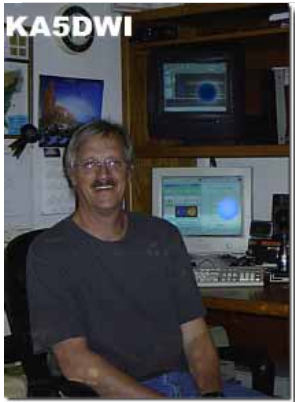


Chairman's Corner

The Chairman's Corner
By Art Jackson KA5DWI



I Thought Spring Had Arrived:

Early in February it was beginning to look like the Groundhog was wrong in his observation here in North Texas. It was looking like the Spring season was starting early. Warm spells with high and dry winds seemed to be par for the course. Sadly, we were not seeing much Tropo

around these parts. You really need warm and moist air with a stagnant jet stream to produce the temperature inversions needed to bend VHF signals. Warm dry winds do not cut it.

After what was appearing to be another early Spring, we would see a small Tropo opening followed by two "snow" events the first full week of March. I believe that this the first time on record that two measurable snowfalls have occurred in any March here in the Dallas/Fort Worth area. It will be interesting to see what our strange weather pattern will create this Spring. Remember that springtime west to east moving storm patterns that are separated by a strong ridge of upper-air high pressure system can produce excellent Tropo. Tropo occurs all year, but some of the best will occur in the spring months.

Promoting SWOT:

Now that I am out of college and have returned to the workforce by warping your children's minds (substitute teaching), I am now able to dedicate some of my personal time to SWOT. I have begun to make hamfests when my time and opportunity coincide. I attended the Fort Worth Hamfest at the end of January held at the Lockheed Martin Recreation Center. This first time hamfest did okay despite the fact that our club's table was pushed aside by coleslaw and was finished out by the iced tea. The

area provided for clubs was run over by the catered BBQ luncheon. By then I had met everybody and the food was more important.

Twenty-three (23) SWOT members and other well-known weak signal enthusiasts came by and signed in as follows.

SWOT #	Call	Name	Grid Square
3495	K5HTE	DOYLE HARDY	EM12
2497	KA5DWI	ART JACKSON	EM12
	WD5ILB	BOB OVERTON	EM12
3111	WA5BEG	RANDON PORTER	EM12
2792	WA5QGD	RAYMOND HOAD	EM12
3537	N5GE	TOM CHILDERS	EM12
193	WA5VJB	KENT BRITAIN	EM12
3389	K5UNY	ALEX KAPINSKY	EM12
3451	WA5TKU	WES ATCHINSON	EM12
	KE5ICX	TOM GENERAL	EM12
	KOYCN	MONT OLEARY	EM12
3843	AB5LL	KENNETH EPPLER	EM14
3535	WB5NUT	FRANK KRAWIEC	EM13
3127	KI5UB	BOB WALDICK	EM12
96	W5LUA	AL WARD	EM13
3505	KE5GBC	MIKE RODGERS	EM12
3152	W5FKN	BOB LANDRUM	EM13
3194	K5LOW	DON SIMONTON	EM22
3385	AE5B	JOHN DYER	EM02
	K9MK	MIKE KRZYSTYNIK	EM12
459	WB5VYE	JOE BLACKBURN	EM13
	W9MXF	SCOTT BENDER	EM12
3436	KM5PO	JIM MCMASTERS	EM12

In addition, I talked to many others about 2-Meter Sideband and its wonders. Added to the list of items to promote SWOT is a computer projection unit that allows me to

[Visit the Sidewinders on Two Website!](#)



run our presentation and club promotion PowerPoint at these events. Sometimes the projection unit gets more attention than the presentation does, but hopefully in due time that will improve.

As this is written, I just attended the Irving Texas ARC Hamfest (March 8) where I put on our presentation for those browsing the tables. We will list the visitors for the next Bulletin.

As I can get a better handle on my time, I will try to make other club meetings and present our club's presentation. As for the future events, I will no longer accept free club presentation areas. I think paying for a flea market table is a much better deal in the long run...unless I am offered free BBQ.

We also have a new event to promote.

SWOT 2-Meter SSB Activity Night:

With the effort of Tom Childers - N5GE of Arlington TX (EM12), a new event was started in February. A Friday Evening SWOT 2-Meter SSB Activity Night has begun in the Dallas/Fort Worth area. Tom and I have made an effort to use vertically polarized antennas. We figure that most Hams that own one of the new rigs that has 2 Meter SSB capability will have at least a vertically polarized 2-Meter antenna.

We hope to draw new enthusiasts and members for SWOT with this weekly event. We strongly encourage others across the country to try the same thing in their communities. We have picked Friday evening for this due to the fact that there are no conflicting Nets. This is not meant to be a wide coverage Net, but is an event to draw attention to 2-Meter SSB for those that may not know the fun of it.

Enjoy your Spring and finish your antenna and tower projects while the weather is good.

