



# WE HAVE INTERVIEWED FOR YOU IIAHN-SERGIO

by D. BRIANI, I1CN of the "SSB & RTTY CLUB" — Box 144, Como, Italy

At first Sergio did not like very much to play the role of the "champion" and this goes with his character and innate modesty, but we on our side, strong in our old and close friendship, tricked him at last into paying the tribute that every "champion" owes to his public of aficionados. Then, as we said, Sergio surrendered and kindly accepted to be interviewed.

We went to his QTH in Pietrasanta near Viareggio, where the Ligurian Sea washes Tuscany. Our friend lives in a villa up on a hill about two miles away from the sea. Coming from the plane, one immediately notices from far away the unmistakable mark that betrays the presence of a radioamateur, and in this case it was the 67 feet high trellis tower supporting a triband beam, erected not far from the house. The radian system, 235 feet above sea level dominates the coast. Its position is excellent towards South, West and North-West whereas it is heavily shielded at the shoulders, towards North and East. "A real handicap which bars any and all contact possibilities with Asia" — says Sergio.

And here we are now, inside the "push-button room" of IIAHN.

The young operator who with the enthusiasm of a neophyte introduces us to his station is a doctor in electrotechnical engineering. In practice however, he has very little use of this specialisation since eight years ago he switched to another branch of activity and is presently manager of a textile concern. Sergio, like IIRIF — Bruno, is of Tridentine Venetia stock, the well known region of the Dolomites. He was born in Trento and there, by the end of 1945—hardly more than a boy—he started his radio-amateur activity. Since then, and almost without interruption he has practiced all the radio communication techniques, that is CW, AM, SSB, VHF and ultimately RTTY. Sergio fell in love with RTTY in December 1963 when having got hold of an old Olivetti printer he took it down to pieces, key by key, screw by screw, to better understand how it worked. He cleaned every single piece then assembled again the machine, adapted a provisional converter and FSK device and in Spring 1964 had his first QSO on 20 m. with FG7 XT.

More than in collecting QSOs Sergio's main interest is directed towards the technical features of radio operation. A number of professional equipment, all of which made by himself, prove this tendency. While talking, IIAHN switches on his home-made sets. These are: an all band transmitter with an end amplifier of 4-400A Class C; the VFO is of the conversion type, complete with a jack for the FSK; the shift is preregulated for 850,

450 and 170 Hz; a receiver with 22 tubes and triple conversion, the first of which has a crystal control; an RTTY converter which was constructed with a few modifications to the basic arrangement of the TT/L converter FSK Demodulator with FM Input and Decision Threshold Computer whose description by Irvin M. Hoff—K8DKC was published in RTTY, November 1964. Also the trelliswork for the antenna is homemade. There are other sets as well in the station, namely an SX-115 and an HT-32B, this is followed by a Class AB1 straight amplifier with two tubes 4-400A, homemade as well. The teleprinter used by Sergio is a TG-7B.

Sergio is also fond of VHF and during the contests moves to the high mountains of the Tuscan Apennine taking with him his equipment for 144 and 430 MHz.

Sergio loves to talk about his sets and all possible technical question but when we start asking him about his participation in various contests he sort of retires. We must therefore ask precise questions which he answers concisely.

—Yes—says Sergio—I participated in the last American RTTY Contest. You already know the score. It is a pity I could not take part in the BARTG Contest. I was away from my QTH at the time.

—What about the A. Volta RTTY DX Contest?

—Well, I was on almost all the time, I say almost because from 0100 AM until 0400 AM of May 23 I slept the sleep of exhaustion.

—Your impressions about the Contest?

—Fair propagation in all directions and on all bands. Not exceptional. I would rather say below the average standard for the USA and consequently a lower number of States worked, 23 in all. Excellent European participation. I worked Europe on all bands from 10 to 80 metres, Africa on 10, 15, 20 and 40 metres, America on 15, 20, 40 and 80 metres. Personally speaking I think the most interesting contact was the one with W2NRY on 80 metres. I suppose this is the first RTTY QSO on 80 metres between Europe and America. All the participants were perfect.

—What about the Contest regulation, what do you think about it?

—Well, as regards the "bonus" in international RTTY Contests the present system gives an advantage to the European stations and in any case to all non-American stations. I think it would be advisable to revise the existing rules and adopt an intermediate solution which should however take into account the considerable concentration of

Continued . . .

IIAHN-SERGIO (Continued) . . .

RTTY stations in North America. I would propose the following:

- 1) Contacts between U.S.A. stations . . . . . 2 points
- 2) Contacts between U.S.A. stations and other American Countries . . . . . 5 points
- 3) Contacts between U.S.A. and other countries and contacts between other countries . . . . 10 points

—What about working frequency?

—It is useless for me to stress how nice it would be if it were possible to have a real regulation and therefore exclusive bands for RTTY. It would be better to have say only 10 kHz, but exclusive!

—Do you think amateur RTTY has a future?

—I can't but think good of and hope the best for the future of RTTY activity.

The teleprinter of IIAHN starts tapping its signal . . . RYRYRYRY . . . and we leave Sergio answering a call from W9ZGC.

— We of the SSB & RTTY Club would like to conclude this interview with a short comment. We are really happy to count among our associates the two "tops of the form," because we had IIRIF and now IIAHN joined him. Sergio and Bruno and another score of tough RTTYers have confirmed us into our belief that RTTY is valid and vital, a new technique which enables us to continue our friendly talk with many friends all over the world.

1 October 1965

Dear Mr. Nettles:

On behalf of all U.S. Navy personnel at McMurdo Station, Antarctica, I express sincere appreciation for the many services you have provided to us during the winter of Operation Deep Freeze 1965. Throughout the seven months of isolation with no mail service, we have been able to keep in touch with loved ones through the numerous phone patches and hamgrams you have made possible.

