The New
RTTY *Journal* ©

Toshio Takahashi, JA1BWA shares his shack with us.

RTTY CONTEST SCHEDULE - SPRING 2000

Date & Time	Name & Sponsors	Date & Time	Name & Sponsors
03/12 1800 to 2200	High Speed Sprint RTTY Contest	05/06 2000 to 05/07 2000	ARI International DX Contest
03/18 0200 to 03/20 0200	BARTG WW RTTY Contest	05/13 1200 to 05/14 1200	VOLTA WW RTTY Contest
04/01 1600 to 04/02 1600	EA WW RTTY Contest	06/10 0000 to 06/11 2400	ANARTS WW RTTY Contest
04/22 1200 to 04/23 1200	SP DX RTTY Contest	**Dates and Times subject to change**	

Updated information available at:

LA9HW RTTY Page: http://home.sn.no/~janalme/RTTY.html

Jim's Gazette: http://www.n2hos.com/digital

N1RCT Web Site: http:// www.megalink.net/~n1rct

SM3CER Contest Service: http://www.sk3bg.se/contest

ARRL: http://www.arrl.org

BARTG: http://www.bartg.demon.co.uk

OR - The New RTTY Journal will airmail a printed copy to you. *For each contest,* send $3.00 for U.S., Canada, or Mexico destinations or $4.00 to other countries. Please allow 3 weeks for processing and delivery.

Hits & Misses

Bill Henry, **K9GWT**
k9gwt@rttyjournal.com

Happy New Year! Happy New *Century!* Funny, it still feels the same as last year. Wasn't the "Great Y2K Software Disaster" exciting? Yawn! If you are one of the COBOL programmers who did all those last-minute fixes — you did good! Never did get to use my generator, but the "anti-freeze" was good. At least I won't have to fill out any more "Y2K Forms" for a while.

Printing problems: Last month, we had one of those "snafu's" in how The New RTTY Journal is printed. And, it's one we didn't find out about until after all issues were in the mail. Starting with our first issue (Feb '98, V46, N1), The New RTTY Journal has been "all digital". All text and images are in digital form and the issue goes to the printer on a CD ROM. Joe and I are very proud of this. Supposedly, we have full control over exactly what gets published and — WYSIWYG (What You See Is What You Get — "wizzy-whig"). Ha! Not so fast, Masked Ranger! It turns out that here in the cornfields of Illinois, our printer still works from films and plates. He has a processing house play our CD and "cut" his plates. It turns out that there's a "contrast knob" at the processing house (it's a "software option", but same idea). You guessed it — they "cranked 'er up" on us. I don't think we've ever had blacker blacks — or grayer whites! AND, compounding the injury, the ink at the printer was also heavy on a "few print cycles" — about 100, it turns out. The end result is that about 100 subscribers had VERY dark photos on Pages 5, 6, 7, 11 and 12. Since all of the front pages looked the same, we didn't catch the flaw and we "mailed 'em all". As luck would have it, Dale Sinner got one of the "high contrast special editions". He immediately called us and Joe and I looked at these pages. They looked all right to us! We wondered what Dale was complaining about. Joe checked quite a few more issues (50-60) and finally found an issue with the same problem. We quickly got the printer in here and, with much apologizing, he agreed to make another short run for us. We now have additional copies of the November, 1999 issue that are printed correctly. If you received one of Dale's "high contrast specials", please contact Joe or me and we'll send you a new copy. Oh yes, the printer changed his processing house for the new run and has assured me that he will not be using the "other guy" anymore. The new processing house has been told NOT to go playing with anything — print it as received!

Dayton: Here comes the Dayton Hamvention again and this time it's an ARRL National Convention as well. Of course, the RTTY gang will be there in force. As before, we will stay at the Holiday Inn at the Dayton Mall and of course we'll have dinners and hospitality suites Friday and Saturday nights. Be sure to read Dale Sinner's article on page 7 and fill in the forms enclosed in this issue. Also, this year we will again have the RTTY Forum at Hara Arena. Our own ARRL Director, Frank Fallon, N2FF, will be the panel leader of a discussion about RTTY DX and Contesting. It's on Saturday afternoon in "prime time." We hope to see you all there.

New License Rules: As of April 15th the rules for amateur radio in the US will change forever (funny, that date sure sounds familiar). As of 4/15/00, CW requirements for ALL license classes will be 5 WPM. Wow, that's a change and who knows how it will affect us RTTY types. See page fourteen for Frank Fallon's comments about the new rules.

73 de Bill, K9GWT

Silent Key

Dave Lemm, N2DL

It is with deep regret that we report the passing of one of our RTTY friends.

Dave was a member of the Crystal Radio Club for over thirty years, The North Jersey DX Association, and a Docant at the Trail Side Museum - Bear Mountain New York.

Dave was an avid DXer and RTTY Op.

FSK vs AFSK

Which is Best?

Bill Henry, K9GWT
k9gwt@rttyjournal.com

This is a continuation of my article ("170 Shift, ... and ALL That Stuff) in the November, 1999 issue of The New RTTY Journal. Kok Chen was to write the second half about AFSK but he's very busy right now. We've had many questions on this topic so I'll try to keep the thread going. Like use of 170 shift, the way we transmit HF RTTY and the FSK vs AFSK debate go back a ways.

Direct FSK: When we first started using HF RTTY in 1953, most of our transmitters resembled the block diagram shown in Figure 1. This was in fact my first RTTY transmitter (I still have it – I'm a pack-rat – ask my wife!). The circuit is wonderfully simple. It is called a "MOPA" circuit (Master Oscillator and Power Amplifier). To create FSK (Frequency Shift Keyed) modulation, we changed the frequency of the transmitter by switching extra capacitance in and out of the VFO tank circuit. When the relay contacts are closed, the TX frequency is decreased. The frequency change between contacts open and closed is the FSK "shift". You can change the amount of the shift by adjusting Cx. This arrangement leads to several operating standards. First, the "Mark" or Teletype machine "rest" frequency is the same as if the extra RTTY capacitor had not been added. For this reason, most of us hams specify our operating RTTY frequency as the Mark carrier frequency – it's easy to measure. Secondly, the frequency of the "Space" state is determined by the amount of added capacitance and the Space frequency is ALWAYS lower than the Mark frequency. Dusty at the *RTTY Journal* adopted the acronym "LSFT" – "Low Space Means Fine Teletype". LSMFT is still the standard for HF amateur RTTY.

Relays get noisy and we quickly changed our circuits to do Mark/Space switching with a diode. We also learned that we could vary the capacitance of the diode by varying the reverse bias voltage to the diode. This led to a front panel "Shift-Pot" that let us set our shift *just* right. We had many handy ways to set shift and they all resulted in "almost-right" values of shift!

Note that the transmitter in Figure 1 has an 80M VFO and then an intermediate stage to multiply the VFO frequency to the desired band. To operate on 40M, we doubled the VFO output frequency, quadrupled it for 20M, X6 for 15M and X8 for 10M. All transmitter stages were operated in Class C and the whole chain was simple to build, adjust, and use. However, when the VFO frequency is multiplied, the amount of the FSK shift is also multiplied. The transmitted shift on 20M is four times the actual modulation at the VFO. Since our standard was 850 Hz shift,

regardless of band, we had to reset our RTTY shift every time we changed bands. Adjusting shift for the higher bands was a very touchy thing on the higher bands. Further, any frequency drift by the VFO was also multiplied by the same amount. These days, 850 Hz shift seems pretty crude. But, with the equipment we had in the 50's, we considered ourselves darned lucky to get within 100 or even 200 Hz of transmitting 850 Hz shift. On 10M RTTY, the guy receiving also had to have a "hot-hand on the big knob" just to follow my transmitter as it swished up and down the band!

Indirect FSK: In the late 1950's, SSB equipment ushered in a new era for all of us. Suddenly, our receivers and transmitters were a LOT more frequency stable, and you could even trust the dial calibration to a kHz or better! The typical SSB transmitter circuit of Figure 2 does not use Class C amplifiers or frequency multipliers. Rather, the SSB signal is created at a constant "intermediate frequency" (IF) and this signal is then mixed with oscillators to obtain RF output on the desired HF band. Band changing is as simple as changing the heterodyne oscillator frequency.