73's
Art Jackson KA5DWI S.W.O.T.
Chairman

**From Howard Holloman, SWOT Secretary.
Membership updates and new members
(highlighted are new members):**

SWOT#	Call	Name	City	State	Grid
3406	KA0IQT	James	Tioga	TX	EM13
3325	KF6LFO	John	Roseville	CA	CM98
3399	KD5FID	Steve	Petaluma	CA	CM88
3308	KE6QR	Gary	Vallejo	CA	CM88
3474	KI6ARW	Jennifer	Vallejo	CA	CM88
3358	KF6PFT	Robert	San Mateo	CA	CM87
3539	WX5NCO	Jon	Owasso	OK	EM26
3526	KG6DOH	Richard	Pleasanton	CA	CM97
3287	KF6MXK	Philip	Brisbane	CA	CM87
0155	W6OMF	Larry	Vacaville	CA	CM98
0162	K6SUE	Sue	Vacaville	CA	CM98
3437	W5WRF	Wayne	Argyle	TX	EM13
3493	KK5AA	Frederick	Charleston	AR	EM25
2792	WA5QGD	Raymond	Fort Worth	TX	EM12
3111	WA5BEG	Randon	Arlington	TX	EM12
3540	N6IQY	Michael	Sutter	CA	CM99
3541	K8TUT	William	Athens	OH	EM89
3542	W5WSR	William	Lake Jackson	TX	EL29

SWOT Bank account balance [Mar. 6, 2008]

\$3,122.66

Howard Holloman, S.W.O.T. Secretary/Treasurer



Another chance to grip & grin presented itself on the 31st of January at brunch in West Sacramento.

From Larry, W6OMF and the California SWOT world.



Pictured to the right is the 6th tower being raised at the Runt Ranch. This tower, a 50 ft. Rohn 25G is located at the shop and supports a tri-band vertical with a 224.54 repeater, a two meter IC-275H and a 432 unit. On the tower is Larry, W6OMF (close side) and Jerry, KG6TT (far side). Larry says the name *Runt Ranch* comes as a reference to how small the "mini-ranches" are in Solano County California (most are in the 2.5 to 10 acre range) in comparison to the true ranches he's so familiar with back in Texas! Larry was born and raised in Iowa but spent 9 years in Abilene, Texas with the Air Force.



Larry, W6OMF addresses a group on February 21st in Lincoln, California. The subject: Weak Signal methods

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Cubesats & frequency allocations

Bill Tynan, W3XO, SWOT# 300

At the IARU Satellite Meeting held in conjunction with the AMSAT Annual Meeting and Space Symposium last October, I accepted an Action Item to investigate the impact on 2 meter operation IF Cubesat Class satellites were to use various parts of the band in addition to the recognized 145.800 to 146.000 satellite segment which is becoming much too crowded to accommodate all of the Cubesats that are being built by universities and other student groups around the world. At the meeting, the frequencies 144.030 to 144.060, or similar were mentioned as a possibility.

Cubesats are very small spacecraft, about 4 inches on a side. They go into quite low orbits, so their life is generally in months, not years. Since they are very small they can gather limited solar power and hence their transmitters usually put out less than a Watt. They are generally NOT transponder satellites, only CW, or possibly packet, beacons

Also, since they are low orbits, they are not in "view" for more than about 8 to 10 minutes.

In case there is any misunderstanding, the entire 2 meter band from 144 to 146 is allocated to satellite operation by the ITU. It is by informal understanding that only 145.8 to 146 is actually being used for satellites.

When I heard the proposal, I immediately noted that the low end of the band is used for EME which, because of the low signal levels inherent in such operation, might suffer greatly from these satellites. I offered to check with the EME community to confirm or rebut my concern.

One of the foremost EMEers I know is Dave Blaschke, W5UN, who I asked for comments on the proposal. Here is what he had to say on the subject:

Hello Bill,

The EME community is now separated into two entities, with CW users from approximately 144.030 to 144.080 MHz, and JT65 digital mode users from 144.100 to 144.170 MHz. Japan uses 144.075 to 144.090 MHz for the digital mode, since they are not authorized above 144.100 for this.

Dave, W5UN

So, Here is what I wrote to ZS6AKV:

Hans:

With regard to Cubesat Class satellites operating in the low end of the 2 meter band, here is what I received from Dave Blaschke, one of

the world's most prominent 2 meter EME operators

----- W5UN's message as above -----

So, you can see that there is NO completely empty space on the extreme low end of the 2 meter band.. I am sure that 144.0 to 144.030 would be out because Doppler could take signals out of the band. Possibly, the EME folks could tolerate Cubesats from 144.010 to say 144.040.

It might also be possible to use frequencies above 144.300, say 144.330 to 144.370 or 144.340 to 144.370.. But, I expect that the Europeans (particularly the Germans) would object loudly.

APRRS is on 144.39 here in North America and possibly throughout the world., but I don't know about that. I understand that the Europeans use 144.4 to 144.5 for beacons. (Why they need 100 kHz for beacons, I've never understood.). Here in the US, our FCC restricts 2 meter beacon to 144.275 to 144.300 (25 kHz). But, I'm sure they (the Europeans, especially the Germans) would object to any other signals in their beacon band.. However, that might be a good spot for low attitude, short-life Cubesats, especially if they are in low inclination orbits so as not to be "seen" from northern Europe. Though why they, the Europeans, would object to fleeting, signals lasting 10 minutes or less in their beacon band, escapes me.

In the US and Canada, 144.200 is the SSB calling frequency with

some spreading out 20 to 30 kHz on each side. So, from our standpoint, something like 144.230 to 144.270, maybe even up to 144.300., might work. There are a number of SWOT (Sidewinders On Two) nets held weekly on different days in different parts of the Country on 144.250. But, especially if satellites are only in "view" for 8 to 10 minutes, using the aforementioned 230 to 270 might not present a major problem. In fact, if a satellite IS "in view" during a SWOT net, the participants might make an exercise out of listening and reporting who heard it.. Or, if it IS interfering

So, something like 144.150 to 144.180 might represent another reasonable area of the band that would present a minimum impact on weak signal modes. But, I have no idea how that would be received by the Europeans.

Sorry to be so late. The Holidays got in the way, plus I was sick just after Christmas (fine now). I hope this helps.

73,
Bill Tynan, W3XO

There you have it. I wanted you guys to see what I had said about SWOT nets and generally how I had commented on the possible use of additional 2 meter frequencies for satellites.