It is our hope that the enclosed photographs of McMurdo Station will serve to convey our thanks. You will also receive a complimentary copy of our cruisebook to be published in April 1966.

From all of us on the "Great White Continent," our gratitude for answering the call of KC4USV.

73

John Blades  
Commander, U.S. Navy  
Commanding

## COVER PHOTOGRAPH

Our thanks go to Brett and Walt, W7ARS, for the photos received by RTTY. Brett had said he would forward copy to go with the photograph, but to date nothing has arrived. The letter from the Commanding Officer, Detachment "A" which will be found in this issue along with Brett's letter explains what RTTY can do.

Again next year, starting in June, need for RTTY stations who can and will handle traffic from KC4USV, for about 90 to 120 days will be present at that time. If you're interested in assisting in this worth-while project, drop W7ARS a letter. Areas needed in particular are: Pacific Northwest, Bay Area, Southern California, Texas, New Mexico, Southeastern states, Chicago, New York City. Let's hear from you if you can assist.

It was interesting to read W8TLW's note on monitoring (RTTY, November 1965) page 13).

At W9ECV we put an extra phone jack on the back of the receiver and take the audio from the high end of the volume control. This permits using the receiver a.f. gain control to adjust the monitoring level without changing the TU input level, and does not require an extra speaker in the TU. Two extra a.f. stages and a gain control are required in the TU.

Mark Mandelker, W9ECV  
208 Suburban Court  
Rochester, New York

29 September 1965

Dear Walt:

Just a brief note to let you know what a pleasure it was working you these past months Walt, I want, of course, to thank you in behalf of everyone here for the hundreds of letters you sent and received. And thank you for initially contacting me, for the initiative for this winter's undertaking was yours. Without your services this would indeed have been a long and bleak winter night. So thank you also for sticking it out on those long, long nights when it looked like conditions would never improve, for devoting every night of the entire week to us, week after week, month after month, for the most expeditious handling of mail I have ever seen, and for showing us that through RTTY we could really have "Mail Call" in the depths of an Antarctic winter.

A few pictures and stamps are not much in return for what you have given us, so please remember them only as a symbol of our thanks . . .

73's and smooth sailing,

Brett H. Riley

**BRAD THOMAS, WA4LWE**

P.O. Box 608, Pilot Mountain, N.C. 27041

October 20, 1965

**SUBJECT:** FIFTH ANNUAL WORLD WIDE RTTY SWEEPSTAKES  
**ENTITLED:** CONTEST MADNESS — By Amateurs not engaged in the SS.  
 ABSURD — By XYL  
 INTRIGUING — By author

**PREFACE**

I have been quite active in amateur radio in all modes, but frankly had never entered ANY contest. I have always listened around during a SSB contest to try and pick up a new country or two; but never actually entered and kept a score. Now, having on RTTY for about nine months, and having thoroughly been enjoying this mode of amateur radio, and from publications available, I began thinking of how I would do in an actual contest; so, several weeks ago, I made up my mind that if possible, I would enter the RTTY SS. And I did enter and participate, and during the course of the SS, I made some notes of my thoughts and reactions. Here they are: 10-15-65. 2130Z—Got home from the office, tired but ready. I had "mentioned" to the XYL about two weeks earlier that I might enter a contest; and she even prepared dinner earlier than usual!

2300Z—Tuned up on 3938 KC, our N.C. SSB TFC NET, and began the usual rag-chew until the net began its operations at 2330Z. Checked in, passed some tfc., checked out, and began getting ready for 0200Z! I took the typewriter off the portable stand, and used the stand for a movable working table—got out a DXCC, WAC, and WAS chart-log to use as a cross-index—got my homebrew contest log sheets ready—tuned up around 3625-3630 KC—thinking this would be as good a place as any to start — got out CQ magazines with propagation charts and local charts for a standard reference — and listened around to the good conditions of the 80 meter band. Ought to be real good for a little while. Wanted to check the shift as I had been having a little trouble with the points (using only abt 0.6 volt), and found the appearance fine on the scope. So—

1-16-65, 0145Z.—Fired up and began a "check" test on a clear spot, and asked for anyone to give me a check. W9HXW called in — loud and clear—and started kiddin' me about starting early!! We began a rag-chew that lasted of course till 0200Z.

Well, here we go!!!! Had the freq. when 0200 came, so gave my report to W9HXZ and stood by for his. Fine, no trouble at all, signed and then I had a ball. The band was in excellent shape, and until about 0530Z, I worked myself to death. Got 16 States and two countries. I was really dis-organized, but

during this period I finally developed a method that would work ok. I do not use tape gear, and type with a "hunt & peck" method, so I couldn't sit back and write or rest while sending a general CQ.

Well, this IS fun, and look at all of the new stations I am working. I am getting more eager now—and 80 was slowing down, band changing, etc, so—

0600Z—Had never operated on 40! Never could hear anyone!! Tuned up on 7140 (Inverted V cut for 7215)—Call CQ contest and got an answer from a 6—Fine, logged, gave him a report and called again—nothing—Well, listened on 7040 KC—Lots going on there! Tuned up the exciter—SWR 3.2:1—Oh oh. Better not try the final—so fired up barefoot. Worked Ariz., N.Y., Idaho, etc., fine business—then it got a little weaker. Well, better get brave—try the final or else. Carefully tuned it up and threw it on. O.K. So called out again and more success. Well, the final won't blow at this SWR, so got awful sleepy, and the band began folding, so I decided I had had enough for the night. 80 and 20 already dead.

Now I didn't want to wake up the whole house early in the morning, so I borrowed one of the kid's "Micky-Mouse" alarm clocks. What a noisy thing—and decided to sleep in the basement beside the shack in an old bed we had placed in the basement. Set the alarm for 6:30 AM EST and went off to a good sleep—BANG BANG BANG!!! Cut off the alarm and looked at my watch—5:30 AM EST —three cotton-pickin' hours of sleep—looked at the setting on the alarm — 6:30 — What a clock! Couldn't go back to sleep, so got up, turned on the equipment, washed my eyes and got ready to get on some band.

