

RTTY JOURNAL

JUNE 1971

EXCLUSIVELY AMATEUR RADIO TELETYPE

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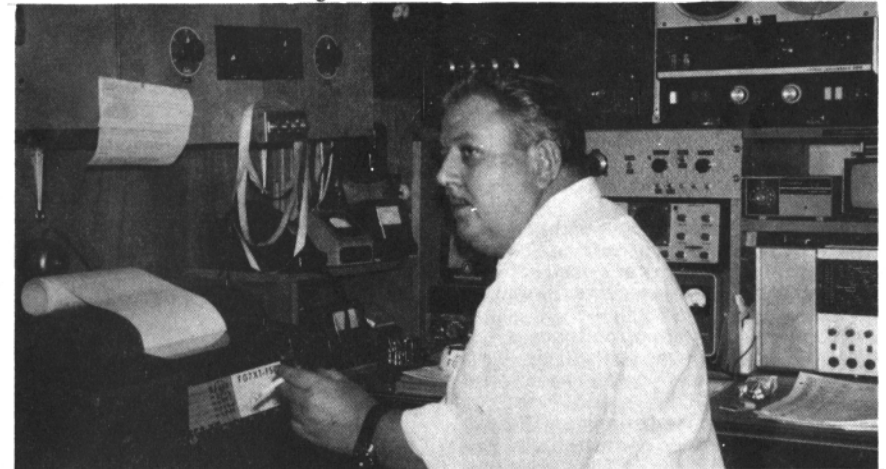


A few of the late leavers, Saturday night at Dayton - left to right -- Tom, W0MCU - Carol, WA4NYL and OM Gus, K4TMF - Dusty W8CQ - Phil, W9HPG - Dusty W8CQ - John, W3KV - Carol, EXY W9OMT. - Joe, W9OMT, - Joe, W9AE - Paco, XE1WU - Newt, K8QLO - EV K8JTT

Address Correction Requested
RTTY JOURNAL
 P O Box 837
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'Jean' FG7XT Confirms 1st DXCC on RTTY



May 1st., 1971 was a big day for Jean FG7XT as he received a card from YB0AAB to give him 100 confirmed cards for a RTTY DXCC. The first time anyone has accomplished this. Jean is mailing his cards to the ARRL for accrediting and then will have them forwarded to

JOHN, W3KV the Journal DX editor for the plaque award mentioned elsewhere in this issue. Jean has had 100 worked for some time but it took 110 countries to get his 100 QSLs. Our Congratulations to Jean for a long, hard but successful struggle and a milepost in RTTY.

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RTTY with TRANCEIVERS

RTTY operation with a transceiver has always been a problem and many ideas have turned up. Here is another that might be a new way to overcome the transceiver problem.

When receiving with a transceiver you can not normally use the standard tones of 2125 and 2975 Hz for the 850 shift. On narrow shift there will normally not be any problem and it is difficult to see why transceiver RTTY operators do not stick to "narrow shift". When using the 2125 Hz tone in a transceiver this tone has been designated to be space and the lower tone mark. The problems connected with this method are too well known to be discussed here. Here is the solution I found for Heathkit Transceivers.

Order a new crystal (Heathkit #404-280, 110 KHz) and replace the normal "LSB" crystal with this new one. If you still wish to use the "LSB" mode, make a small bracket to hold the new crystal and a switch. (Access through the "top cover", no holes in the front panel.) When using this new crystal you will get a pass-band more suitable for RTTY operation, ie, 1840-3940 Hz 6DB. You will also get a shift with the "Right side up". This new crystal makes a very good RTTY-receiver out of the transceiver, actually just as good as the SB300.

Receiving only from the transceiver is not the whole story, you will by feeding the "phone patch" with proper tones get a very good "FSK" signal. When you have altered the pass band you will have excellent trouble free operation. Not just a lot of notes from the FCC for spurious-transmissions. The proper tones can be obtained from a good AFSK oscillator such as the AK-1 (RTTY JOURNAL, Oct. 1968) (QST, March 1969) and the output can be monitored for unwanted radiations.

One problem with many transceivers on the market today is the use of low cost "sweep tubes" in the final. These tubes do not stand up well under RTTY operation. Dependable 6146's are used in Heathkits and give good performance even with the key down for long periods. I have had the key down for two hours with no difficulties. One word of warning-the US standard of designing power supplies can get you into trouble. If you have a home-brew power supply with considerable overcapacity, no trouble should be expected.

One can say that the "key down" time for the Heath transceivers is dir-
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ectly proportional to the design and ruggedness of the power supply.

Eskil Hedetun,
Erik Dahlbergsgaten 70
S-25240 Helsingborg, Sweden.

CARTG DX Sweepstakes

11th RTTY DX "British Columbia Centennial" Sweepstakes October 16-18th, 0200 GMT.