73,
Bill Tynan, W3XO EMOOkd
SWOT 300



This is an in-flight picture of CP4 taken by AeroCube2, moments after being ejected from the P-POD on the April 17, 2007 Dnepr launch.

...See next page for more CubeSat information!

What are Cubesats? -Tom Childers, N5GE

Cube Satellites (CS), also called Nanosatellites, are small cube shaped satellites that measure 10 x 10 x 10 centimeters or 4 X 4 X 4 inches (a one liter volume) and weighing a maximum of 1 kilogram or approximately 2 lbs. They have become very popular in university labs as a means of getting a payload into space for less cost. They have also become a popular means of putting amateur radio platforms into space.

These small platforms are designed to use COTS ((C)ommercial (O)ff (T)he (S)helf) parts to reduce the cost of construction. Kits for building these tiny platforms can be found at <http://www.cubesatkit.com/>. RF Modem kits for communicating with the platforms can be found at <http://www.maxstream.com>. More information regarding CS can be found at <http://en.wikipedia.org/wiki/Cubesat>.

Are they Used in Amateur Radio?

The Radio Amateur Satellite Corporation (AMSAT) has a list of current amateur radio CSs in orbit at <http://www.amsat.org/amsat-new/satellites/cubesats.php>. According to the list, all Amateur CSs are currently operating within the 70cm band.

The International Amateur Radio Union (IARU), has Frequency coordination data and procedural recommendations for Amateur Radio Satellites at http://www.iaru.org/satellite/IARUSATSPEC_REV15.6.pdf.

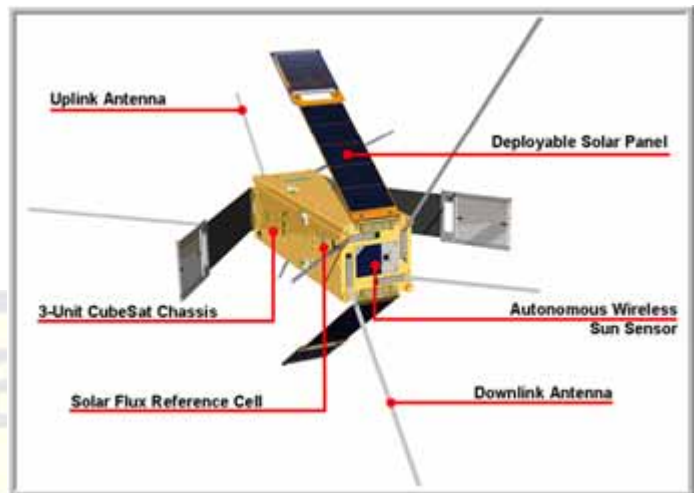
Can Commercial satellites use amateur radio bands for satellite communications?

Commercial satellites can use portions of the amateur radio spectrum for communication. Currently commercial satellites are not allowed to use the two meter band for communications in Regions 2 and 3, but they are allowed to use portions of other amateur bands for communications. For a list of Amateur Radio spectrum allocations by region, visit <http://life.itu.ch/radioclub/rr/index.htm>.

Doing the research for the above helped me improve my understanding of CubeSats and the overall process of gaining and maintaining our Amateur Radio spectrum allocations. I hope our SWOT membership and other Hams will find the links above an interesting source of information.

In my opinion, if the current use of 70cm for communication with these amateur CS platforms continues, there will be no interference to amateurs using 2 meters for weak signal work.

73's,
Tom, N5GE SWOT# 3537



Like to get involved??

Delfi-C³, shown above, is the first nanosatellite student project from the Delft University of Technology in the Netherlands.

The satellite has a launch date window of April 21 - 30, 2008. Delfi-C³ will have a downlink in the amateur satellite segment of the VHF amateur radio frequency band. Telemetry decoding software will be made available to participating amateur radio operators and universities which allows them to decode and display real time telemetry. Furthermore, the software allows for a data upload to the central Delfi-C³ ground station via the Internet for data processing.

The Delfi-C³ team would like to invite all interested radio amateurs to receive, decode and forward telemetry data to the Delfi-C³ ground station. <http://www.delfic3.nl/index.php>

Delfi-C³ includes a mode UV linear transponder. The satellite will be in telemetry only mode for approximately the first three months of the mission, after which it is switched to transponder mode.

Frequencies:

Primary telemetry downlink: 145.870 MHz 1200 Baud BPSK AX.25 400mW

Linear transponder passband downlink: 145.880 - 145.920 MHz (inverting) 400mW PEP

Linear transponder passband uplink: 435.570 - 435.530 MHz

Transponder mode beacon: 145.870 MHz CW (10dB below transponder PEP)

Something Different by Tom Childers, N5GE

I've always been mostly a CW HF operator, but lately I've become more interested in VHF/UHF operating, so I put the VHF and UHF antennas back on the tower above the Mosley 5 bander, but then I ordered a new rig with six meter capability and needed more antenna room on the mast. The 5 bander is 24 feet long and about 32 feet wide weighing in at 85 lbs so I decided not to replace the mast with a taller one.

How does one get 4 antennas on an 8 foot mast without stacking them 2 feet apart? After thinking about that I decided to do something a little different.

I bought 16 feet of aluminum tubing and had them cut it into three pieces; two four foot long pieces, leaving an eight foot piece for the horizontal part of the U-Frame I had decided to use to get more room on the mast. With the help of my son, Ross we made three 4" x 12" x 1/4" plates of aluminum and drilled them for DX Engineering 2" saddle clamps. Each plate has holes for four of these saddle clamps. Two of the plates are used to attach the vertical portions of the frame and one is used to attach the entire frame to the mast.