Tuned up on 20 and listened around—Europe in good.

1137Z—Called G3MWI, gave him a 549, got a 599. Band must be good to Europe. Finished, found a spot on 14.985, call cq, and here we went again. Organized a little better now. No problem in getting down the correct information. Making many good QSO's.

And there's that Swiss station I have been trying to work for so long—up-side down as usual—Got him—and a new country. Made fifteen good contacts, and activity slowing down a little.

Continued...

BRAD THOMAS, WA4LWE (Continued) . . .

10-16-65. 1120Z—Got to go to the office sometime, so went down, looked at the mail, got some details out of the way, and ran back home—20 still open, but not as active—guess all of the regulars have made the contact around to each other. 20 slowing down, so lets listen on 15. Yeah—activity. Tuned up and listen a minute or two to see where to set the beam. Heard some friends on so contacted Sweden, Italy, and Belgium. 15 sounds good. Then—it faded. Went back to 20. 1520Z—Back on 20, and a few Qso's, but nothing new. Listened again on 15—and it is open again. There we go.

So—back and forth on 20 and fifteen when I heard something I wanted. Found Bill, ZS6UR on 15—new country and there is HB9P on 15—right side up. Got him. His VFO must reverse with the bands. Ate lunch sometime around noon, and my eyes are getting a little tired. Oh boy! Wonder if I can make it! Got up and walked around a little. This seat sure is getting hard—and my fingers are getting crossed up in trying to type. Back es forth on 20 and 15, getting points, but not as rapidly as earlier—probably better—don't know if I could take the pace if it picks up. Wonder if anything from down under is coming in? Well, turned the beam and in swinging heard a strange call—weak. Well, another continent, maybe. Bet he is working the six's—There—KW6DS—Wake Island—Got the beam on him, and when he finished gave a short call. Got him! He heard two and stood by for me —Felt better now! Back to 20 at abt 2140Z and worked some stateside calls, back to fifteen and there is Merrill at W6EV.

ATE SUPPER SOMETIME . . . TIRED AND SEAT AND FINGERS BOTH HURT. Is it worth it?

0005Z—Back to 40 and see if we can pick up the DX we missed last nite. Quite dead, like usual—wonder if any of the boys are around. Worked a couple—WHAM—IIRIF—and me with this trap inverted V—And he called me! I felt better. moved in the chair to "the other cheek." worked some more stateside stuff and then Sergio broke in and we worked Italy again—Lets see, exactly one hour and ten apart from IIRIF—Band must be crazy. IIAHN and I set up a sked on 80 meters—He printed me but I could not print him. That would have been good. We were to check again on 40 the next night and re-set it up and try again.

Back to 80—Nothing of any consequence—must have filled up all the channels there last nite. Back to 40—Washington—fine—but the skip is still crazy.

10-17-65. 0230Z—Very tired, and sore, and weak. Think I'll go to bed, and get a good nites rest and get up early in the morning for the final day of it. Turned off all of the equipment—crept upstairs to see if anyone would speak to me. Found the XYL reading—

spoke—and woke up about as good as if I had been to bed for ten hours! Well, took a shower, and felt even better, spoke to the XYL again. Got the usually "crazy" look. Watch TV until about 0400Z, went back to the basement; set the Alarm clock for 7:00 AM—hoping it would ring at 6:00! Got in the bed!

Ring-g-g-g-g-g-g-g-g-g. Well, Six AM, right on the head. Went off one hour early again! But when we wanted it to. Turned on the equipment, went up, found some orange juice, a bun. Sure tasted good.

1225Z—Started back on 20. Fingers are stiff, and can't seem to type well. Guess they will limber up in a little while!!!

Well—hadn't heard a VO1—had worked some in the past—but had heard none during the contest. Boy is he slow—QRZ—Got him! VOIDZ—His NR 2—well, bless his soul—he is brave with all of the people that are going to pile up on him. Thanks!!! And off to another spot. What in the devil—what kind of call is that—4M5A—wonder who and where—would like to get the beam on him. Caracas, Venezuela?!?!?! When did they change, or is it special? Oh well, try to work him and find out later. Got him. All morning—fifteen to twenty, back and forth. Bly am i Tired. Took the girls to Sunday School. Tell them your daddy is not feeling good (it was the truth). No—No—No, don't you dare tell them I am working the radio equipment!

Swung the beam on VK/ZL. Nothing. But there is one calling me . . . Freeman—hadn't heard him, KH6AX—fine and that is another country. Stayed on 20 until about 2000Z—Worked bill again—on 20—another country—different band. Let's listen on 15—Yeah!!!! Gus—no—Carol—Well I'll be darned! Short 15 skip. 599 +20!!!! Worked both—How 'bt that, one of them on the 19 on one band, and the other on 15 on the 28!!!

Ate supper—not too hungry—tired—down to 40—worked a few more—tired—Who??? In-gemar on 40. Got him—SM6CSC—nother country. Hooked up with IIAHN again, tried 80—no luck—tired—tired. Went back to 80—one new state, Indiana. Hev, you haven't even worked your own state. There got him! 10-18-65 0200—WENT STRAIGHT TO BED!! Nite!!

Copied recently on air: "Get off this frequency, its mine and you two fellows can't use it. DE—"

(Ed's, Note: Call deleted to avoid FCC action.) It's an odd idea that an amateur would print this type of communications on RTTY, since this mode is unlike Voice or CW where once comment is sent, it's lost. To avoid FCC action, such comments have no place in RTTY operations.

A big thanks to W6SCQ Louie Rogerson and his committee for the excellent dinner and meeting for RTTY, INC.