The Sweepstakes this year will be co-sponsored by the British Columbia Amateur Radio Association (BCARA) in honor of British Columbia's Centennial Year (1871-1971). Alan E. H. Venning, VE 7LL, has designed some very attractive plaques for awards. The "RTTY JOURNAL", and our Canadian Director, A.R.R.L. Noel B. Eaton, VE 3CJ, are giving us their usual splendid support and awards.

The Rule Sheet is now being compiled, and any ideas or suggestions will be very much appreciated regarding changes or innovations. This is YOUR Contest, let us have YOUR ideas! Get involved!

C.A.R.T.G.

MERIT AWARD

Issued by the Canadian Amateur Radio Teletype Group for direct and indirect efforts on behalf of organized Amateur Radio Teletype:

RTTY Experimental work; RTTY Technical articles; Traffic handling with RTTY; Organized Net operation; DX-World-wide Goodwill; Recommendation of your local Club or Group; Recommendation of Area SCM; RTTY Magazine bulletins or Newspaper publicity; Assistance to Blind or Handicapped in RTTY; Assisting with communications in a disaster or act of mercy; RTTY Civil Defense communications or for any other outstanding RTTY achievement.

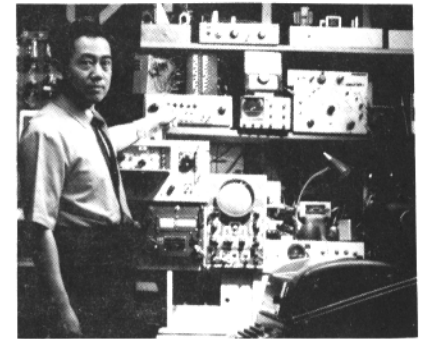
Recommendations to be made to Alan Venning, VE7LL (ex VE7BHH), Committee Chairman, CARTG, 6171 Brantford Avenue, Burnaby 1, B.C. The CARTG Merit Award was created by the Group in 1967 to be presented annually to the Amateur chosen for his outstanding contribution to the art of Amateur Radio Teletype Communications.

The Award need not be confined to technical contributions but recognition of any outstanding achievement worldwide. It is to be conferred through the action of a Board of CARTG Directors.

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An AUTO-RESPONDER for the SELCAL --

ALFRED CHAN W6DNT
1115 East Poplar Ave.
San Mateo, CA. 94401



Supposing you have one of Bill & Tom's (WA8PCK & K8ERV) Selcal (1) monitoring a FM repeater. Your friend gives you a call and leaves a message on your printer. But does he know you have copied the message? Does he know your receiver is ON? For five additional IC's you can let him know that his signal is fine and you are copying - all done automatically. You can even give him a message saying you've got the flu. . . or busy watching TV, without leaving your soft chair in the living room. The automatic response message can be as long as one minute. At 60 wpm you can say a lot in one minute if you don't talk about the weather.

Here's how it works: Your friend types your call sign. . . DE. . . types his call sign. . . and then types a bunch of K's (at least four.) Your auto-responder then turns on your transmitter and TD on which you have a small length of tape with both ends glued together with white glue.

CIRCUIT DESCRIPTION

When your call is typed, Gate G1-G5 is allowed to decode the letter K and generates a pulse each time a letter K is sent. KC1 & KC2 counts the number of K's and when four K's are received consecutively, Gate G7 toggles the auto-response flip-flop thereby turning on your transmitter and TD. What turns them OFF? At the end of the tape loop, you have already punched in. . . DE (your call) KKKK. These four k's should turn OFF your transmitter and TD. For esthetic reason on the yellow page, you should really type. . . DE (your call) KK (Itrs) KK (CR) two linefeeds, and then KKKK. This will make your response message look neat and serve as a reminder that you do need four of those K's to turn you ON. The Time-O-Lite (T-1) is for failsafe protection, available at photographic suppliers. It can be set for a maximum of 60 seconds. It is a MUST.

Inhibit by Line-Feed.

The purpose of the line-feed inhibit (LF-INH) is to prevent automatic transmission if two stations, talking to each other, happens to mention your call sign. Once your call is mentioned, the

auto-responder will search diligently for the four K's. If one of the stations subsequently sends a bunch of K's which is not intended for you, you should not respond, and the LF-INH will see it to that you don't respond.

CONSTRUCTION

The author suggests you squeeze the five IC's inside the basic Selcal enclosure to prevent noise pick up. (Leave the relay outside.) The author used copper-clad perforated board and glued the IC's on the non-clad side of the board with Silastic, (with the pins sticking up in the air). The copper-clad makes a convenient ground for the numerous pins that have to be grounded. All unused inputs should be grounded. The B line should be bypassed every two inches with a .001 disc ceramic. If you don't have enough room to squeeze in the five IC's and you must leave them outboard, it is suggested that you follow Frank's K5ANS recommendations (2). That is, shield and bypass every lead going into your auxiliary box. Following his advice will save you a lot of headaches in fighting noise spikes from huge motors and big relays.