The antennas are attached to the top of each of the vertical sub-masts.

I'm happy with the results, but I can tell you that getting all that on the top of the tower took a lot of energy and time, since everything had to be done above the HF Yagi-Uda. Jim gave me some suggestions that helped to get it done. One of the suggestions I had never thought of was using a single 2" clamp assembly to clamp under the vertical sections while adjusting them and raising the frame up the mast. Putting the clamp under the mounting plate of the frame allows you to rest and keep the frame (or an antenna boom) from sliding back down the mast while you adjust the horizontal attachment.

I have a gin pole, but used a different approach to raising the frame and antennas up the mast after the antennas were attached to the frame. I went to the hardware store and bought a pulley large enough for 3/8" nylon rope, a quick release hook and 100 feet of 3/8" braided nylon rope.

The top of the mast on my tower is open at the top, so I hooked the hook and pulley assembly into the top of the mast and passed the rope through the pulley and under the mounting plate of the horizontal part of the frame. With the mast U-Bolts loose I was able to pull the frame up the mast to within about 6" of the top of the mast and tighten the U-Bolts.

After I got everything in place my YF Jane stood on the ground and did the sighting in of the antennas to get them all lined up. We got everything just about right, except that the VHF antenna is about 2 or three degrees off level with the reflector higher than the directors.

How does it work?

I made measurements of W5HN/B in Collin County before moving the 2m antenna. After changing the location and height of the 2m antenna W5HN/B was 3 S-Units better.

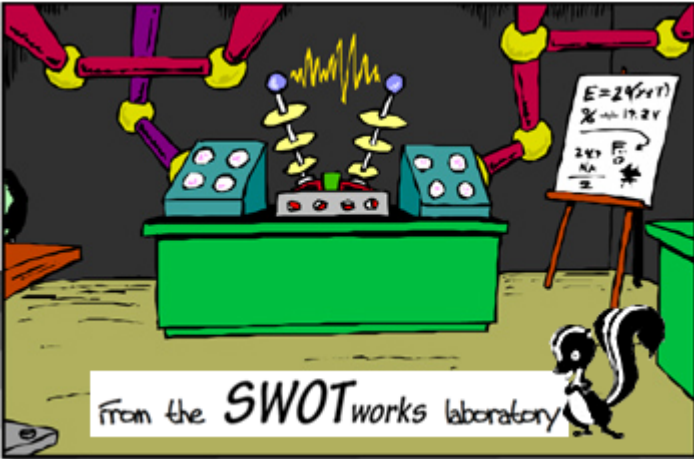
I'm not sure if the result was due to the height change or an improved pattern, but I'm happy with results. Unfortunately I didn't do the same test with the 70cm antenna, but I get a good no noise signal from the 70cm W5HN/B in Denton without the preamp now.

I have the 6m antenna on my construction mast and ready to put on the tower. I'll probably do that later this week or next week.

One more bit of information; I analyzed the 2m antenna with My Array Solutions AIM 4170 and saved the results. Last night re-scanned the 2m antenna and found that the SWR was better and the bandwidth was wider. So that proves technically that the move was an improvement at 2m.

-Editor's note: Catch Tom on 144.250 Friday nights in the DFW metro area as he and Art, KA5DWI host the SWOT Roundtable at 9pm.





very fast switching times. We know that all diodes tend to disobey ohm's law in that we can't use $V=RI$ or any other simple formula to find a relationship between current and voltage. The relationship must be read from a graph which illustrates the diode's *characteristic* (see some example graphs in the last issue of this SWOT bulletin).

The first RF sniffer we made was a simple "proximity" circuit (Figure 1). Get it somewhere in the vicinity of some RF and voila, you have some DC output. There was no antenna per se, but it still picked up or received RF sufficient to stimulate the diode which then rectified the A.C. and charged up a capacitor.

For this next project, I wanted to observe how the diode handled various power inputs across the spectrum of frequency. I'm lucky to have a calibrated signal generator (snatched near the end of the CSVHFS conference in San Antonio last year...) so I did some experiments driving the circuit under controlled conditions.

First the design needed changing a bit (Figure 2). We would need an input connector and a load so that there was a repeatable direct connection from the generator output to the circuit. I have

Diodes and RF sensing Part two By KM5PO-Jim

Hi everyone. I've heard from a few of you that you successfully built an RF sniffer! Congratulations and I hope you enjoy the tinkering time it gives you. This aspect of our hobby is not only inexpensive but can be a lot of fun and relaxing to boot. I also think it creates a venue where we keep learning (or maybe we're just getting so old we keep forgetting and relearning the same stuff over and over...). Anyway, this go-round we will take another step in our understanding of the diode device but first let's review what we learned last time.

We learned that there are different kinds of diodes based on the materials used and the "junction" held inside. Our diode of choice for RF sniffer projects is the Schottky diode because of it's inherent sensitivity to conduct current and it's