## CHI-RTTY 1965

J. H. HAYNES, WA9IBB — 966 Chestnut Ave., Deerfield, Ill. 60015

Session chairman and lead-off speaker was Mike of Teletype who discussed what's new at Teletype. For instance: Model 35, pretty well known by now, a 100 wpm product line using the ASCII 8-level code. 2400 wpm punched tape line, consisting of the DRPE punch and DX reader. The Model 37, yet to come, is to be a 150 wpm line, also using 8-level code and providing upper and lower case printing and other modern features. The Inktronic printer, operating at 2000 wpm using a non-impact electrostatic printing process on ordinary paper. A stream of charged ink droplets is deflected electrostatically, like the stream of electrons in a CRT, under control of a core memory to write characters one at a time across the page. The Model 28 compact KSR, sometimes called the 28/32, using a 28 typing unit and a 32 keyboard to achieve a package only 15 1/4 x 9 3/4 x 15 inches, including a 3-speed gearshift. And the Model 33 with a numeric-only keyboard somewhat like that of a 10-key adding machine; the Model 32/33 self-contained keyboard, for those who want to do all the talking; and the wall mounted Model 28 printer.

Next speaker was Jim Scott W9CWH who updated his last year's talk on a VHF autostart TU, a modification of the transistorized W2JAV set, including a transistor selector magnet driver to operate the printer without a line relay. The new portion is a revision of the autostart and mark-hold circuits to eliminate a temperature problem.

Next talk was a joint effort of Irv Hoff and Irv Metz, discussing practical and theoretical aspects of TT/L filters. The latest thing in filters is to make your own with 88 mh toroids. Irv Hoff gave design data for a wide-shift linear discriminator, a narrow shift linear discriminator, a wide shift nonlinear discriminator, and 3-pole Butterworth bandpass input and channel filters. A compatible family of these has been designed to permit ready substitution. An important point with the narrower filters is that off-the-shelf 10% capacitors can be pretty random in value, so that it is necessary to tune the elements precisely using a number of capacitors in parallel, or removing turns from the toroids. Irv Metz showed a TT/L built recently and gave tips on construction and tuning of the filters for accurate response. Also suggested that some problems in the TT/L might be due to a low B-plus voltage and suggested a C-1001 choke instead of the C-1708 specified earlier.

Then another two-man team: Phil Schumann and Dick Herman of Motorola, who discussed some of the special features of the more modern FM gear now becoming available, with particular emphasis on transmission

of 2975 cps tones thru narrow band units and the horrible things that can happen if one exceeds the proper frequency deviation. (Too-wide deviation can actually cause the receiver squelch to shut the thing off!) Main comment on the 2975 cycle problem is that the sets do tend to have low amplitude and crummy phase response at such a high input frequency, but excellent results can be obtained by not worrying about it and keeping the input level down so that excessive deviation does not occur.

Highlight of the program for this writer was the talk by Jon Schmitt, W8BZB, on his experiences as RTTY operator aboard the S. S. Hope in South America and Africa. Anyone who has ever struggled with a Teletype mod kit would know exactly what he was talking about in his description of an installation procedure which resulted in the entire complement of springs being outside the machine at its conclusion. But he finally triumphed, putting the springs in with the aid of beeswax on the end of a stick (source of beeswax: SX-115 IF cans!). And the nature of the slideback detector in the TU-E; at 60 wpm it's fine, but with slower typing it put out characters at 60 wpm regardless of how fast they come in. And of course it has to make up its own characters to have enough at that rate. Also he says the electronic regenerative repeaters now making the rounds can be used to convert 50-baud signals to run a 45.5 baud machine if the adjusting procedure for the regenerator is suitably disobeyed. Let's hope Jon takes the time to write up his own article on the expedition, in which RTTY played such an important part.

The operating displays included a Model 33 and 35 setup, K9BRL's display of Electrocom equipment, W9GRW's latest in the field of TTY-to-Braille conversion, and Bert Prall's actual operating edition of the fabled Model 15 Hebrew page printer which types from right to left and is able to print stuff on local loop that is as unintelligible as what one usually sees on his own printer during the thick of the RTTY-SS.

And there were the door prizes, consisting of an FRXD, several typing reperfs and MXD's reels of tape, and that sort of thing. Fortunately my ticket number wasn't called, so I'm still able to walk in the basement.

And probably most important of all were the visits with old friends and acquaintances too numerous to mention individually. But we must acknowledge the presence of VE2HY and regret the absence of W4MGT. In all probably 80 or more people in attendance at the peak, with somewhat more total regis-

Continued . . .

CHI-RTTY 1965 (Continued) . . .

tered. This writer wasn't able to stay for the dinner, but am told that the Model 28 drawing was won by a young feller who can make good use of it.

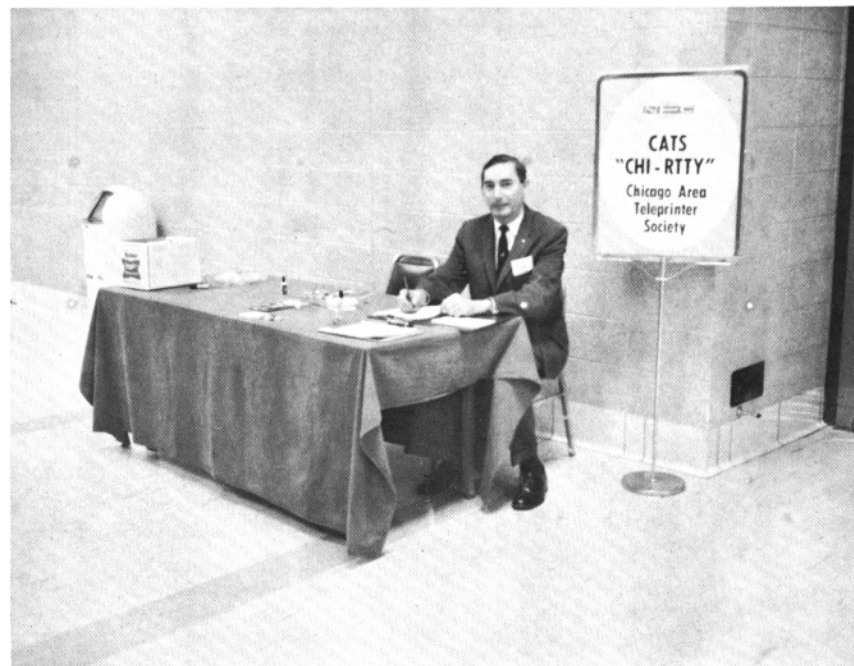
Nice to see W9DPY again, and to ride home with W8LEX, which was the first QSO with the latter since W5YM days, and that was nearly ten years ago!