In case you're rich and willing to spend twice as much money to buy the MHTL (Motorola High Threshold Logic) which has much better noise immunity, then do not put the MHTL in the same enclosure with the RTL's as the transients generated by the MHTL may glitch the RTL.

It is suggested that you hook up some device to monitor the auto-responder from your TV room or bedroom, either through the intercom, a portable FM radio, or via 27,255 Mhz.

A word of caution for new owners of Selcal-autoresponders, especially the

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ones monitoring a FM repeater, (which is almost like land-line.) When everything is working perfect, and you're ready to put it into action, the first impulse is to include in your response message something like, ". . . Please send NN(LTRS)NN when through. . ." The second impulse is to jump up and hit the ceiling when someone fails to send NNNN. My advise is do not complain. Just build yourself an Auto-reset (6 components - No IC's) which will automatically reset the Print FF in 15 seconds and turns off your printer, if the four N's are not received. If you do complain, you'll loose all your friends and you won't need the Selcal anymore, because no one will call you again. Also, be sure to disable the auto-responder if you want your Selcal to read somebody else's mail. Otherwise, he'd know immediately and without a doubt that you are reading his mail. Have fun.-73-

References:

- (1) RTTY Journal, Jul 67 p2 ff
- (2) RTTY Journal, Nov 70 p9 ff
- (3) 73 Magazine, May 68 p58 ff

Adjusting Speed of Governed Motor-

Here's a tip to those who may own a machine with a governed motor:

Setting a governed motor (such as that the Western Union Model 14 stripprinter) for 1800 RPM operation can be easily done using your hamshack fluorescent lamp as a "strobe". Tape a 1/4-inch strip of white tape radially on the face of the gear mounted on the right-hand end of the motor shaft.

Illuminate your machine with an ordinary fluorescent lamp. Start the motor. If your motor is running at exactly 1800 RPM, a four-legged cross will appear on the face of the gear (the cross should not be rotating). If the cross rotates clockwise, adjust the large control at the left-hand end of the governor until rotation stops. If the cross rotates counter-clockwise, adjust the control between the motor and governor until rotation stops.

73's, Richard Peterson,
WA6NUT

FREQUENCY COUNTER from SURPLUS DISPLAY UNIT--

ELLIOT LAWRENCE, WA6TLA

3435 Columbus Ave.

Van Nuys, CA. 91401

A frequency counter is the best device for accurately tuning filters and adjusting frequency shift. Prices for a complete counter unit with good capability are dropping and the latest Heathkit offering is the lowest yet. However, scalar units are available on the surplus market at an even lower cost. They must be modified to incorporate a time base for frequency measurement.

The scalar unit is just an event counter having a numerical display. This numerical readout is usually in the form of Nixie tube or vertical lamp displays. What is needed to make them perform as a frequency counter is an enable signal with a one second duration. This signal lets the scalar count the number of events (cycles) occurring in a second. The result is frequency in Hertz (cycles per second). A reset signal is used to zero the accumulator so the measurement can be repeated.

TYPE OF SCALAR UNIT

The scalar unit I acquired was made by Systron over ten years ago using beam switching tubes to accumulate the count and having a four digit nixie readout. Units made by Beckman and others are available that use triode binary elements to store the count. They should be easily recognized by no ability to select frequency on the front panel.

The three functions needed to convert the scalar to a counter are: 1) count input (frequency source), 2) enable signal or on-gate and 3) reset signal. These signals may be available on either the front or rear of the unit or possibly both.

Timing Logic

To minimize cost the 60 hertz power frequency was used as a frequency reference. This should provide a measurement accuracy of about 2 cycles in 10,000 which is more than sufficient for the intended purpose. The 60 hertz signal is squared up by a Schmidt trigger using a resistor diode network and two logic gates. This minimizes the effects of input waveform variations. Flip-flops divide this frequency down to 1/2 and

1/4 hertz square waves. The output logic provides the one second count and reset signals. In normal operation, you can see the count accumulating for one second, held displayed for two seconds and then reset for the next count. A measurement up to 9999 hertz can be made every 4 seconds. The reset occurs on the leading edge of the reset pulse so you are ready to go when the next count signal occurs. Figure 1 shows the details of the timing logic.

A suitable power supply is shown in figure 2. The output voltage should be nominally plus 5.0 volts with a plus 0.5 volt range acceptable. Add or remove diodes in series with the zener to adjust the voltage at a current level of 125 milliamperes. This is best done using a 47 ohm resistor load before connecting to the logic elements.