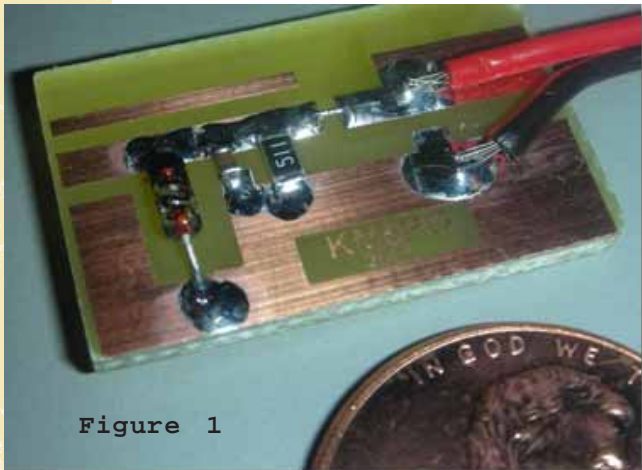
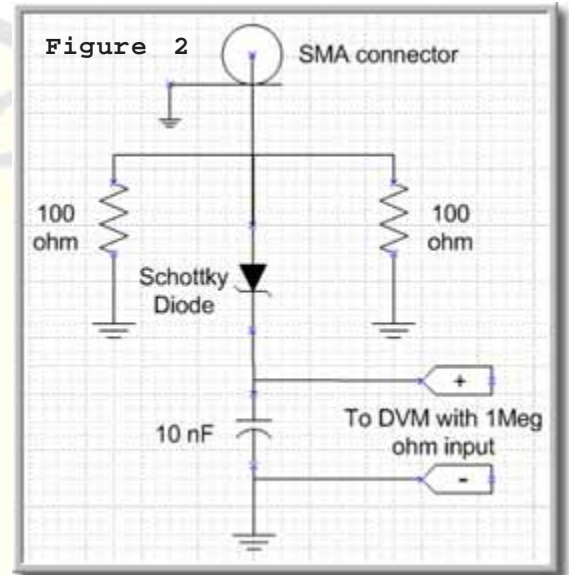


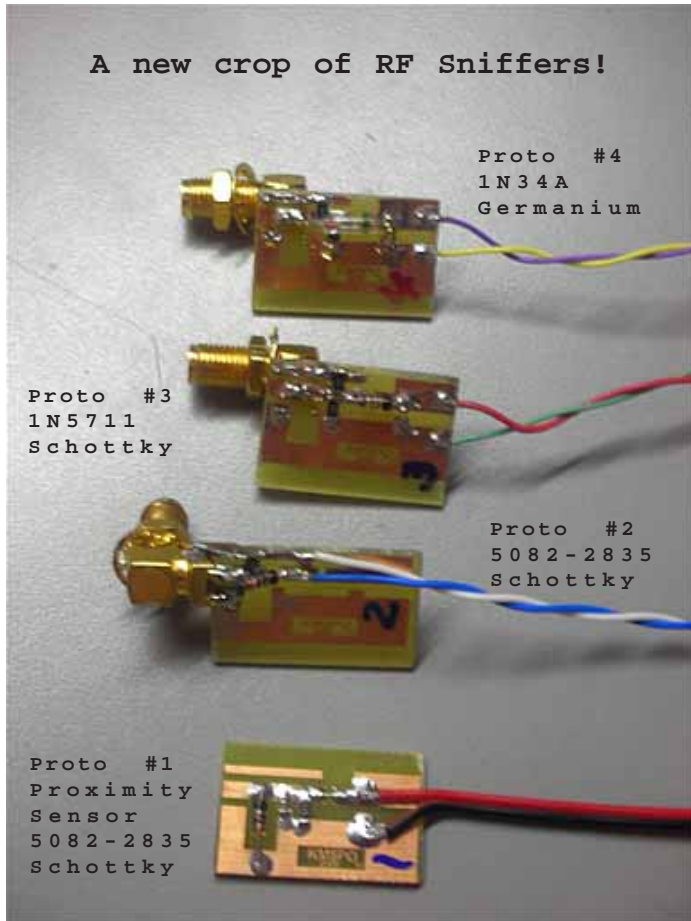
Figure 1

The test setup to the right-->

Sig gen. on bottom of stack outputs -15dBm at 750 MHz to proto #2.

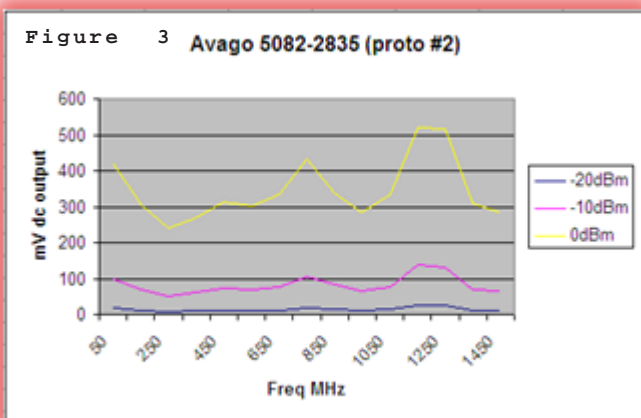


plenty of circuit boards so I built several units using a slightly different diode in each. All the other components and



parameters stayed the same. Remember your high school science project and the "controlled variables"?? - OK I'm cheating, I just had a kid go through this so I'm fresh on the fancy words... Anyway, I picked a few different diodes out of the junk box and came up with some interesting results.

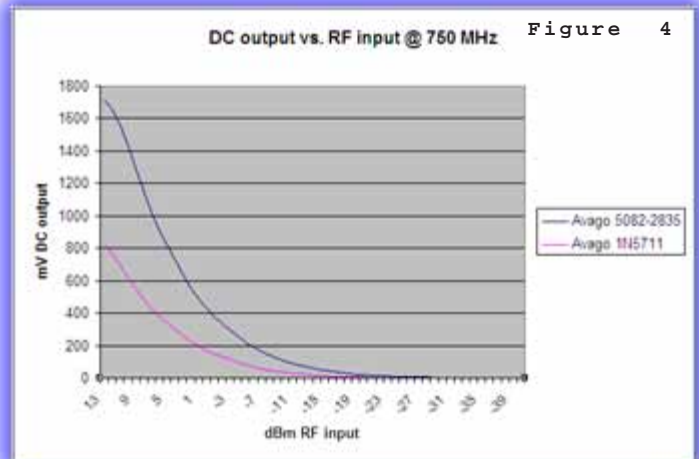
I first wanted to see how the circuit performed at different frequencies. Using three different reference input power



levels, I found that all the units showed sweet spots in the 750 and 1250 MHz area and that the plots were predictable across the power levels (Figure 3).