Note that the VFO is not frequency multiplied. Any drift or other variation in the VFO frequency will show up in the same amount at the transmitter output. Multiplying of drift – or RTTY shift – is gone. SSB rigs also came with considerably better VFO's than we had been able to obtain before. The amount of drift was down by a factor of 10, 100, or even more. Some RTTY guys did add varactor diodes, but most us were very reluctant to mess with our new super-stable and expensive VFO's. Rather, we noted that the whole SSB idea is really a way of heterodyning an audio signal to the desired HF band. If we put audio tones into the transmitter audio input (rather than a microphone), the output of the SSB transmitter will be RF carriers at frequencies determined by the heterodyne processes in the transmitter.

Recall from last month's discussion that our demodulator standards evolved from VHF operation. Originally, the tones were 2125 Hz for Mark and 2975 Hz for Space. When 170 Hz shift came along, we changed Space to 2295 Hz for 170 Hz shift, but the polarity remains with Mark as the *lower* frequency in the demodulator. This is upside down from our FSK HF standard (LSMFT). A polarity reversal is necessary somewhere in the RTTY system to use the same demodulator on VHF and HF.

Consider the example of Figure 2. When the AFSK oscillator is set to 2125 Hz (Mark), it first mixes with the 9,102,125 Hz crystal oscillator. The IF filter passes the difference frequency, producing an IF signal at 9,100,000 Hz. This signal is then mixed with the 5,000,000 VFO and the sum frequency
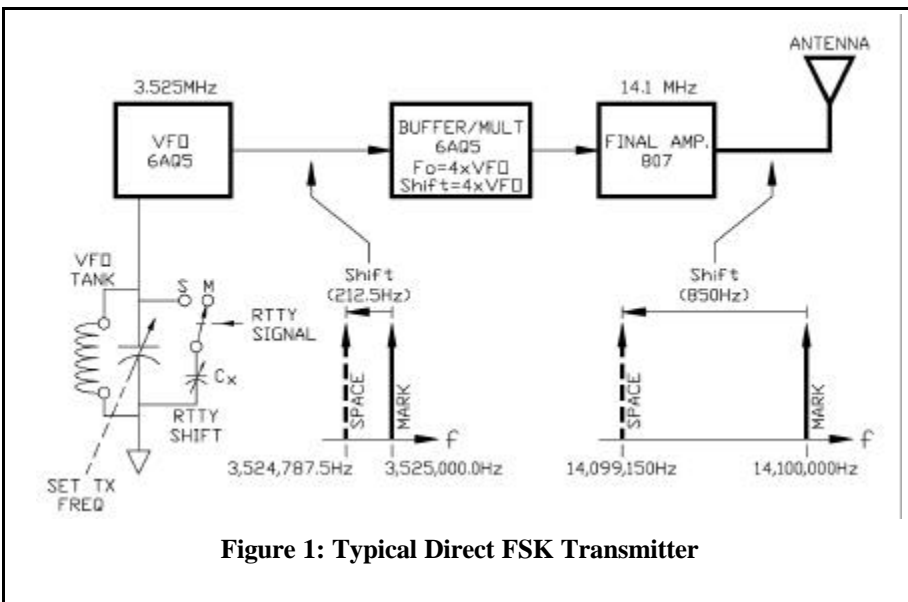

Figure 1: Typical Direct FSK Transmitter

gives a transmitter output at 14,100,000 Hz. Doing the same thing with the AFSK output at 2295 Hz (Space) produces a transmitter output at 14,099,830 Hz – exactly 170 Hz lower in frequency than the 20M Mark signal. Note that while we used a normal VHF AFSK oscillator to create 2125/2295 Mark/Space audio tones, the 20M output obeys "LSMFT" because we used the "LSB" mode of the transmitter. This is why the "standard" for HF amateur RTTY is to use LSB mode of the transmitter and receiver.

NOTE: This is a "standard" *only* for amateur radio. Commercial FSK modes (such as ship-to-shore SITOR) use USB and therefore have the reverse polarity of amateur FSK emissions.

Consider what happens if you change the shift of the AFSK oscillator – say send 2125 and 2975 instead of 2125/2295. Or, how about using different tone frequencies – like 1615/1785Hz? In all cases, the SSB transmitter acts as a true translation device and whatever you put into the mic. jack just gets translated to your chosen HF band. Also, virtually any audio signal you put into the SSB transmitter will be translated to the HF center frequency. This means that completely different data signals – such as RTTY, AMTOR, CLOVER, G-TOR, or whatever – can be used with the same LSB transmitter! This is a very BIG plus for indirect modulation. In fact, virtually ALL commercial and government HF data systems use indirect modulation of an SSB transmitter rather than direct modulation within the transmitter.

Here comes some "nomenclature". Popular usage is to call this way of generating an HF RTTY signal "AFSK". This is in fact NOT true. AFSK is what we generate on VHF – it's audio modulation on an existing carrier. We could have AFSK on HF if we put tones into an AM or FM transmitter. That is *not* what we do, however. Using a tone generator with a SSB transmitter results in generation of distinct and separate RF carriers, one at the Mark frequency and one at the Space frequency. Looking at the signal radiated from the antenna (and ignoring possible defects for now), there is *no difference* in the spectra created by directly frequency shifting a transmitter oscillator and the spectra created by tones passed through a SSB transmitter. For this reason, I call the SSB transmitter system "Indirect FSK".

The international CCIR and WARC definitions muddy the waters even more. Prior to 1979, we had "F1" as the designator for FSK modulation, "A2" for amplitude modulation using audio tones, and "F2" for frequency modulation using audio tones. It didn't matter how you got there in the transmitter, FSK was always an "F1" emission. All that went out the window in 1979 and now we have "emission designators" that are different, depending upon how you generate the signal.
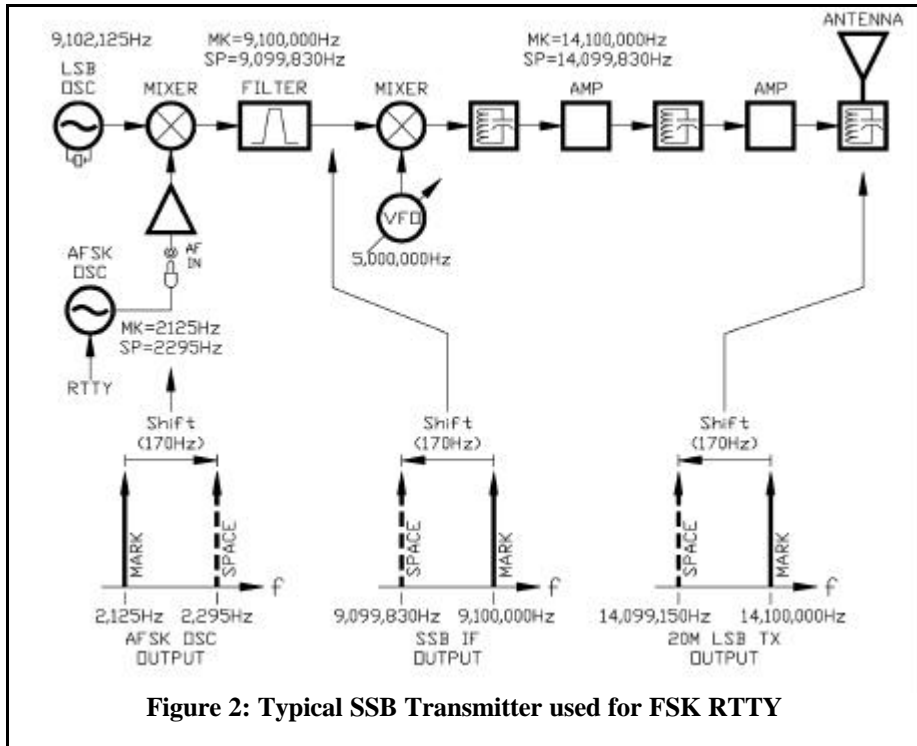

Figure 2: Typical SSB Transmitter used for FSK RTTY

For example, a 45 baud, 170 Hz FSK RTTY signal created by direct frequency shifting of a transmitter oscillator is called "249H F1 BBN". The very same 45 baud, 170 Hz RTTY signal generated via LSB transmitter is now called "249H J2 BBN". If both signals are generated "cleanly" (no spurious signals), looking at a spectrum analyzer, you will not be able to tell the difference between them. Isn't science wonderful?