Output Logic

The logic sense and voltage levels needed to use the timing logic must be specifically tailored to the scalar unit on hand. If you can locate a schematic of the unit it would be helpful. Otherwise, trace out the circuit and see what it takes to do the job.

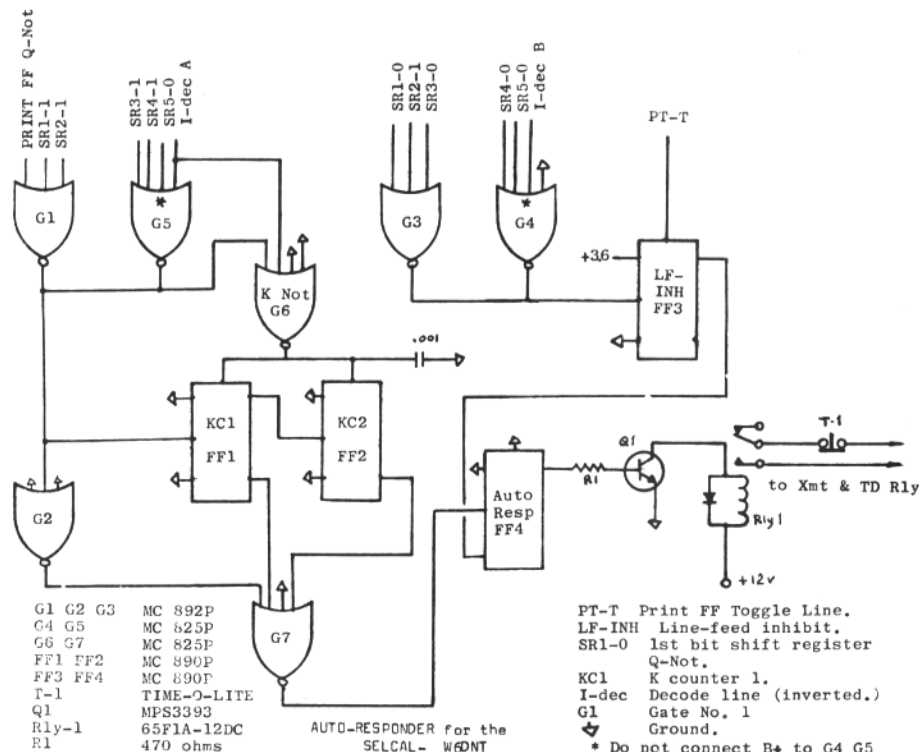
Figure 3 shows the circuits used for my unit. The count is started if a signal above 8 volts is applied to the enable input and it is reset by grounding the reset line. Q1 is a level shifter and inverter and a one-shot network formed by R1C1 triggers Q2 on the leading edge of the reset signal. A relay was used because the reset is pulled up to plus 300 volts in the scalar and a transistor with high enough breakdown voltage was not readily available.

Parts and Construction

The unit can be built using vector boards and installed inside the scalar if space permits. Otherwise an external box can be mounted on the back of the unit. Layout is not critical although liberal decoupling of the plus 5 volt logic supply with 0.1 uF ceramic capacitors should be used.

The unit uses 7400 series TTL elements to perform the counting and logic. The quad two-input NAND gate and JK flip-flop elements are utilized. Equivalent DTL functions can be directly substituted, RTL functions such as 914, 923 gates and flip-flops should work but have not been tried. The Texas Instru-

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ment elements are available at a low price from Polypaks (see QST ad January 1971). The SN7400N quad gate sells for 88 cents, SN7472N single JK flip-flop \$1.19 and SN7473N dual JK flip-flop for \$1.49. Use of the dual flip-flop results in a significant cost savings.

Transistors are general purpose

devices and are not critical. The series regulator transistor must dissipate about 0.5 watt so a MJE-340 is suitable or any NPN device in a TO-5 can such as a 2N2219 with a clip-on heat sink. Diodes are all silicon with 50 volt PIV ratings.

Liberal use of the junk box and ex-

perimentation with the output logic for the particular unit should be tried. My scalar cost only \$20 and the logic elements about \$10. For a total cost well under \$50 a more than adequate frequency counter results.

References - Available from Texas Instrument and Motorola Distributors.

1) 7400 series data sheets

- 2) TTL Design Ideas Using 54/74 Logic, Motorola Inc., Semiconductor Products Division, May 1970.
- 3) TI Series 54/74 Integrated Circuits, Texas Instruments Incorporated, 1966 \$3.00.
- 4) TTL Catalog Supplement from Texas Instruments, Number CC301, Texas Instruments, 1970, \$1.00.