The following three days were filled with the annual National Electronics Conference, which officially sponsors the Chi-RTTY meetings at McCormick Place on the Chicago lakefront. This writer was privileged to man the NEC Time-Sharing Computer booth part-time, which involved talking via land-line TTY (Model 35's) to a General Electric computer located in Phoenix. Most popular activity among the professional engineers attending the booth was playing blackjack and tick-tack-toe against the electronic brain; while the high-school students seeing the display on Tuesday patiently waited their turns

at the keyboard to have the computer solve real mathematical problems. Also on Tuesday attended a day-long seminar on modern digital communication systems, conducted by Dr. Wintz and Dr. Totty of Purdue, the latter being a former fellow student of mine at the Univ. of Ark. (And now he writes papers that I can't even understand the title of!) So perhaps this will open a few more new horizons for the pages of RTTY. All I have to do now is find some way to convince K8DKC that he should do all the hard work connected with the project. All of which provides a fitting conclusion to another fine CHI-RTTY meeting and a fitting beginning for another wintry season in which the bands will do things they have never done before, or at least haven't done in a long time; and we will get back to our experiments and theories and try to turn out something new and wonderful for this fascinating game that is RTTY.

WA9IBB

### 1965 ANNUAL CATS RTTY MEETING, CHICAGO PHOTO BY W9DPY.



1 — BOB PACULAT AT REGISTRATION DESK



2 — K8DKC TECHNICAL TALK



3 — JONATHON SCHMIDT, W8BZB OF SS HOPE



4 — RTTYERS ATTENDING CATS MEETING



Amateur RTTY Operators needed for Intruder Watch. Those who have the equipment operative and can spend some time each week on this project are urged to write Richard L. Baldwin, W1IKE, Assistant General Manager, ARRL, Newington, Conn. 06111. They need intruder reports from individual amateurs in order to initiate action on getting them removed from our amateur bands now, and in order to build up a record of protest which will serve as ammunition at the next allocations conference. RTTYers with printers and TUs capable of copying other than normal 850 cycle shift, and codes other than Baudot 2, and speeds other than 60 wpm, can do a job here, how about you? — Ed.

## VERY SIMPLE AND EFFECTIVE TUNING METER FOR RTTY

J. R. POPKIN-CLURMAN, W2LNP — 134 Wheatley Rd., Glen Head, L. I., N.Y. 11545

The usual tuning meter or tuning eye for RTTY either maximizes on mark or has a zero center scale in order to tune up on RY or SG. Since none of the above conditions represent the usual situations encountered on the ham bands, the following arrangements provide an excellent meter substitute for a markspace scope presentation.

In tests between the meter and the scope, the optimum arrived at on the meter corresponded to the cross scope indication every time.

The very simplest circuit consists of using a VOM in the AC position set up to the appropriate scale and connected across the markspace tuned circuits (figure 1).

The circuit works as follows: — When correct audio tone is present across L1, the meter will read a certain deflection. Most of the voltage will be developed across L1, L2 presenting a low impedance to the voltage of L1 and the meter. Upon shifting the frequency from either mark or space, the voltage will then appear L2, causing a similar deflection of the meter (if the shift is 850 cycles). In the event that, for standard shift, the voltage across L1 is greater than L2, R1 may be adjusted for equal voltage across L1 and L2. At exactly 850 cycles, the meter is characterized by a steady reading and is at maximum (assuming L1 and L2 have been correctly resonated for

850 cycle separation).

For non-standard shift or off-tune, the meter will be less than maximum, and, if tuned off to either side of the proper frequencies, the meter reading will tend to become erratic and flicker. If tone is present in only, say L1, the meter will read considerably less than half of its normal reading and jump badly.

A sensitive DC meter with appropriate series resistor to match the meter's full scale and a rectifier or VTVM will do in place of the AC reading VOM. If background noises are desired to be excluded, a Zener diode can be inserted in series with the meter to provide a threshold below which the meter will not respond, (figure 2).

The above can be installed in any existing teletype converter, or it can be used as a tuning indicator by itself from the audio output of the receiver, using a step-up transformer, or, if no transformer is available, by winding coupling turns on the coils shown to the 8 ohm output, as in figure 3.

If the signal falls below limiting in the TU, the meter level will fall, as it will also do on selective fading of one of the tones. QRM will also cause the meter to flicker or read abnormally.

The arrangement works equally well for 170 cycle shift indication.