Ok, there's the technical description of the two "FSK modes". Which is best? The answer depends upon many factors - how well your circuit is designed, the quality of parts used, how the transmitter is adjusted, and seemingly, the day of the week and phase of the moon! Let's look at how you can go wrong, particularly when using "indirect FSK" (a.k.a AFSK).

Figure 3 shows the ideal frequency spectra that will be found at the key stages of an SSB transmitter. The AFSK oscillator puts out either a tone at 2125 Hz during Mark pulse-state or a 2295 Hz tone during Space conditions. For now, assume that there is no noise, hum, or any other distortion on either tone. Likewise, the SSB balanced mixer outputs only the sum and difference frequencies of the 9,102,125 Hz oscillator and the AFSK oscillator. The 9 MHz oscillator output itself is cancelled due to perfect balancing of the mixer and harmonics of either input are not a factor. Finally, in our "perfect" SSB transmitter, the unwanted sideband (the one at 14,104,250/14,104,420) is completely suppressed as is the "carrier" at 14,102,125 Hz. IF all of these "perfect conditions" can be achieved, there will be absolutely no differ-

ence between this RTTY signal and one created by shifting a transmitter oscillator.

Unfortunately, this is not a perfect world. The AFSK oscillator may well have hum and noise – and maybe some really bad noise created by detected RF interference from the transmitter! A good SSB transmitter is truly a frequency translation device. *Anything* that comes in the audio input *will* appear at the output. Tune the 20M RTTY band during any contest. You will always find at least one RTTY signal with hum or strange sounds during keying. Chances are, the AFSK input to the SSB transmitter is not very clean. Second, consider the transmitter itself. When it is brand new and just out of the test department with a "super-demon tweak" of all of its screw-driver adjustments, your transmitter *might* have as much as 50 dB of carrier rejection – and *maybe* 50 or even 55 dB of unwanted sideband rejection. This is as good as it gets – and it all goes downhill as the rig gets older. Don't forget, these rigs were all designed for SSB voice operation, *not* for data. SSB with a "little carrier" or a "little opposite sideband" is legal and attracts little attention. BUT, we RTTY types are allowed only one RTTY signal on the band at a time – not the one we want plus an upside-down version 4 kHz up and/or a nice carrier in between. For RTTY, these signals are called "spurious signals" – *not* legal! Well, I guess they are only "spurious" or "not legal" if they get out – if someone else can hear them. Let's see – 50 dB is about 8 S-Units (6 dB per s-unit). If someone hears your intended signal at S9, the unwanted sideband and carrier spurs will be at S1 or less. If the band is busy, that will probably not be noticed. But, if

propagation is really good, and your primary signal is S9 plus 40dB, those spurs are now over S9 themselves – and they WILL be heard. Also, keep in mind that your linear "don't care" – it *will* amplify the spurs as well as intended RTTY signal.

Finally, consider the following scenario. You're in the last 15 minutes of a hot contest and you hear this weak signal calling CQ – and it's a country and zone you haven't worked yet. Better yet, it's a country you have *never* worked. This will certainly cause a "feeding frenzy" in most of us, and we instinctively go into "new country mode". An SSB operator will yell louder into his microphone. We RTTY types have to be content to "tweak" our signals. You guessed it – we reach over, grab the Microphone Gain knob, and crank it right on over to full CW – *New Country Mode!* I wish I really knew if this has ever helped! Even if it doesn't, there is a lot of satisfaction in seeing those linear tubes turn bright red and the house lights dim. When he does come back, we are forever convinced that it was that last little crunch on the mic. gain that did the trick.

Sorry Charlie! If you worked him, it was in spite of your signal rather than because of it. Figure 4 shows a simplified version of what really happens when you go to "new country mode". All the nice linear and filtered characteristics of your SSB transmitter go amuck. Instead of one clean RTTY signal, you now have 2, 3, 5, 9, 11 – I counted 15 one day on 20M! And, since the linear puts out only so many *average* Watts, the transmitted strength of your desired signal goes down – by a whole lot in some cases. Oh yeah, even if you do work the rare guy, I can guarantee that you have not won any friends on the band today.

So, it sounds like "AFSK" (oops – "Indirect FSK") is a bad thing – and maybe should be banned? At one time, I "waved this flag." Many of us campaigned long and hard to get transceiver designers to include direct FSK for RTTY. Well, we won – sort of. Recall that SSB equipment is designed by and for voice SSB users. The "FSK" feature on most modern HF SSB rigs is about as confused as confused gets. There is no polarity standard – plus voltage does Mark on some radios and Space on others. The frequency dial reads the Mark frequency on some radios and Space on others. AND, what's billed as "FSK" is often not direct FSK at all! This is a VERY difficult aspect to analyze as the "TX FSK" wire these days disappears into a VERY complex frequency synthesizer module. Even if you have schematic diagrams, this often turns out to be a mysterious box labeled "synthesizer". Sometimes, that wire connects to an internal direct frequency shifting circuit – switched capacitor, in fact. But many times, that "FSK wire" goes to an *audio* oscillator circuit in the synthesizer. In fact this circuit generates one signal at 2125 Hz for Mark and another at
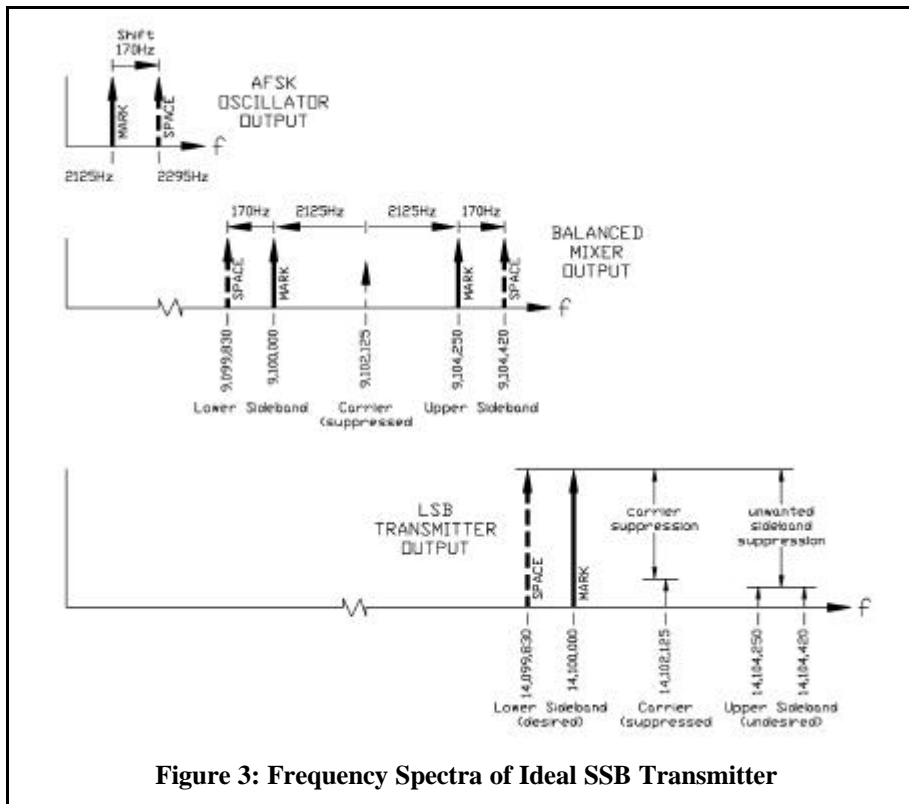