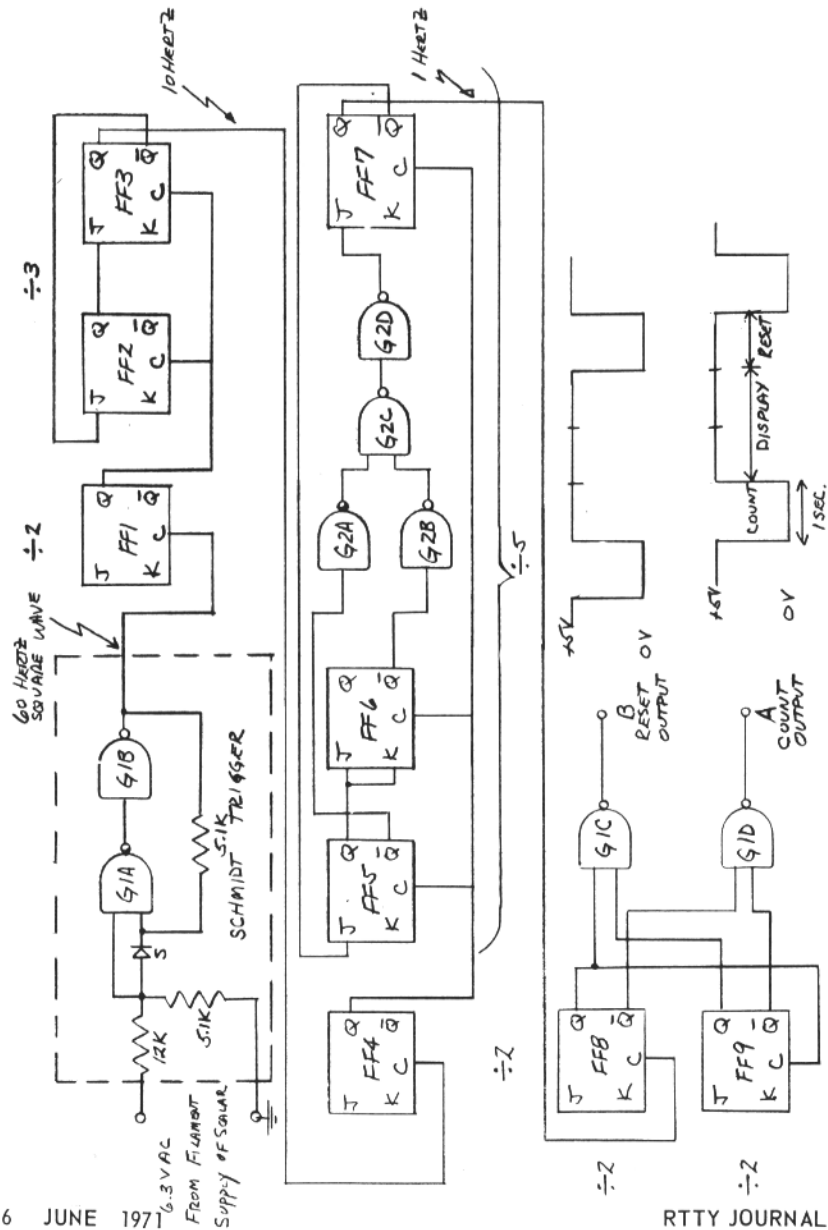


FIGURE 1: TIMING LOGIC

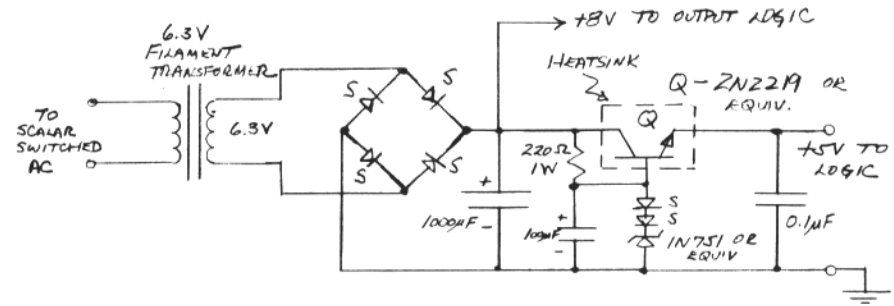


FIGURE 2: POWER SUPPLY

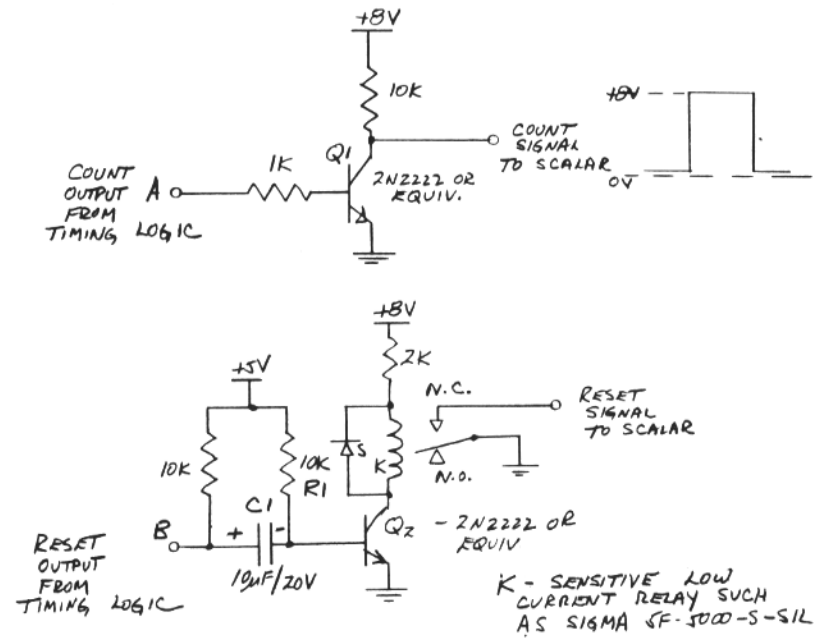


FIGURE 3: OUTPUT LOGIC

VHF RTTY NEWS

RON GUENTZLER, W8BBB Editor

Route 1, Box 30
Ada, Ohio 45810



This month we have several items of VHF news.

From Sandy Jenkins, K8NQW, in Parma (Cleveland) OH: "The following list of stations are active in this area on 6 meter AM/AFSK: K8ZYX, Grafton, K8BRW, Aurora, WA8TNG, Painesville, WA8YGU, North Canton, W8LEW, North Olmsted, K8VPM, Grafton, WA8AWD, Maple Heights, and K8NQW, Parma.

"We are all using standard tones 2125/2975 on 50.700 at the suggestion of John K8ZYX as the crystal for this frequency works out to a whole kilocycle in the popular 8 MHz fundamental used in AM XTAL-controlled rigs. We are horizontally polarized and the 50.7 frequency is used as a calling frequency. We also use 50.55 as an alternate."

Cappy Ricks, W8DXW, in Chardon, OH, said: "After reading the DX record of (Journal, 1971 MAR) W2LXC I may have him beat on the DX for 2 meter AM RTTY AFSK. My log shows a contact with Walt, WA8RLF, in Flat Rock, MI. Date was October 11, 1970 - 2305 to 2350 EST. I was using a SCR-522 transmitter, 15 watts, and eleven element Cush-Craft beam." Looks like about 120 miles.

From John Corstvet, WA9SOU, Madison, VI, we received the following: "Enclosed is a copy of the print out I found one Saturday afternoon when I got home from work. (1970 SEP 15) This is the only time that I have printed you out, and the record DX for me on two meters. (About 300 miles - but one way.) Last fall I used to get on the channel with the fellows in the Chicago area quite often until I took the 250 watt Motorola base station off the channel. Since December I have been using a 20 watt rig into a ground plane about 20 ft. off the ground. Since I went to that system, I haven't heard anyone but locals. My receiver is a Sens "A". . . This spring after it gets a little wrammer and I am finished modifying the 1/4 KW, I will once again have it out in the garage and connected to the Comm Prods Stationmaster 200-509 that's on the tower.