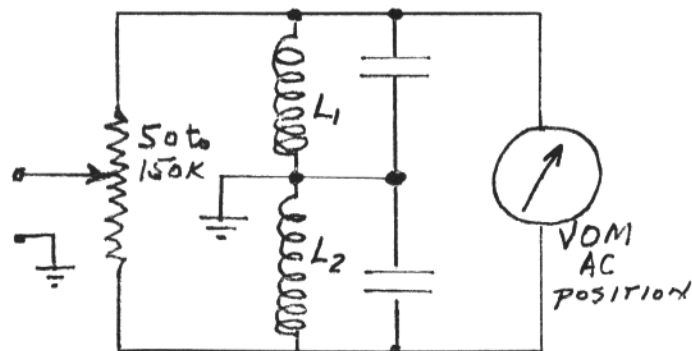


Figure 1

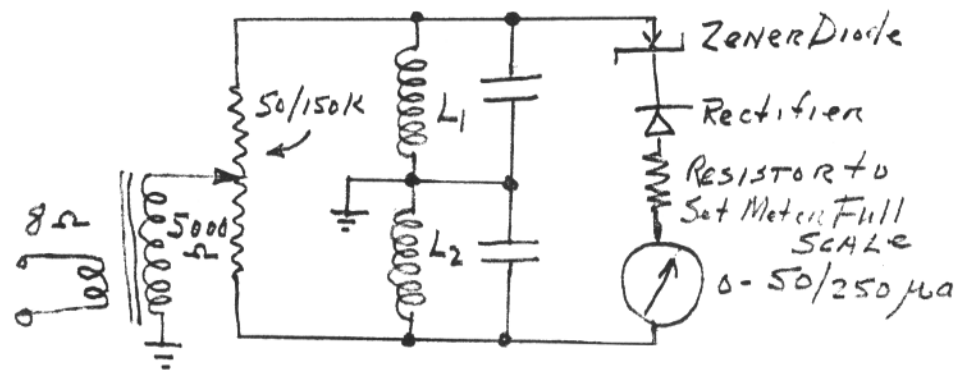


Figure 2

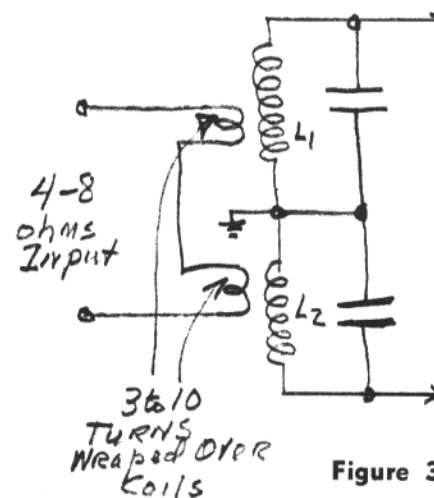


Figure 3



OA4BR — ZIP ZELLON, LIMA, PERU

## DX-RTTY

**BUD SCHULTZ, W6CG**  
**5226 N. Willmonte Avenue**  
**Temple City, Calif. 91780**

Anyone who has been operating the bands on RTTY in the past month is well aware that the DX season is really open! In my 13 years of chasing those elusive typers in far-away places I have never seen it so good. It is indeed a thrill to hear the European stations QRMing each other out here on the Coast when I hearken back to the days that we spent hours trying to squeeze out one little RTTY contact with G3CQE in order to qualify for WAC-RTTY! Two new ones from the Continent reported this month are OK1KUL and UR2BZ. Milos, OK1KUL, has a fine signal and it was a real thrill to be his third QCO on FSK. OK1KUL is a Club station and expects to be on regularly now — his only problem seems to be from TVI. IORS, Lou, tells me he had the pleasure of working UR2BZ whose QTH is Tihemetsa. Lou reports that UR2BZ is Endel and he is working with a home-made Transceiver and 100 watts input to an inverted V antenna. Rudi, DL6EQ also managed a QSO with UR2BZ. The Italian group are very active these days and such as I1ROL, I1II, I1AHN, I1ORS, I1CQD, I1OK and others have all made the log here on the Coast this past month. Ed, K3GIF, tells me that F3PI has informed him that FB8XX has returned to the Kuergelen Islands with TTY gear and will be active soon. FB8XX has long been active on CW so it's a real "break" to have him show up on RTTY. W6AEE tells me that Joe, G3LIV, has gone to Malawi with TTY gear and will operate as 7Q7JO. (That call should give some of us two finger typers a bad time!)

Africa speaks!! Another new one to chase is EL2F in Liberia — and what a signal he puts in! The first time I heard him here I thought it was Merrill tuning up his rig. EL2F, Orbra, is W9GEK when he is at home in Wisconsin. He runs a KWS-1, 75A-4, and three sloping V beams supported by a ninety foot tower. He says the antennas were formerly used in the Broadcast service and are rated at 50KW so he has no corona problems! His first contacts were with K8MZS and K8MZT and he expects to be a "regular" to RTTY now. Enjoyed my first contact with Chris, ZS6BCT, this month — it's good to know that these parts of the World are once again starting to come through. Henry, ZS1FD, writes that the DX is opening up for him also and that he had his first schedule with K3GIF in seven months. At present Henry is busy working on a new tunable filter idea.

The regulars such as FG7XT, YV5AVW etc. in Caribbean and South American areas

continue to pound in regularly but the "down under" group are almost out of the picture here on the West Coast. The 14 Mc band seems to fold up before they get on the air. VK3KF and ZL1WB who used to be as regular as WWV are extremely rare these days. However, during the contest VK3KF came through on 21 Mcs with good signals early in the afternoon so it looks like for the time being 15 meters will be your best bet for that part of the World. If there still is any one who isn't convinced that conditions are improving I would like to point out that on Nov. 2 between 2000 and 2355 GMT all six Continents were printed here on RTTY and my location is certainly no prize! If your hobby is chasing DX — now is the time.

As you probably can tell — I'm itching to comment on the SS Contest but there are still so many logs coming in that any early returns are out of order. Conditions were excellent and participation was most gratifying to the committee. So far I have received suggestions on the rules changes from SM6CSC and G2HIO and I must add that their ideas are most enlightening. I suspect that there will be others who have offered suggestions but whose letters are still attached to their log sheets. We will seriously consider any ideas that you may have so feel free to write and let us know what you have in mind. Remember — any scoring suggestions should be uncomplicated enough to be practical. At best — scoring an RTTY contest can get quite involved. When the scoring is too complicated many fail to send in their logs because it is just too difficult to make it worth while and this is understandable.