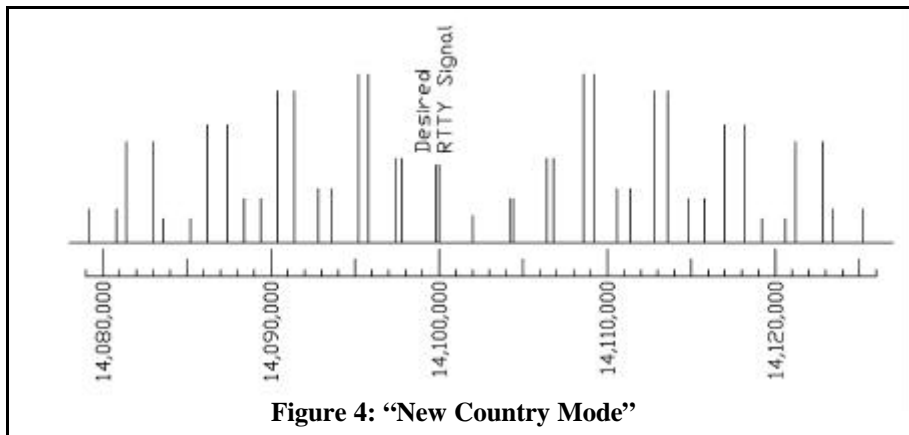**Figure 3: Frequency Spectra of Ideal SSB Transmitter**

Figure 4: "New Country Mode"

2295 Hz for Space. Through a maze of electronic switches you may find that this oscillator output winds up at the balanced modulator when you select "FSK" at the front panel. Sound familiar? You betcha! It's our old friend "indirect FSK" via audio tones. But, you *think* you're really cool because your radio has an FSK input!

Many rigs that include an "FSK" mode also restrict use of this mode to just one receiver filter – almost always the narrowest filter available. This is billed as a "convenience" but frankly, it seems to me that if we RTTY ops are smart enough to get a RTTY signal on the air maybe we can also figure out how to set a filter switch. I have found that there are MANY times when I'd much rather use a wider filter and only switch-in that narrow job when it's really needed – but – now we're on to another story –hi!

Conclusions: FSK RTTY can be generated directly by shifting the frequency of a transmitter oscillator or indirectly by uzsing the output of an AFSK oscillator to drive a LSB transmitter. The direct FSK approach has a lower potential to create spurious signals. But what's needed is common sense. Used correctly, there is no discernable difference between a RTTY signal created by direct FSK vs a RTTY signal created by a SSB transmitter. Indirect modulation of the SSB transmitter is very flexible and may be used with many very different forms of data modulation.

— 73 de Bill K9GWT

Coming Next Issue: What *Is* My RTTY Frequency?

Dayton 2000 Update
May 19-21, 2000

Dale Sinner, W6IWO
dsinner@tfb.com

This is the last time I'll be writing about the Dayton 2000, so I will include all the latest information. The next issue of the NRJ will be after Dayton. So here goes!

You need a room? No problem, we still have rooms. However, by the time you read this we may not have that many left. So don't be left out, reserve your room(s) today. The rooms this year have gone up to $109.00 per night plus all the appropriate taxes. This is not bad because all the other hotels in the area are charging the same or more. You may ask, why we don't try to find a motel for less money? The reason we don't is simple. We can't do all the things we need to do in a motel. We have two dinners and a two night hospitality suite. This precludes us using motels. Besides, we only go here once a year, so why not go first class? The Holiday Inn Dayton Mall is a first class hotel with all the services we will ever want.

Transportation to and from the Hara arena has always been a problem for us. It is a fact of life anymore. The Dayton Convention Bureau are the people who have been supplying buses in the past and are just not providing the services they used to. In fact, it is my understanding that Dayton has many conventions throughout the year and they do not supply buses for any of them. It appears we were spoiled in the past when they came right to our doorstep to pick us up. But, no more, so we have had to make other arrangements. This year we have negotiated a twelve passenger van from the hotel. We will have to pay for each trip we make to and from the arena but, a cost of $2.00 each way is certainly reasonable. Each of us who will need this transportation must sign up at the hotel when we register. The hotel will provide a sign-up sheet somewhere in the lobby area for this purpose. Look for it and decide when you want to go and when you want to return. It won't be easy to follow this plan but we hope that it will make everyone happy. Please keep in mind that the hotel is subsidizing a lot of this cost.

What about those two dinners planned? The Friday night dinner is being handled by Ron Stailey, K5DJ, and you will find information about this gala affair elsewhere in this issue. He tells me his speaker for the evening will be none other than the famous Free Drink Eddie (Eddie Schneider, W6/G0AZT). Eddie will give a presentation on his expedition to TY1RY. For those of you who were not with us last year but may remember Eddie had made some rash statements that didn't come true. He said he would buy everyone a free drink at the hospitality suite but he didn't show up. So this year, I'm sure a lot of folks are going to collect their drink. Hi! Ron has 1998 WPX awards to give out and I think there will be a door prize or two. Don't miss out on this evening, sign up with Ron right away. Remember he has to tell the hotel how many people there will be for his dinner.

The second dinner will be the annual RTTY Journal dinner. Details are also in this issue. Joe Wittmer, KB9SIZ, is handling this affair. Our guest speaker this year is Nick Smith, W4GKM, who will give a presentation on his expedition to Prince Edward Island for the CQ/RJ WW RTTY contest last year. Awards for this contest will be presented at this dinner. I guess we also can figure on a door prize or two.

Well, as I have said before, you have to eat someplace, so why not at these dinners. You get to sit with all your friends, eat good food, swap stories (or lies), and enjoy a fine program. Right after both dinners we will again have the hospitality suite open until whenever.

So what else is going on? With transportation out of way, your room secure, dinners arranged, hospitality suite under control, that just leaves the Hamvention itself. Now it's time to have fun with all these other concerns out of the way. At the Hamvention we will have a forum this year which will be hosted by Frank Fallon, N2FF. Frank is Director of the Hudson division and he will be moderating a panel of experts in contesting. There has been lots of discussion on the interent about some of these contests and here is your chance to speak up on your ideas and criticisms. It should be a lively forum. Saturday from 2:45 to 4:00 in Room 2.

Well, there you have it all. We have packed as much as we can into one weekend to make your visit a great experience. For those bringing their wives, there is the Dayton Mall one block away. "Shop till you drop", may be their theme (ouch!). Our hotel has an indoor pool and nice coffee shop. Even Avis has a rental office in the hotel. However, if you want a car rental it would be best you make arrangements before going to Dayton. Call Sherry at (937) 434-4404 and reserve a car. Whether you are renting a car or driving to Dayton it would be nice if you could maybe take a rider or two to the arena. This would help us with the transportation problem. Think about it.

If you're not excited yet about this Hamvention, what can I say, except if you don't go you'll miss out on a fantastic time. It will be more fun than your most exciting contest, or buying a new car, or better than the icing on a your favorate cake. My friends, I'm looking forward to seeing you this year at Dayton 2000.

73 Dale Sinner, W6IWO

RTTY Gathering - Dayton 2000

Activities

Thursday, May 18

1700:	Traditional RTTY Gathering
	Rockies Lounge Area
	Holiday Inn Dayton Mall

Friday, May 19

0800-1800:	Flee Market at Hara Arena
0830-1800:	Commercial Exhibits at Hara Arena
1900-2200:	RTTY DX/Contestors Dinner
2200-2300:	RTTY Journal Hospitality Suite

Saturday, May 20

0700-1700:	Flee Market at Hara Arena
0800-1700:	Commercial Exhibits at Hara Arena
1445-1600:	RTTY Forum - Room 2
1800-2100:	RTTY Journal Banquet Dinner
2100-2300:	RTTY Journal Hospitality Suite

Sunday, May 21

0700-1300:	Flee Market at Hara Arena
0800-1300:	Commercial Exhibits at Hara Arena

Information

General:	www.hamvention.org
	Tickets and parking
	Forums and Speakers
	Activities and Times
	Discount Air Fares
RTTY Group:	www.rttyjournal.com
	Room Reservations
	DX/Contestors Dinner
	RTTY Journal Banquet
	Hospitality Suite
	RTTY Forum
Car Rental:	AVIS
	Holiday Inn Dayton Mall
	(937) 435-4404