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"There are three other stations in town on 146.700 at the present time. They are: WA9OFG, WB9CRF, and WB9CRG. We have had a few others on the channel, but they have either moved out of town, or moved on to other interests."

One note - If John had not been running autostart he would never have heard me (that could be good or bad) - but the point is that many interesting (or bad) things can be heard while you are not around if your machine is there waiting.

Jay Starks, WA0YCP, is the president of the Denver Amateur Radio Teletype Society (Incorporated in the State of Colorado.) "We now operate on 147.06 (FM), vertical, 170Hz shift. Those active in this group are: W0GIL, W0RQI, W0LRN, K0JSP, WA0ZVN, and WA0YCP. This is all being done on auto-start. We are now working on a repeater link into Colorado Springs and Pueblo using "Touch Tone" phone pads for call up."

From Glenn Kurzenknabe, K3SWZ, Camp Hill (Harrisburg), PA: "We operate mostly on 6 meter AFSK. There is no special frequency as of yet. There are about 20 stations. It is normally random QSO's. Most of the RTTY gear came from Air Force MARS which is very active in this area (49.980 MHz). We are trying to get everybody together at one time, on one freq., but no luck yet. I have tried 2 meter RTTY around 145.44 MHz and worked many fellows in the Maryland, D.C. area. The active guys are in a radius of about 25 miles of Harrisburg."

Well, thank you, Sandy, Cappy, John, Jay, and Glenn. Let's hear some more.

The following "thoughts" are being "ventilated" by Eskil Hedetun, SM7-DMG, Helsingborg, Sweden: "I am not a technician, nor do I have the theoretical background for the statement in a letter from Frank Greene, K5IQL, but - I have some practical experience.

