wire-wound resistor was connected between chassis and -B, the resistor being mounted inside the transmitter under the buffer-amplifier tube socket.

Just out of interest, we rewired the RF ammeter so as to place it in series with the high frequency antenna terminal used on these two ham bands. We found that it worked most satisfactorily and it has become a useful adjunct to the rig.

So, OM's, don't throw away that '9-1154 just because you got tired of receiving "RST 597c, sorry OM". Get to work and fix up the rig as outlined above, and we'll see you on 40 meters!

SCARBORO A.R.C.
ANNUAL BANQUET
AT THE Y.W.C.A. 1152 Gerrard St. E.
Saturday, Jan. 29
TURKEY DINNER ENTERTAINMENT PRIZES
Registration Starts 3 p.m. TICKETS: \$2.75
Write or phone Jim Cockburn, 34 Wolcott Ave., GR. 0267

Amateur Radio Finally Jumps on the Maker Bandwagon

by Dan Romanchik, KB6NU

Over three years ago, I wrote that amateur radio should do more to associate itself with the Maker, or "do it yourself" (DIY) movement (www.kb6nu.com/lets-get-on-the-maker-bandwagon/). Well, it finally looks like it is going to do just that.

Just before the first of the year, the ARRL unveiled its DIY campaign (www.arrl.org/news/arrl-launches-new-diy-campaign). The most visible part of the campaign is a video (www.youtube.com/ARRLHQ), but there are also some other bits, including:

- a flier to be handed out to interested persons,
- buttons that say "Ask Why I DIY with Ham Radio," and
- a PowerPoint presentation and speaker's notes that you can use to give a presentation to an amateur radio club or other non-ham group.

These items are available from the ARRL website, www.arrl.org/DIY

CQ also on board

CQ magazine is also jumping on the bandwagon. They recently announced that they will run a quarterly "Maker" column, written by Matt Stultz, KB3TAN. Stultz is the founder of HackPittsburgh, a "hackerspace" or community workshop for makers in Pittsburgh, Pennsylvania. He has been a ham since 2009 and has integrated amateur radio into many of HackPittsburgh's activities.

Stultz's first column, titled "We Are Makers," will appear in the March issue of CQ. It provides a general introduction to the maker/hacker community for hams, as well as a description of a high-altitude balloon project that brought the two groups together in Pittsburgh.

Hams at the Maker Faire

In 2006, Make: magazine hosted the first Maker Faire (www.makerfaire.com) in San Mateo, CA. Since then, Maker Faires have also been held in Austin, TX, New York, NY; and Detroit, MI. Maker Faires are showcases for all kinds of crazy projects that people are working on.

Hams usually have a presence at these events. This year, the theme for one of the amateur radio groups participating in the California Maker Faire, which is the flagship event, is Arduino (www.arduino.cc) applications in amateur radio. Michael, NE6RD, who is organizing this group has lined up several very cool projects. One of them is an Arduino-controlled satellite antenna system.

A project I proposed is an Arduino-controlled keyer. On the face of it, this is not a real exciting project, but my twist on this is that instead of directly keying a transmitter, I plan to have the Arduino actuate a solenoid that will press a straight key. That should make the project a little more visual.

Hams sometimes like to claim that we were the original makers and hackers. We certainly have a long tradition of DIYing. Let's show these upstarts exactly what ham radio is capable of. Perhaps, in the process, we'll even entice a few of them to join us.

When he's not "making" things, Dan, KB6NU, teaches ham radio classes and works a lot of CW. You can contact him about some of the things you're making by e-mailing cwgeek@kb6nu.com.

DX Movies

From Luc VA3LMS

Pileup On The Orient Express
Gone With The Wind -- A Yagi Story
Dxpedition To Skull Island By KING/KØNG
Butch Cassidy And The Sundance Kid

First BLØOD
The Maltese Falklands
To Live and Let Diode -- ØØ73
CasaBlanker
Citizen Band
Key Largo

HamaLot -- The Old DXer is at it again
Silence Of The Hams - Starring Rachel Squelch
Contact - Starring ALIEN
Zulu -- The Ultimate PileUp!!
Fifth Element -- Story about a 4 element yagi starring Bruce Willis
Custer's Last QSO -- He left the Sabers, Gatling Guns & HT's at the Fort!!!

ZULU Dawn -- Durnford didn't do well either!!
ZULU Dawn -- GrayLine Prequel

M1SH MASH -- With RF Burns
Gone With The Windom -- The Sequel
Nightmare On Elmer Street -- With JA1SON

VERTICAL!! Directed By Alfred Switchbox
Name is James, Call is BØND -- Agent ØØ73