DX/Contestor's Dinner

Time:	Friday - May 19
Location:	Holiday Inn Dayton Mall
	(refer to map inside this issue)
Times:	No-host bar at 6:30 P.M.
	Dinner starting at 7:30
Menu:	Chicken Cordon Bleu, Almond Pilaf & Vegetable DuJour, Warm Bread, Salad, Beverage, Dessert
Presentation:	Eddie Schneider,W6/G0AZT DXpedition to TY1RY

Reservations: -- Advance Payment -- $26 each

Contact:	Ron Stailey, K5DJ
	504 Dove Haven Drive
	Round Rock, TX 78664
	k5dj@contesting.com
	(512) 255-5000

Reservation form inside this issue

RTTY Journal Dinner

Time:	Saturday - May 20
Location:	Holiday Inn Dayton Mall
	(refer to map inside this issue)
Times:	No-host bar at 6:00 P.M.
	Dinner starting at 7:00
Menu:	Buffet - Beef Tips w/ noodles, Sun Fish, Fried Chicken, Salad Bar, Potatoes, Rolls, Desert, Beverage
Presentation:	Nick Smith, W4GKM Contesting at PEI (CQ/RJ WW)

Reservations: -- Advance Payment -- $26 each

Contact:	Joe Wittmer, KB9SIZ
	P.O. Box 236
	Champaign, IL 61824
	jwittmer@rttyjournal.com
	(217) 367-7373 (days)

Reservation form inside this issue

Traveling to Dayton 2000
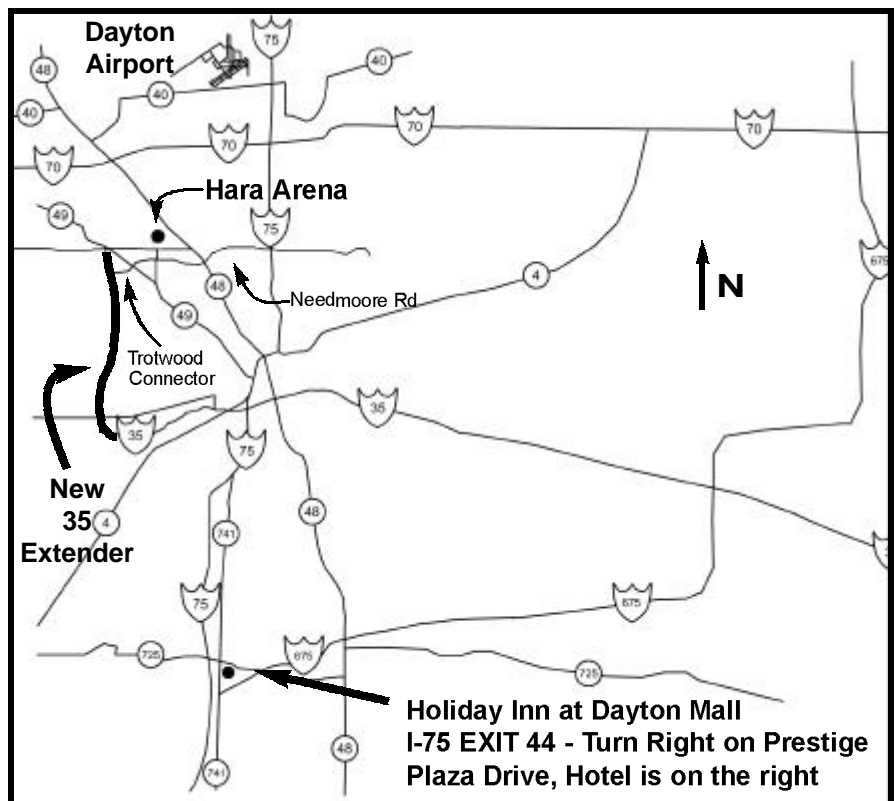
Holiday Inn to Hara Arena (Dayton Hamvention):

1. Exit Holiday Inn to east.
2. At SR741 (Springboro Pike – first stop light), turn left (north); stay in left lane.
3. At Pike (next stop light), turn left (west); stay in right lane.
4. Enter I70 northbound (exit #44)
5. Drive I75 north into Dayton.

A. via Salem Pike (Ohio #49)
  6a. At exit #53A, exit to west/north Ohio 49 (Salem Pike).
  7a. Proceed northwest up Salem Pike (approx. 4 miles)
  8a. Turn right (north) on Wolf Road.
  9a. Drive Wolf Road north to Hara Arena (approx. 1 mile).
B. via North Main Street:
  6b. At exit #54A, exit to west/north Ohio 48 (N. Main St.)
  7b. Proceed northwest on N. Main St. approximately 3.5 miles to Turner Road.
  8b. Turn left (west) on Turner and proceed to Wolf Road (approx. 1.5 miles)
  9b. Turn right (north) on Wolf Road and proceed to Hara Arena (approx. 1/3 mile)
C. via Needmore Road:
  6c. Drive north through Dayton to Needmore Rd. (exit #58).
  7c. Turn left (west) on Needmore.
  8c. Needmore changes name to Shoupmill Rd. and then to Turner Rd.
  9c. Continue west approximately 3.5 m. to Wolf Rd.
 10c. Turn right (north) on Wolf Road and proceed to Hara Arena (approx.1/3 mile)
D. via 35 Extender
  6d. Proceed to route 35 West Bound
  7d. Follow to 35 Extender
  8d. Turn Right (east) on Trotwood Connector
  9d. Turn left (north) on Wolf Road to Hara Arena

Dayton International Airport to the Holiday Inn:

1. Take the Airport Expressway south to I70 (exit #32)
2. Drive I70 east (towards Columbus) to I75 (exit #33)
3. Drive south on I75 through Dayton.
4. Exit I75 at exit #44 (Miamisburg Pike)
5. Turn left (east) on Miamisburg Pike and pass under I75
6. Turn right (south) on Prestige Plaza to Holiday Inn (1/8 mile south).

Holiday Inn to James M. Cox Dayton Int. Airport:

1. Exit Holiday Inn to east.
2. At SR741 (Springboro Pike – first stop light), turn left (north); stay in left lane.
3. At Miamisburg Pike (next stop light), turn left (west); stay in right lane.
4. Enter I70 northbound (exit #44)
5. Drive I75 north through Dayton.
6. Exit I75 to I70 west (exit #61).
7. Drive I70 west to the Airport Expressway at exit #32)
8. Drive north to airport.

Holiday Inn at Dayton Mall

31 Prestige Plaza Drive
Miamisburg, OH 45242
Phone: (937) 434-8030

SR 725
I75
SR 741
Dayton Mall
Holiday INN-
N

Dayton Airport
Hara Arena
Needmoore Rd
Trotwood Connector
New 35 Extender
N
Holiday Inn at Dayton Mall
I-75 EXIT 44 - Turn Right on Prestige Plaza Drive, Hotel is on the right

Contesting in General

"Think Before You Ask"

Ron Stailey, K5DJ

k5dj@contesting.com

Hello Contesters/DXers:

This column will be some what different from my usual column. I think the best title I could give this column would be THINK before you ask.

What did you think of Roundup this year!

Did you think it was a little slow at times! How about a lot of the time! Did you get all the mults you were wanting or expecting to get? Well, neither did I.

This was the first year I can remember where posted scores decreased but sunspots increased. This could become a problem if it continues. What can be done? I doubt I know the perfect answer. One answer could be: Think before you ask for something. You could get more than you bargained for!

Maybe the new FCC license proposals will help. I know that many of you feel the new license structure is a big mistake. One guy said he thought some FCC officer must have failed the code test ten times, the best he could do was 5 wpm so he changed it to 5wpm for everyone. I guess that's one way of looking at it, but I doubt that is the reason.

One fact is, less than 1% of the total ham population became amateurs last year. We have to do something if we want to keep amateur radio alive and that's a fact. Maybe the FCC isn't ready to say goodbye to amateur radio just yet. Now it's our turn to get as many computer operators participating in RTTY, PSK31 and all the other digital modes as possible.