"In a DX-QSO on two meter RTTY, the best possible results are showing when using 'FSK' only. Of course you have to take care of a lot of things, i.e.

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TX stability, proper shifting method - giving proper amount of shift after the multiplication. And you also have to get your RX and antenna in best possible shape.

"If you are not able to do the 'FSK' you have to turn to the 'AFSK'. Using AM it is very easy to get in business, simply connect the AFSK-generator and the terminal-unit. If you take Frank's fine advice, you are bound to get a lot of good QSO's.

"But, if you are using 'FM' (the 'IN' mode) I am sure that you will get even better results. That is you do not have to do the same mistake as many hams have done before you, using their existing AM equipment, perhaps modify the modulator for FM and then go on the air stating that AM is far better than this 'D-M'N' FM. Using FM you have to be able to take advantage of this mode fully, not just being able to get 'compatibility'. You should have a good RX with the proper bandwidth, the ultimate in limiters and a perfect detector. Then you will see that FM is superior to the AM. The main reason is that you are not troubled with all that pulse-type QRM that we have in our modern communities and that is so harmful to RTTY transmissions.

"So What? you say. Well, I have to get back to the introduction in Frank's letter and the thoughts behind this. That is that a 'more serious' ham can get far better results using well-designed equipment than just using the local repeater. Here is the vital point: You have to do a bit of self analysis and see what is your aim with two meter RTTY. Are you mostly interested in 'DX' work, the 'DX' being the prime interest - the mode coming as an 'extra', or are you interested in just the 'communication'. Perhaps your interest in RTTY is a combination and you have decided that the two meter band gives you the best bonus. A vital aspect with RTTY is that this mode gives you a printed copy of the communication and you have not to 'deal' with it the same moment as it arrives. This is an advantage over the ordinary ham-station. And we are not rpt not taking full advantage of this when not using the local repeater.

"Conclusion: For real serious DX work on two meters you have to turn to FSK. Using AFSK best results are achieved on FM, if you are using 'true FM' equipment.

"By using the local repeater you are able to communicate with all in your area, not just the one that happened to be in the main-lobe of your antenna.

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(How many QSO's have you missed having the antenna in the 'wrong' direction?)

"RTTY with autostart gives you a lot of fun. If you just can get the 'net' going 24 hours a day. The personal communication with your local friends can be a lot improved in this way, by having good and close contact with your local friends you can get a lot of aid and help with your 'problems' and this is beneficial not only for yourself but also for 'handom'."

Very good. Any other comments?

73 ES CUL next month. RG

E.A.R.T.G.

THE NAME STANDS FOR:

"Europa-Amateur-Radio-Teleprinter-Group"

ITS AIM:

- To further the interest of amateur radio teleprinter operation internationally within Europa.
- Assist its members with technical advice and information.
- Represent the radio teleprinter amateur at International Conferences and Conventions.
- Strengthen the bond of International Friendship and Co-operation.
- Remedy the shortcomings in the field of amateur-public relations within the amateur world.
- Publish RTTY articles in the "International-Amateur-Radio Teleprinter Magazine."
- To make it "The RTTY-Group", for those amateurs who have not or can not have for practical reasons their own national rtty society or group.
- Each existing RTTY Society/Group does not have to loose its national character or identity, but could contribute a lot for the benefit of others.

The group shall be an International effort, every country shall be represented in the Europa Amateur Radio Teleprinter Group.

The E.A.R.T.G. shall be run BY rtty amateurs.

At present consultations are taking place for participation between all countries in Europa for the setting up of a working committee whose task shall be the study and recommendation of suggestions and proposals, which have been submitted.

Further information can be had from: PA-O-PIM, Ton Hoek, v/h Wapen van Woerden, Woerden, Holland; or: E15BH, Paul Quast, P.O.B. 73, Athlone, Ireland.

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RTTY-DX

JOHN POSSEHL - W3KV
Box 73 Blue Bell, Pa., 19422



Hello there

If the activity in the entire WAE Contest was anything like the last hour, we really missed a good one. The Hamvention and the WAE occur on the same week-end each year and we are always out in Dayton, Ohio renewing old acquaintances making new ones. This year improved roads, mainly a by-pass around Columbus, Ohio, allowed us to get home with an hour still left in the Contest. We managed to make 14 contacts before the curtain came down. VK2KM and VK2FZ were still coming thru long path at S-9 even at that late hour. I would imagine that the highlight of the Contest was the DX-pedition by HB9P. The call used was HB0D and it was the first RTTY operation from Liechtenstein. We certainly all thank Carl and his group for the excellent job they did in getting their rare country on the air.