Next I needed to see how the circuit behaved in regards to DC output versus input power at one set frequency. Here I saw a clear proportionality constant at work in that the output was proportional to the input but it was different for each diode. Digging farther I found that the constant is a function of the diode's I vs. V curve and square law. Square law simply means that the DC output is proportional to the square of the AC input voltage. If we reduce RF input voltage by half, we'll get one quarter as much DC output and if we apply ten times as much RF input, we will get 100 times as much DC output as before. This is illustrated by the curves I plotted (Figure 4). The three different diodes (Germanium, Schottky, Silicon) produced input vs. output curves clearly related to their I vs. V curves.

Next I wanted to see just how accurate a power reading could be derived which would involve a tad bit of math. In our circuit, the capacitor is charged to the peak



amplitude of the RF signal. The digital voltmeter will read the DC voltage across the capacitor. To convert this to dBm:

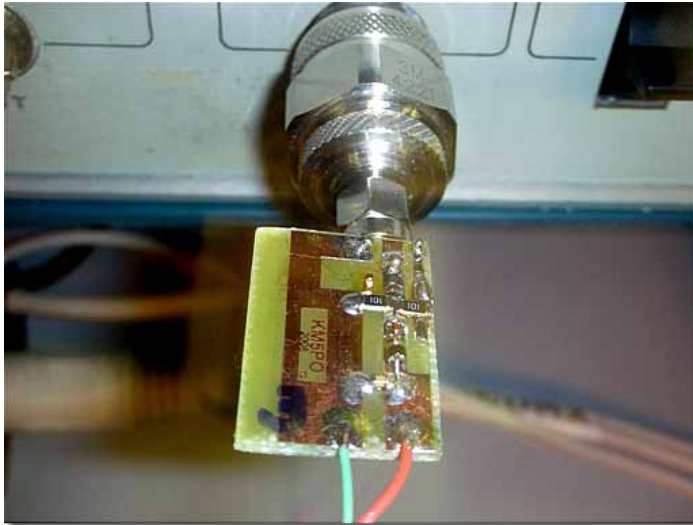
Multiply the DVM reading by .707 to get RMS RF voltage V_{rms}

Plug V_{rms} into this:

$$dBm = 20 * \text{Log}(V_{rms} / .224)$$

I already had charts of the exact RF input (in dBm) and the actual DC output so now I could test how well the physical test matched up to the physics theory and

whether a device like this could really be useful in the shack. After doing the math on several spot-checked points I noticed a weirdism showing up on each of the different prototypes. They were pretty accurate at higher power levels and very low



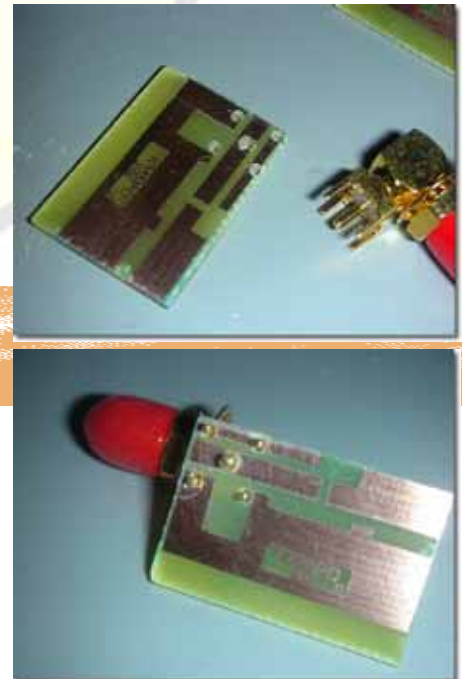
Proto #3 fed directly on the Sig Gen output port.

power levels but there was a problem in the middle where the deviation was more than 2 dB. Inquiring with my engineer friends I learned that it is useful to divide diode peak-detector operation into three regions: linear (above 20dBm), transition (-20dBm to 20dBm) and square-law (below -20dBm). I could see it would be darn hard to fix these characteristics through any means simple however, the circuit can still be

used to do relative measurements like peaking or comparing RF quite well.

So at the end of the day, my conclusion is that if you can put up with a 2 dB error, want to measure power around 20 to 30 dBm (100 mW to 1 watt) and have no other way to measure it, then this is the circuit for you. However, if you want something maybe more functional than all this, stay tuned. Next issue we will take a giant leap forward by exploring a really cool chip that will make our previous designs almost obsolete. The LTC5535 chip is a complete RF sniffer in one package! It contains a temperature compensated Schottky diode peak detector and output amplifier which can handle a wide input power range (-32 to 10 dBm), enormous bandwidth (.6 to 7.0 GHz), external gain controls, a wide power supply range (2.7 to 5.5 volts), and small operating current: 2mA. The only problem is the dang thing is just 1 1/2 by 3 millimeters long! I'll also explain by show and tell how to make your own printed circuit board at home. See you then!

-Jim, KM5PO



Installing SMA connectors. Use small drill bits and something like an X-acto knife to mark the PCB with the drill pattern. I made these holes by holding a dremel in hand although a press would be better. The connectors are typical edge mount types.

SWOT Net Reports

Here are the net reports for January and February 2008

Northern California W6OMF (Sunday)

January:

87 different stations checked in for the month of January!

18 members checked in once
14 members checked in twice
20 members checked in three times
35 members checked in all four times

10 different grids and 3 states. Thanks to all for the effort.