There are a lot of computer users out there that will never take time to learn the code. As far as they are concerned it is a waste of time. Most of them would/will make good contest operators if we can get them in the right frame of mind to join us. I think it's worth trying or we will all be talking on Yahoo before long. Believe it or not I have already received QSL cards for contacts made on the Internet. I find this somewhat disturbing, especially since each and every QSL card came from a licensed amateur that has sold all of his radios, etc. and is now using Internet to replace Amateur radio 100%…

How about new contest categories in ARRL Roundup Contest:

The last couple of years the subject of a new category has come up after the Roundup contest. I also feel we need a new category. In fact, I feel we need a couple of new categories. A new Multi/Two and Multi/Multi category would be nice. It would generate more activity. Also making the Multi/Single category a full blown multi/single would make things a lot nicer as well.

Roundup was really designed as a single operator contest. Now that there is so much activity in multi operations, it only makes sense to feed these categories and let them grow. I'm sure it would help activity if these categories were added.

We also have many op's that want a new category for only one radio in single operator category. Let us take a look at this up close. Asking for a new category is easy, just ask and see what happens. If enough leaves fall it gets a lot of attention. Well it has gotten a lot of attention or comments on all contesting reflectors to say the least. What kind of attention is the question! Most of what I have read is that people want a new one-radio category for single operators. This has been discussed time and time again on the CQ-Contest reflector as well as the RTTY reflector. I think it has finally gone bye-bye from all except the RTTY reflector. I guess this means we aren't convinced as yet!

When adding a new single operator category, the main question is, why have a new category? What is wrong with what we have? I see nothing wrong with it the way it is, and I'm sure the ARRL will say the same. The definition of one radio IS: "Having only ONE radio on the AIR at a time." I would like to point out when someone posts, I ran two or three radios he only had ONE radio on the air at a time. No matter how you look at it, it's still ONE radio, just like the rules say. Irregardless if you personally feel it's fair or not, one radio on the air at a time is still ONE radio on the air.

If you agree the above statement is correct; that one radio on the air at a time is participating in the single operator category and all rules are being abided by, we can move on to other discussions like all the other reflectors have.

If you don't agree: (This could be a long chat!)

Since most contests sponsors recognize one radio on the air at a time as being in a single operator category, someone will have to show how this is wrong. I'm not talking about comments like "I don't have two radios." If that is your comment, then mine is: "Then get another radio." You're not going to STOP progress because you don't feel it's fair for some to have something you don't have, as yet. In any competitive sport some one will find a way to get an edge if possible. Two radios with only one on the air at a time is an edge. They are not doing it because it's more fun. It's work to keep up with all that's going on at the same time for a period of 48, 36, 30 or 24 hours. Example: Racecar sponsors do the same thing, one sponsor will spend millions of dollars to get an edge. Whether it's spent on tires, engines, body design or whatever. It is considered fair, and it's only a sport, just like radio contesting.

Just for fun, lets say the ARRL got tired of all the whining and said, ok we will have a one radio only category. The rules are: You can use only ONE radio during the whole contest. Naturally, if a radio dies in the middle of a contest you can replace it with another single radio. Sound fair? Great.

If that sounds fair then I have a question! What does only one radio mean! Can I look for mults with another radio if I don't use it for contacts? If it doesn't say you can't in the rules than you can do that, right!

No, that doesn't sound fair. They are still using two radios. Change the rules to say ONLY one radio can be used for both TX and RX. No, that's not fair either. What about the guys with radios that have two or more VFO's in one Radio. Do they have to buy another radio so they can compete in the new category! No, they shouldn't have to get a different radio to participate in the new category. (If you did make a rule that says only one receiver how would you ever enforce it? When you come across a new mult just let three or four ops work him first then you get him.) Most contests try not to make rules you can't enforce. It's also a good idea not to…

Ok, what about saying one transmit radio can be in line at a time. How's that. Yes, that's fair. Well is it? Joe Blow, is still looking for an edge. How many old receivers do you have laying around the house. Joe has FOUR and borrowed another one. Now he can listen to all bands and transmit on only one radio. But he still has to tune all the receivers to do it. This could waste valuable time in a serious contest. (Now we enter the battle of the software developers to solve this problem.)

Battle of the Software developers:

I'm not going to go into this nearly as deep as I could but maybe you will see what I'm getting at when it's said someone will look for an edge. They will find one. They always do or have so far, haven't they?

Just what can the S/W developers do? I can see W5XD, DL4RCK, WF1B, OH2GI and K8CC smiling right now. (BTW: I'm only naming S/W developers that support RTTY mode.) This is a RTTY or Digital magazine.

I assure you they can do a whole bunch to make it easier, and make the so called new category a laughing matter. Most likely the only thing that would change is whoever finishes second this year will finish first next year in the new one radio category, and he will use the same equipment he used this year, and not break a single rule.

How you ask? Ok, here goes… since it would be very unlikely rules would be made where you can't use all the receivers you want in a contest, lets say Joe Blow wants to receive on all bands or as many as he sees fit. Joe wants to win real bad. Not only does he buy receivers, he get receivers with radio control. On the other hand, lets say Wayne K7WM doesn't feel he can afford spending the money to get receivers to do all this. However, he does have a couple of extra transceivers, so he disconnects the transmitter making them receivers. Now he has radio control on all of his receivers. On top of that, in case he needs it, he could get Fr. Ron KA6QGR, to come over and witness the radios transmit capability was disabled during the contest.

What does this mean to you? It should mean a lot. Scanning frequencies isn't anything new. RITTY first announced it for sale on the commercial market some two or three years ago. Any good S/W developer can now make all receivers send spots to your band map and all you have to do is click on the call in the band map, and zap, you're on his frequency. Work him and press F-12 (or whatever F-key your S/W has that puts you back on your CQ frq to start CQing again.)

Now what does this do? It eliminates the need of a packet cluster. Now you will have an aid to assist you in contests, such as Roundup, that doesn't allow packet cluster help because you're scanning now not using a packet cluster in any way. If you're a Windows S/W user you now have another comport since Packet isn't needed any longer. I didn't mention what the hardware developers will do. I'm sure they have ideas that could help things along also.

While I'm thinking about it lets look at something else, all DOS based RTTY supported S/W (Mentioned above) writers support

RITTY. WriteLog used WinRTTY. Since DL4RCK has windows drivers this means RCKRtty could incorporate WinRTTY to work with his S/W if he so desires. This means all known Digital S/W writers could have 100% automated S/W in a very short time.

I would say three months of programming time to get S/W on the air so it would do everything needed in a contest, even setup so it would know when to take off times when the rate drops below a certain number, scan all five bands looking for mults until Sunday afternoon and then start looking for new call signs not in the log or on that band as yet, using only one radio to transmit or using all five, and without a packet cluster at all. Another three months of participating in contests to get everything worked out or fine tuned so it could possibly win the contest.

Is this what you want? In years past Jay WS7I and I have put together a crew to try and beat Tyler K3MM at W3LPL in M/M category. We had a lot of fun trying to do it. Somehow the thought of going to a DX location to try to beat the new HC8 station doesn't seem as much fun if we are going automated like it looks like. What would be more interesting is sending five laptops, and five amps to a station already existing and try to beat them from home running the DX station via internet!

Technology is already here to do all this. It hasn't been done as yet mainly because who would want to be blamed for destroying contesting in the digital modes! Some of the things you can do with modern technology doesn't excite me very much.

Now do you really think a new single operator one radio category would make it more interesting or competitive! If you do your seeing something I'm not seeing.

The answer is, get a second radio and practice using dual radios. It's not that hard to do, I assure you. I wasn't very fast when I started running two radios. Practice makes it easier and your scores will go up, you can count on it. You don't need a fancy radio with radio control to have two radios. You can get older TS-520, TS-820, TS-830 for very low prices until you learn how to use them to your benefit. It will payoff for you in the long run.

To ops already using dual radios, I would suggest not posting scores with comments saying, "I used two or three radios" in this or that contest. It's hard not to mention it because it has improved our scores. However, many think they don't have a chance to compete against you because you're running more than one radio. Obviously, they don't think about the fact you're only using one radio at a time, and doing exactly the same thing they are doing. If you don't run two radios, I guess

it's hard to imagine how you're doing it. In my opinion, in the near future, contesting as we know it today will cease to exist. It will be a new game all together.