It was quite a revelation to just sit back and observe the different tricks and methods the participants used to eke out contacts during that hectic week-end. Some were digging into the QRM and looking for the rare ones while others were coasting up and down the band watching for the "pile-ups" in the hope of getting a lucky contact. It was noted that Sergio, I1AHN, was one of the few DX stations that used directional calls such as "West Coast only" or "W9 only" with fairly good results. This seems like a reasonable idea because it did cut down the QRM pile up to some extent and gave more stations a better chance to get a QSO with him.

Some "hanky panky" amongst the contestants was also noted in several cases. For instance — several stations were heard to say "say, OM, when I worked you last night on

Continued ...

### DX-RTTY (Continued) ...

80 I missed your number and time group — would you please check back and give it to me now?" The unsuspecting (?) DX station would then accommodate them by giving a fill on a message that should have been completed on the band it was originated on. This gave the station credit for a contact that he would otherwise not have had. And then there were the ones who started their logs with nr. 50 or nr. 100 and went on from there. This sure "shook up" some of the high scoring lads when they came across one of these. Actually, this latter system is perfectly "legit" as far as the rules are concerned but the former tactic of getting a message "fill" on one band for a message receipted for on a different band is strictly unethical and should not be credited. It goes without saying that getting portions via the CW mode when QRM became intolerable is not allowed by the rules although a bit of this was also indulged in.

All in all it appeared to come off very well and the attendance would indicate that most everyone was enjoying himself. It was quite a rare instance when a CW station wandered above 14,085 on that particular week-end — it must have been quite a surprise to many of them judging by some of the CW mail I overheard that weekend. We'll talk more about it later after the committee comes out from under the pile of logs!

Before signing off — congrats are in order to K8MZS and G2HIO for achieving their WAC-RTTY Awards this month. They received nrs 70 and 71 respectively. Thanks to I1ORS, DL6EQ, K3GIF, K8MZT, and K6ROR for sending in DX news this month.

73

Bud, W6CG

**FOR SALE:** Polar Relay bargain MD-1 Type 330-1 150 ohms per coil, 1 3/4" x 1 3/4" takes octal socket, slight dents in covers, all mechanically perfect and adjusted for zero bias—\$1.50 each; four for five dollars, postpaid in USA. 1-4-400A tube, socket and chimney, \$28.00. Would like to swap 1 Model 14 TD with 60 and 75 wpm gears and base, for 14 typing reper, with EOL indicator. K1ZXH, 15 Minivale Road, Springdale, Conn.

**FOR SALE:** Model 19 complete with TD, table and heavy duty power supply, \$150.00. AN/FGC-1X like new with spares, manuals and tool kit, \$100.00. WILL DELIVER within 100 miles IF PURCHASER will assist in loading/unloading. K6WA Phone 213-451-2212, 414 South Cliffwood Avenue, Los Angeles, California.

**FOR SALE:** Perfect for that new TU! Collins S-line cabinets removed from brand new 75S3-B receivers. Complete with mounting hardware and feet, but less style frame. \$12.00, fob South Bend, Indiana. Shipping wt. 8 lbs. K9BRL, 1105 North Ironwood Dr., South Bend, Indiana 46615.

**WANTED:** May 1958; March, May 1963; and June and October 1964 RTTYs, RTTYA, INC., 372 Warren Way, Arcadia, California 91007.

**WANTED:** Back issues of RTTY. Send list. Will pay cash or swap tuning forks or custom made filters. K2AGL, 5 Hansell Road, Murray Hill, N. J. 07971. Phone 201-464-5671.

Dear Ham Operator:

A long-awaited Las Vegas Hamfest will become reality next January at Hotel Sahara, and this is an advance announcement for you and your club.

Mark the dates—January 7, 8, 1966—because this is one event you will not want to miss.

Hotel Sahara has established a bargain room rate of \$10 (plus room tax) for double or single occupancy. Other features of this "fun" Hamfest will include free cocktail parties, a gift from the Sahara, some noted speakers and a display of the latest equipment.

Naturally, registration will make you eligible for a large number of prizes that will be drawn during the event.

It's a wonderful opportunity to meet your friends in the relaxed atmosphere of the world's greatest resort town. Cocktail parties and other events will be planned to end early enough to allow you to see two shows a night on the fabulous Las Vegas Strip. A small registration fee will entitle you to a special Sahara bonus show, a drink at exotic Don the Beachcomber and many other surprises.

Your hosts will be the Las Vegas Radio Amateur Club and the Southern Nevada Amateur Radio Club. And in line with our policy of doing different things in Las Vegas, we have designed a new name for our Hamfest.

We call it SAROC—Sahara Amateur Radio Operators Convention.

## ADAPTING THE COLLINS 32S-1 FOR RTTY.

**Jack Berman**  
**28 New Haven Street**  
**West Roxbury 32, Mass.**

The Collins 32S-1 is an excellent piece of gear for RTTY, however, due to the plate voltage being removed from the oscillators during standby, there is a good deal of drift between transmissions. This is particularly bothersome on narrow shift. It has been suggested that the relay contacts controlling the oscillator plate voltages should be shorted allowing the oscillators to run continuously. This of course eliminates the drift but affects the operation of the unit on SSB. By installing an external relay that is energized when the RTTY equipment is turned on the unit works fine on CW, SSB, and RTTY. The external relay contacts which are normally open are connected across relay K1 contacts that are connected to R94 and the arm of switch S9E. These are easily located on the Collins diagram. Relay K1 is located on the underside of the 32S-1 chassis.