February:

33 people checked in all four nets
21 people checked in three times
15 checked in twice
19 checked in once

North California KG6WLV CM87 N.Cal/Bay Area

(Tuesday 8pm)
Date Check-ins

January (4 dates):

01/09 27 check-ins
01/16 29 check-ins
01/23 24 check-ins
01/30 28 check-ins

4x check-ins = 12
3x check-ins = 11
2x check-ins = 7
1x check-ins = 6

SWOT check-ins = 7
Total 40 different stations
Total states = 1
Total grids = 6

February (4 dates):

02/06 26 checkins
02/13 28 checkins
02/20 29 checkins
02/27 29 checkins

4x check-ins = 15
3x check-ins = 8
2x check-ins = 6
1x check-ins = 12

SWOT check-ins = 8
Total 42 different stations
Total states = 1
Total grids = 6

NORCAL W6DWI (Thursday 8pm)

January

Check-ins 25,32,23,28,28
SWOT 10,13,11,9,10
States 1,1,1,1,1
Grids
CM87,CM88,CM89,CM97,CM98,CM99

February

Check-ins 26,28,26,27
SWOT 9,9,7,11
States 2,1,1,2
Grids
CM87,CM88,CM89,CM97,CM98,CM99,CM82

Northeast Missouri NOPB (Monday 8pm)

Date Check-ins/Grids/
States/SWOT

01/07 07 - 04 - 02 - 03
01/07 net closed early due to storms
01/14 31 - 20 - 10 - 07
01/21 26 - 14 - 08 - 05
01/28 23 - 17 - 08 - 06
02/04 25 - 17 - 08 - 06
02/11 no net due to ice
02/18 22 - 13 - 07 - 06
02/25 28 - 16 - 07 - 06

North Texas W5FKN (KM5PO sub) (Wednesday 9pm)

Date Check-ins/SWOT/Grids/
States

01/02 24 - 12 - 17 - 04
01/09 26 - 16 - 15 - 04
01/16 no net
01/23 24 - 12 - 17 - 03
01/30 21 - 14 - 14 - 02
02/06 23 - 14 - 16 - 03
02/13 25 - 14 - 20 - 04
02/20 30 - 14 - 14 - 02
02/27 22 - 15 - 17 - 04

Southeast Ohio AB8XG

KD8DJE Sub)

(Tuesday 9pm)

Date CheckIns/SWOT/Grids/
States

01/01 15 - 07 - 03 - 02
01/08 14 - 06 - 02 - 02
01/16 18 - 08 - 03 - 02
01/22 14 - 06 - 02 - 02
01/29 17 - 06 - 02 - 02

02/05 13 - 07 - 02 - 02
02/12 17 - 05 - 02 - 01
02/19 11 - 06 - 02 - 02
02/26 10 - 05 - 02 - 02

E. Oklahoma KD5ZVE

(Thursday 8pm)

Date CheckIns/Grids/States/
SWOT

01/03 25 - 10 - 04 - 15
01/10 21 - 09 - 04 - 16
01/17 22 - 10 - 04 - 16
01/24 17 - 10 - 04 - 09
02/07 24 - 12 - 04 - 03
02/14 17 - 10 - 03 - 10
02/21 20 - 10 - 04 - 12
02/28 14 - 11 - 03 - 08

P.S. With 50 watts I still had 15 checkins recently including Phil, NOPB at 309 miles. It doesn't take a KW to check into a net at long distance, just a little antenna work
- Jimmy, KD5ZVE

Daytona Beach W2RAC/W1LVL

(Wednesday 8pm)

Date Check-ins

01/01 05
01/09 04
01/16 04
01/23 04
01/30 04
02/06 04
02/13 04
02/20 04
02/27 04

E. Texas Piney Woods

KM5PO (K5LOW -N5TIF sub)

(Saturday 7am)

Date Check-ins/Grids/SWOT/
States

01/05 14 - 07 - 07 - 03
01/12 10 - 06 - 05 - 03
01/19 21 - 10 - 12 - 04
02/02 13 - 05 - 05 - 03
02/09 29 - 15 - 13 - 05
02/16 08 - 05 - 05 - 02
02/23 24 - 13 - 12 - 03

Southern California

WB6NOA

(Sunday 7:30pm)

Southern California SWOT net is Sunday evening, 144.240-7:30pm. At 7:50 we move up to 144.250 and say hi to Larry W6OMF in the Bay area.
-Gordon West WB6NOA

Event and Contest Calendar:

Apr 7 144 Mhz Sprint
 Apr 12 M2 Swap/BBQ meet
<http://www.m2inc.com>
 Apr 15 222 Mhz Sprint
 Apr 23 432 Mhz Sprint
 May 3 902 Mhz & up Sprint
 May 10 50 Mhz Sprint
 June 13-14 Hamcom, Plano, TX
<http://www.hamcom.org>
 June 14-16 ARRL June VHF contest
 June 28-29 ARRL Field Day
 July 24-27 CSVHFS conference
 Wichita, KS

What to expect Apr-May Meteors:

Lyrids Apr 16-25, peak Apr 22, 10 zHR with outbursts

over 100
Eta Aquariads May 4, 15zHR, 3 days
Halleyids May 7, 25zHR, 5 days
May Arietids May 17, 15zHR, 3 days

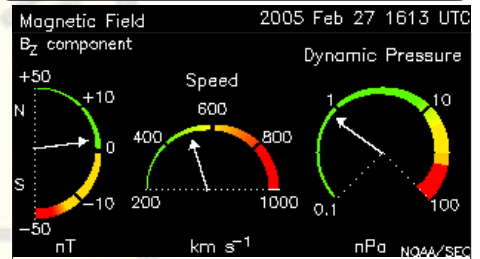
Full Meteors calendar:
[W8WN](#)
[Gary Kronk](#)

Aurora:

Watch:
<http://umtof.umd.edu/pm/latest2day.gif>
Tropo:
 Always keep an eye on: the Hepburn Forecast.
 the APRS Real time VHF propagation map.
 the Presence of radar reflectivity (false echos) HERE
 the Green Page (144 Mhz Propagation Logger)
 the Surface Map (there are many choices)
www.spaceweather.com



Jim, KM5PO (L) & Jimmy KD5ZVE (R) in Dallas March 12. Two of our SWOT Net Control Station operators. photo by Mildred Johnson!