Still worried about two radio users? Well, get with the program and start practicing. It only gets faster from here on. No one will wait on you to catch up.

Sorry if this ruffled anyone's feathers.

— 73, de Ron K5DJ

Changing Interests
to RTTY Dxing

Jay Townsend, WS7I
ws7i@ewarg.org

The End of an Era

Just a year ago, while in Texas and doing the RTTY WPX contest with Ron K5DJ and Bruce WT4I, I decided that I have done enough serious RTTY contesting. It is hard to stay competitive year after year. One of my other interests has always been chasing RTTY DX.

I got my start in RTTY DXing with a lot of prodding from some of my local friends. It didn't take long and still doesn't to get to a 100 countries on RTTY. I quickly did that and soon outpaced the other locals. I have always chased the Dxpeditions and slowly have built up the country total. Working DX while going to work everyday is a bit hard to do sometimes.

Arriving back in Spokane from Texas last February I took stock of my RTTY DXCC and decided to concentrate on filling a few of my needs. Getting together a list of what you need is often a good starting place. For years some of the big time Dxers have asked me what was on my list. I actually didn't even know.

Resources

I now keep two lists. One on the local packet system and the other on the new ARRL DXCC list that they send you back. The new ARRL list is much nicer than the old green bar paper. I underline in yellow the counties that I need. I write on the back those that I work and send out the QSL for and keep a running total of my current situation.

Last February I had read about a trip that Leo, K8PYD was making to Monaco, 3A. Guess before I forget I should tell you about some of the places you can read about these trips.

The first of these sources is the famous VK2SG RTTY DX NOTES which is a weekly report of bandpass gleanings on the RTTY bands. It can be found on Packet, on the Digital DX Mailing list and the current copy can be found on Dick, N1RCT's DX page.

http://www.megalink.com/~n1rct/dxcc/rtdx.html

Perhaps a better spot for research could be found at this site.

http://www.qth.net/archive/vk2sg-rtty/vk2sg-rtty.html

The fellows that do all of this work for you can also be the source of some good advice if you have questions. Having known most of them for a long time they are all gentlemen and good Dxers.

The world of DXing is now pretty much found on the Internet when it comes to information. Little tidbits are given out all the time if you have your eyes open.

Anyway the VK2SG notes indicated that MONACO, 3A - Leo, K8PYD and Tom, N9NC will be QRV for two weeks starting 19 February. QSL to K8PYD.

So as Monaco is one of those countries I have chased for years, I set up a plan to see if I could fine Leo. Once you have the country you need to figure out what your best shot to get it as to band and time will be.

I use the packet cluster systems and also use the Internet search ability of http://oh2aq.kolumbus.com/dxs/digi.html? when I am looking for activity. It shows frequency and times that the DX is active.

This was not looking good as most activity from 3A is way to early in the morning for my part of the world on 20 meters. Leo was up on the bands early and then was on 15 when I had no propagation either.

My best time for 3A would be sometime after 1830Z on 20 meters. I decided to listen at the spotted times but to really put in an effort on Saturday. Not the best day as everyone is on the band looking. But you do what you have to do.

The way to work DX is to listen. I tuned the band over and over that morning. The hard part was to keep tuning rather than to rag chew with a few Europeans, or to say hello to old friends. About 2055Z which is quite late and I had just about given up, there he was, Leo launching a few CQ's. He was light as expected as the hill is in the way to W7 land and is one of the reasons this one is so hard for us. But, one call and after a number of years of laying in wait I have a new one in the log. The QSL on this one is straight forward and off it goes to Leo's home address.

I use the http://users.southeast.net/~rhicks/k4ute.htm site when looking for QSL managers and a number of other things to include email to find the address to send the QSL. I usually send either one or two dollars with the

card and a Self Addressed Stamped Envelope. Once you get to 250 or so countries a new one becomes much harder to get. You have to watch all the announcements from the ARRL Bulletin, the RTTY sheets and other sources. One new source I have found is the site http://www.dxbands.com it has a nice format and quite a bit of RTTY information.

There is a bit of luck in RTTY DXing and it also pays to have a lot of patience. I remember when I got my first and only FH on RTTY. I was doing a single band 15 meter contest of some sort. I heard this FH on the low end of the band working JA's. Always easy to hear the JA boys here in the Pacific Northwest. FH/JJ3IMX was sitting on a frequency and just running them. I couldn't even hear the FH for a long time. The Indian Ocean area is one of the hardest during low sunspot cycles for us here in the Northwest. Only when the sunspots get good is it easy. I had one of my two VFO's set on the FH and I kept stopping by his frequency as the morning went along.

This went on for a couple of hours. Very slowly his signal started to pick up. I had pinpointed the frequency during the JA run so knew that I was right on it. Finally I started getting print on the trusty old HAL ST-8000. This is both good and bad. I can usually print stations before they can print me because I am running the opposite of most people and have much better receive than transmit. Most Europeans I can hear for up to two hours before they can receive my signals.

I started dropping in a couple of DE WS7I WS7I WS7I as I stopped by the FH's frequency. He was working just a few Europeans now and clearly his band had also switched around. Finally at 1700Z, which is sort of an odd time for this part of the world and Washington ,I started seeing a peak in his signal. Up to S4 he went. I launched a couple of calls and exchanged the BARTG exchange with him.

That was pretty neat. A search of the rest of the gang and it looked like I was the only one who nailed him. As I was doing a Single Band I didn't have packet running, but after the contest checked and didn't see a spot at all.

He indicated on his QSL card that I was the only North America contact during the contest. That made me feel pretty good.

Contests are always a good place to work folks and in particular it seems that African's and some of the Indian Ocean boys come out for a contest. I noticed in doing some research on the 3A that there was a FT5Z on during last year's WPX contest.

QSLing

Big subject. First you have to find the country, next work it, and finally getting the card can be a problem. I remember well a country I worked in the late 80's that I finally received a card from in 1995. It was just a matter of tracking down the guy! They were having a

terrible time with the post office stealing and he never got my cards. Some of my friends received their card's right away which is even worse. I remember a certain South American Dxpedition that I had to continually take to task in my old RTTY Journal Column until I finally received the card. Most often you must realize that its not the DX's fault. Usually someone is pilfering the mail.

IRC's are in general accepted at 2 to a dollar. I don't usually use IRC's but sometimes they are useful. You should get IRC's from a source if possible rather than the Post Office. They are exchanged one for a 60 cent Air Mail Stamp. They cost $1.05 so its pretty much a rip off. They are easy enough to buy for about 75 cents from most QSL Managers.

So the mighty one dollar bill is the usual exchange. Sometimes it now seems to take two dollars to France and Germany. That may well be too much as they send only a dollar for a US manager.

Since Betsy, WV7Y, is a pretty well known manager I get most if not all of my QSLing information from her. I can tell you that a post card to a DX manager goes straight into the round file at the Post Office. At a minimum send a self addressed return envelope. The bureau. I use it and do respond to most of the QSL's that I receive. I don't like it. I currently am so mad at the W7 bureau that I don't have an envelope on file. Actually, it seems to me that they should follow your instructions. Since you can mail two pounds of cards for 2.40 then that's what I wanted.

Keep track of what you have out and pursue those that you need with everything that it takes. I just wrote someone email about one that I had out and that was reported to be quite fast to get. It didn't come and I followed up. Guess what? Not received so I have resent it.

Fun is in the Chasing

The fun of RTTY DXing is in the plan and the execution of getting the next one. Sometimes it can be fun to just tune the bands and see what is on. The fewer that you need the more planning that you have to do. Many of the RTTY DX guys are old hats at this stuff. I wasn't when I started. As I didn't have a DXCC Honor Roll when I got to RTTY. I started on RTTY, and the more I found the more I enjoyed it. The thrill of a new one is always nice. After starting RTTY a Mixed Mode is quite easy. I also chase the ones that I still need All-mode. But frankly am not as thrilled doing a CW or SSB contact as a RTTY one.

Gentleman All

Many like Jules, W2JGR, Don, AA5AU, Dean, Charles, and others do a lot for RTTY DXing. Randy, WX5L, has recently spent a lot of time and effort in getting things going in certain countries. He is a good one to talk to if you have an old Terminal Unit that you want to give away, or perhaps a laptop that is no longer needed.