Fsking the VFO is done conventionally and has been adequately described previously. Due to the heterodyning frequencies used in this exciter, once the shift width is adjusted on any band it remains essentially constant on the other bands.



1965 ANNUAL RTTY MEETING LOS ANGELES  
PHOTO BY W6OJF

WESTERN



## HORSE TRADES

- FOR SALE:** Model 15 page printer, sync, 60 wpm, communications type, aluminum frame, fine working order, \$75.00. 88 mhy toroids, uncased, 50c each, 5/\$2.00; RTTY test tape on either printed, chadless paper or AFSK with 2125/2975 cps \$2.00 each or both for \$3.00 postpaid; tapes run seven minutes, have extensive RY's foxes, etc., K5BOA, 11040 Creekmere, Dallas, Texas 75218.
- FOR SALE:** Reperforator, Model 14 with sync motor less base and cover, \$24.50. Model 14 typing reperf, complete with cover and keyboard, \$42.50. Model 14, receiver, distributor with governor motor, for multiplex work, \$19.95. Model 15, paper 10 rolls to carton, \$9.95. Model 14 reperforator paper 11/16", carton of 40 rolls, \$7.95 per carton. 88 mhy toroids potted 5 for \$1.49; unpotted, 5 for \$1.95. J. J. Glass Electronics Co., 1615 South Main Street, Los Angeles, California.
- FOR SALE:** 2125 and 2975 CPS dual tuning fork assembly \$33.00, .05% stability, 68 to 86°F. Transistor fork drive circuit kit \$10.00; assembled circuit \$16.00. Data available. RIVERBANK LABORATORIES, Box 65, Geneva, Illinois 60134.
- WANTED:** Manual, 60 speed gear and worm, gearbox side plate and gasket, governor end cover and speed adjusting worm for a KLEINSCHMIDT TT-76A typing reperf. Or information leading to above. Will pay in dollars. 7Q7JO, J. A. McElvenney, Police Headquarters, P.O. Box 41, ZOMBA, Malawi.
- WANTED:** Small TD's approximately 6" square, with Brown Fox test set. W1LWV, P.O. Box 59, Chisholm, Maine.
- WANTED:** CV-60/URR converter, p/o URA-8 set. Have single unit Northern Radio type 152 converter with plug-in frequency unit, with manual; also ESSCO transistorized W2JAV converter, never used, with handbook; Model 14TD, URA-6, 7, 8 manuals for possible trade. G. E. White, 5716 North Kings Hwy., Alexandria, Va. 22303.
- WANTED:** One Western Union type 1-A tape head only. W9CWH, 706 North Elmhurst Avenue, Mt. Prospect, Illinois 60056.
- FOR SALE:** 88 mhy toroids, \$.50 each; 5 for \$2.00; 10 for \$3.50 PPD. P. H. Dater, Box 6616, Walker AFB, N.M. 88202.
- FOR SALE:** Complete Model 19 ASR like new. Model 28 table top cabinet, new. Local pick-up only. K6PZT, 9337 Gotham Street, Downey, California. Phone TO 9-3292.
- FOR SALE:** Sigma Polar Relay. Plug into Octal socket, 600 ohm coils, \$3.25 postpaid USA only. A. R. C. Sales, P.O. Box 12, Worthington, Ohio 43085.
- WANTED:** 5/16" paper for Model 14 strip printer (ungummed), need about 25 rolls. W0SIR, 904 Marday Avenue, Sioux Falls, South Dakota.
- FOR SALE:** Or trade for Heath HP13 power supply, Model 26 with table, W2PAT converter and 6 88 mhy toroids, \$60.00. K6ENQ, P.O. Box 192, Yosemite N.P., California. Phone 209-372-4588.
- FOR SALE:** TELETYPE PAPER, 8 1/2" standard roll, \$8.00/case of 12 rolls. TELEDELTO (electro-sensitive fax) 8 channel chart recorder paper, 12" wide, 6" dia. roll - \$1.00. PINK MANIFOLD 8 1/2" x 11" 1000 sheet pack, only \$.95. (sample for SASE) REC-29, RA-87 LOOP supply, \$6.00. Waveforms Model 510B wide range sine wave oscillator, (20cps to 2MCS), \$180.00. NEW. Like new, \$75.00. Model 101, \$35.00. Model 26 with original solid oak table, \$60.00. Model 15, \$75.00. Model 19 reconditioned \$150.00. HQ-192X receiver \$70.00. 4X150 \$4.00. WANTED, 811A's will pay \$3. Send for lists of much more. W2DLT, 348R Essex Street, N.J. 07980.
- FOR SALE:** Printed Circuit boards for W6NRM's MARK V, transistorized TU. Mark V #1, Fig. 3, \$4.00. #2, Fig. 6, 4.00. #3, Fig. 7, \$4.00. #4, Fig. 5, \$4.00. #5, Fig. 1, \$4.00. #6, BP plus detector units (Fig. 2 & 4), 2 required, \$4.00. #7 Scope tuned circuit board per Nov. 1965 RTTY, \$3.00. MARK V SET, \$27.50 p.p. MACKAY ELECTRONIC SYSTEMS, P.O. Box 1622, Eugene, Oregon 97401. Phone 343-5174.
- WANTED:** Your call and postal zip code number, if missing on your address plate. RTTY, INC.
- FOR SALE:** 2-CV57/URR I.F. converters new (unused) instruction books \$135.00 each. One used, good \$100.00 no Book. New Polar Relays \$1.00 each plus postage. 4-Model 19 Teletypes. Machines have sync. motors T.D. and reperforator-some gov. motors \$50.00 each crated and delivered dockside. 2-Model 15 Teletypes with P.S. and table \$40.00 each. KH6DBY, 15A Country Club Road, Honolulu, Hawaii 96817.

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