[Real time Magnetic Field dials \(Aurora\)](#)



Accurately detect tropo by observing "false" echoes on National Weather Service maps such as this one which you can link to at http://radar.weather.gov/Conus/RadarImg/latest_Small.gif Watch for light blue and gray areas turning darker.

SWOT and Selected 2-Meter Nets

Help improve our listing of nets! If you find errors or omissions or know of other two meter nets being conducted, please send email to either the bulletin editor: km5po@arrl.net or the SWOT Net Manager- Jimmy Johnson, jjohn357@swbell.net

Day	Local Time	Area	Net	Frequency	Net Control Station
SUN	8:00 pm	Vacaville, CA	NORCAL	144.250	W6OMF Larry
SUN	7:30 pm	Costa Mesa, CA	South California	144.240	WB6NOA Gordon
SUN	8:30 am	Tucson, AZ	Arizona	144.250	N7SQN Al
SUN	8:30 pm	Zebulon, NC		144.220	N1GMV
SUN	9:30 pm	Holland, MI	Michagan SWAM	144.155	K8NFT
MON	7:30 pm	Albuquerque, NM	New Mexico	144.200	N5XZM Bobby
MON	8:00 pm	Colorado	Rocky Mt. VHF +	144.220	N0VSB W6OAL
MON	8:00 pm	Midwestern United States	Northeast Missouri SWOT	144.250	NOPB Phil
MON	9:00 pm	Tidewater, VA		144.230	
TUE	8:00 pm	Bay Area, North California, West Nevada	Northern California SWOT	144.250	KG6WLV John
TUE	9:00 pm	Greater Ohio area	Southeast Ohio SWOT	144.250	AB8XG Kenny KD8DJE Russell
WED	8:00 pm	Florida	Daytona Beach SWOT	144.250	W2RAC Richard W1LVL George
WED	9:00 pm	Texas, Okla, Ark, Louisiana	North Texas SWOT	144.250	W5FKN Bob
THU	8:00 pm	Bay Area, North California, West Nevada	Northern California SWOT	144.250	W6DWI Robin
THU	8:00 pm	Oklahoma, Texas, Ark, Missouri, Kansas	Eastern Oklahoma SWOT	144.250	KD5ZVE Jimmy
SAT	7:00 am	Texas, Okla, Ark, Louisiana	Piney Woods SWOT	144.250	KM5PO Jim

SWOT Nets are highlighted

SIDEWINDERS ON TWO ENROLLMENT OR RENEWAL FORM

NOTE: Though your membership and number are good for life you must renew annually to receive the newsletter and stay on the active list..

Enclosed find check/MO. to: **Howard Hallman WD5DJT, Sec.Treas.**

**NOTE: do not make checks out to
SWOT. Make checks out to Howard
Hallman**
**3230 Springfield Lancaster, TX
75134-1214**

New member: \$6 - receive bulletin by email
 \$12 - receive bulletin by US post office

I have worked the following SWOT members:

Call: _____ SWOT No. _____ Call: _____ SWOT No. _____

Renewing: \$6 - receive bulletin by email
 \$12 - receive bulletin by US post office

My SWOT No. is _____

Name: _____ Call _____ Grid Square _____

Street address _____

City _____ State _____ Zip Code _____

Telephone Nos. _____

Optional: I check into the following nets: _____

E-mail _____

Receive Newsletter By Email: YES _____ NO _____

Note: Send all forms to the Secretary-Treasurer at top of this form.

SECRETARY - TREASURER :

Howard Hallman/WD5DJT
3230 Springfield Ave.
Lancaster, TX 75134-1214
Phone: (972)-224-5964
Email: wd5djt@swbell.net
Webpage: <http://home.swbell.net/wd5djt>

CHAIRMAN: Art Jackson/KA5DWI

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Email: jjohn357@swbell.net

BULLETIN EDITOR:

Jim McMasters/KM5PO
Email: km5po@arrl.net
Phone: (817)-563-2720
Webpage: <http://www.james-randall.com>

S.W.O.T. GENERAL INFORMATION

Send renewals and new applications for membership to Howard Hallman WD5DJT (See address above). Please make all checks payable to Howard Hallman Include your SWOT # for your renewals.

Send your SWOT "Members Worked" from your log to, SWOT Awards manager, Wade Massey, 1016 Weiss Ave, Princeton TX., 75407 \$1.00 fee for certificate and your certificate number would be appreciated, also SASE.

E-Mail all articles and reports to the Editors' email address listed above or you can mail them to Jim McMasters KM5PO, 2805 Shady Lane South, Arlington, Texas 76601.

MERCHANDISE:

Decals and listings available for \$1.00 each for shipping and handling from the Secretary/Treasurer.

SWOT Patches are available at a price of \$4.00 Each + \$.50 for mailing

Badges are available from "The Sign Man", Rick Pourciau NV5A, [http://](http://www.thesignman.com/menu.html)

www.thesignman.com/menu.html



Side Winders on Two Radio Club S.W.O.T.
Promoting Weak Signal Operation since 1976