I guess the old West Coast RTTY DX Association which became the International RTTY DX Association has kind of faded away. But in this age of email and rapid response, I do note that people are quick to send some RTTY gear or help along when they can.

It's kind of funny. Rare is the definition of what you don't have. I have quite a few countries on RTTY but one I need is VK0/M. It isn't rare at my house even. Betsy WV7Y, worked it one night years ago when I was out playing bridge one evening. I need it all mode and on RTTY, but then that is kind of part of the pursuit.

Good DXing in the new Century. And if you can find me a new one I will actually buy you a drink at Dayton. Betsy and I are looking forward to seeing all of you again.
73 Jay WS7I

Deciding Whether CW is a Mode or a Religion

by Frank Fallon N2FF

n2ff@juno.com

About three years ago at the end of a talk at a local club meeting here on Long Island I was asked, "What is the most important issue facing ham radio today?" The temptation was too great to inject a smart alec remark so, having a low temptation threshold, I answered:

"The most important issue facing ham radio today is deciding whether CW is a mode or a religion."

After a few seconds there was some nervous laughter from the group. My point was that talking CW among hams is like talking religion at a social gathering. It probably shouldn't be done. Emotions run high over CW. It's not an issue that one should bring up if one wants to win friends and influence people. As one of fifteen ARRL Directors I knew I was raising a dangerous topic. Yet in the next ten minutes, I asked a few questions and did a quick survey with a show of hands. It was clear that everyone loved CW. About half the group wanted to lower the code speed (this was not a DX or contest club). There was no agreement on what the speed should be lowered to for the various licenses. Almost no one in the group had operated CW in the last month. Here was a group that rarely used CW, yet they had strong feelings on the subject. Typical. The "WRC 99 Survey" taken in 1997 by ARRL showed that although most of our members wanted to keep CW as a mode and a license requirement, 73% of them used the mode "rarely or never." Whatever "rarely or never" means it is not a lot of operating. The group sensed that there was change in the air and they were nervous. I ended the discussion by assuring them that the ARRL was not going to let CW go away and would not let the FCC eliminate CW as a mode.

The FCC issued its answer to the question just before the New Year. CW, as far as they are concerned, CW is indeed a mode and not a religion. There will be three classes of licenses granted after April 15th 2000 - Technician, General and Extra. There will be one CW exam at 5 wpm. No frequencies will be "re-farmed." There will be no instant upgrades and Novice and Advanced class will be maintained in the data base and can be renewed. There are no changes in frequency privileges; everyone keeps those they now have. There will be only four exam elements and one is the 5 wpm code test. The FCC Report and Order is interesting reading, even if you do not agree with the FCC's conclusions, as it is an explanation of how the government reached its decision or, more accurately, used the input it received from the Amateur Radio community to come to the conclusion it wanted. It's the official government policy on the issue and does give us their reasoning on the issue.

> "The most important issue facing ham radio today is deciding whether CW is a mode or a religion."

Most of us expected more change than this, especially after all the fuss and discussion. I certainly did. In essence only the code speed and the number of licenses has changed and they are both lower numbers - five and three. Let's do a reality check. The United Kingdom and Sweden recently lowered their Morse requirement for full HF access to 5 wpm. Certainly more countries will soon do the same. The international maritime service and the US military have dropped Morse as a mode. All UN emergency communications use voice or digital modes - mostly digital as you have a built in paper trail if you wish. While hams will continue to use CW we really cannot expect a government agency facing legal challenges from groups and individuals over handicaps and Morse tests to see it our way. To believe that we can is to be in denial of reality. I wish we did not have to make the painful change, but we do. Let's also be clear here. The FCC made this decision; not ARRL. We resisted them and tried to get them to go to a middle ground. Perhaps we too were in denial at the time. In the end the FCC did it their way. It would be a sheer waste of time and membership money to ask the FCC to reconsider the code speed issue. It is not going to happen.

How does this change impact digital operators?

While initially annoyed that the FCC did not implement the ARRL re-farming proposal, I realize now that this is probably a good thing. It's obvious that we are likely to get many new HF operators if there is no longer a CW hurdle in place. Many of these will eventually discover our digital modes. The recent arrival and explosive growth of PSK31 is an amazing phenomenon. I'm willing to bet that there are a lot of PSK operators crowding around 14070 with their little "warbles" who were never on RTTY. For many of them this is their first introduction to the HF digital modes. Who knows what other modes will soon emerge and how many will flock to that technology. What about digital audio; how is it going to change band usage? Recently RSGB's "RadCom" ran an article on some experiments conducted on forty meters and it's possible that this mode may also spark some interest and activity. Where do we place those transmissions? What goes out over the air is not analog audio. It's too soon to predict how much activity there will be, but we will certainly have to find a place for it too.

It's obvious that over the next few years we are going to see big changes in usage patterns as new operators join our ranks and these new modes develop and grow. That's the sort of thing that has to come about naturally and not with mandates from a national radio society or a national telecommunications authority. The longer I think about it, the more I realize that the FCC did the right thing in not re-farming at this point. It's simply too soon and it would also spark CW operator paranoia that frequencies are being taken away from CW users. Let's see what patterns and needs develop and then revisit the issue in a few years. ARRL will be looking at the emerging usage patterns and surveys will be taken. The debate will be, I think, between us digital operators and SSB operators. Will they move down or will we move up. The answer will probably be a little of both. A "gentleman's agreement" is going to be more important than a FCC imposed band plan. There are many us of who remember the advent of HF packet and unattended digital stations. There were some very bumpy roads traveled before an agreement was found. Let's hope that this time we can get to the destination with a minimum of pain.

There will come a point when there is a much clearer consensus as to how this should be done. Meanwhile we will have to tolerate the fact that they are little used while other portions of the same bands are very crowded. Democracy is not always neat and it may not change quickly enough for all of us.

The future of Amateur Radio looks very bright to me. The FCC Report and Order released on December 30, 1999 concerning WT Docket 98-143 is the end of Amateur Radio as we knew it for many years. But very little of that is bad. Those of us who have been Extra class for many years are about to have a lot more company on the DX putting greens in the low end of the bands, but then we have had them all to ourselves for many years. We have been privileged members of a small exclusive club. Heck, I've been an Extra for almost twenty-five years and when

I came on board in 1975 only 4% of all US hams were Extra class. The percentage has crept up to about 12% since then, but I feel certain that in next five years that percentage will move closer to 30 or 40%. I have had my rewards for study for many years and I have enjoyed them. I see no reason to be resentful or bitter now that membership in my exclusive club is about to increase. While the phone portions of the bands will probably be a bit more crowded, I doubt if the CW and digital bands will be too busy during non-contest time.

The next few years, like most of those I have spent in ham radio, should be very interesting as we experience growth in numbers and modes. The new license structure changes are going to bring about more enthusiasm and activity. That's going to be good for ham radio. Perhaps with all the activity I will finally be able to make over a thousand QSO's in the ARRL RTTY Roundup without having to use three radios and an extra set of arms.

— 73 Frank Fallon N2FF

RTTY Journal Correction

The Grokett Family
Ben, K6RE   Adam   Jill, KE6YTT   Lauren, KE6YTW

On page 7 of the November issue, Ben Grokett's son Adam was misnamed 'Ben, Jr.'.

D X P 38

DSP HF Radio Modem

CLOVER-II, RTTY, AMTOR, P-Mode

NEW DXPWin Version 2.4

The **DXP38** is a stand-alone DSP HF Modem featuring a built-in tuning indicator with selectable Crossed X and Center Tuning displays. Multi-screen, menu-driven HAL software for both DOS and Windows (95, 98, NT 4.0) is included with each **DXP38** modem.

Installing the **DXP38** is easy. Connect a standard DB9 serial cable to your PC and three phono cables to your radio, hook up 12 VDC, and install the software. Now you are ready for some serious HF digital communications with sharp DSP filtering and Motorola microprocessor control. You win with the **DXP38**.

HAL COMMUNICATIONS CORP.

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