A report from Bud, W2LFL, indicates that things were going great in the Contest right from the start. All Continents were represented in force again and many of the boys made W A C. Asia was represented by JA1ACB and 4X4MR. Africa by ZS3B, ZS6UR, CR6CA, and ET3USA. From down under there was ZL2ALW, VK2FZ, and VK2KM. South America came thru with PY2CBS, and PY2EWL. Bud also reports that a new station was on from Bolivia, CP5AD. This would be the first RTTY activity from this country since CP1BX was active for a brief period back in 1966. Apparently all the bands were quite active with the possible exception of 10 Meters, and at this time of the year this can be expected, at least in this part of the globe.

Without doubt, the month of April was a banner month for the RTTY DXer. It is difficult to remember when in the past, if ever, so many new countries came on the bands in so short a time. On April 9th Frank, 9Y4VU, became the first RTTY station to be active from Trinidad, with Bill, K8KAG his first state-side QSO. Frank has an excellent signal from a Drake TR-3, W9PAT TU, and a Kleinschmidt TT100B printer. Some ini-

tial keyboard distortion has apparently been cleared up as the boys report excellent copy now. Your QSL will reach Frank as follows --

Frank Brooker, 9Y4VU
c/o Instrument Dept., Texaco
Pointe-a-Pierre, Trinidad W.I.
Frank was in the Contest for awhile and 14 of you logged Trinidad for a multiplier.

The anticipated RTTY operation of Henry, CR7DB, commenced in the latter part of April, and in fact he was reported active in the Contest too. Henry has an excellent signal in this part of the world and you would have no trouble with the copy when you meet him on the band. He told us that he would be active as CR7DB/ZD5, Swaziland; CR3DB, Portuguese Guinea; and CR6DB, Angola; as he is licensed for all these rare spots. No definite dates were given but it was indicated as being in the near future. Jo, CR6CA got Henry interested in RTTY and we all sure thank him for his assistance in getting this new country on the air. Jo is very active and can probably keep you informed as to Henry's plans as they develop. We also understand that CR6JV will soon be QRV with Jo's help and that shortly after he will be leaving for CT1 and will put this country on RTTY for the first time.

Last month it was reported that Cole, ex-K5OLU, was on Kwajalein waiting for his call to be issued. While we were at the Dayton Hamvention Irv, W6FFC told us that he had the first QSO with Cole just a few days before. The call is KX6IT and activity is mostly on week-ends because of his heavy work schedule.

So much for the current activity, now for some additional possibilities for the future. In a recent QSO with VK6VK, Vic told us that John, VK0JM should be on very shortly from the Australian research base in Antarctica. With KC4AAD closed down there has not been any activity on RTTY from this area for quite some time.

Via Bud, W2LFL, we hear that EA8CI on the Canary Islands is due to be active

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very soon and also there is a good chance that the Finnish hams will be authorized to operate on RTTY very soon. Some of the OH boys are all ready to go as soon as permission is granted.

A nice note from John, KL7GRF, gives us an idea on conditions up there in Alaska. John is with the Coast Guard up there in Ketchikan and is quite active evenings and week-ends so you fellows looking for a KL7 should have no trouble finding him when conditions are right. The WAE was his first Contest and he really had a ball, making WAC in spite of generally poor conditions up that way.

As of this writing Tino, IIII was due in the States for about ten days in the New York and Washington area. We hope that he enjoyed his visit and was able to visit some of the RTTY boys as well. Down under, Jim, VK3DM is temporarily off the air as he has moved to a new QTH and is in the process of getting his antennas up again. It is no doubt that the new location was picked with ham radio in mind as Jim is on a 1000 foot hill with a clear shot to all points of the globe. It will be hard to improve on Jim's previous signal but with that location a few DB's are certainly in order. As it will take the Call Book quite a while to catch up here is the new QTH --

Dr. J. R. Goding
15 Myamyn St.
Malvern, Vic. 3144

Jim is also anticipating another visit to the States and Europe some time in the Fall of this year.

Pierre, FY7YQ will be on an extended holiday in France from mid May to September. He will have all his gear with him with the exception of the printer which is a bit awkward to tote around when flying. However he has hopes of picking one up over there and he already has the call of F0FC. His friend Dick, FY7YR may step in and keep French Guiana active while Pierre is away.

Some of the fellows planning to get on RTTY believe that it is necessary to run high power to get the signal through. You will find that most of the better signals on the bands come from stations running 150 watts or less. Have you recently had a QSO with OZ1AT? That big signal comes from 10 watts input!! W3CIX down near Baltimore had a great time in the BARTG Contest with 15 watts to an attic dipole. Like the old Ham saying goes, and it still applies to RTTY. "You gotta hear em to work em". Concentration on the antenna, receiver, and on the TU with sharp and perferably tunable filters will pay off, not shoveling coal on the final Tx tube.

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As you have no doubt noticed from the last listing of the RTTY DX Honor Roll the 100 countries confirmed will be a reality at any moment now. Dusty, W8CQ, would like it known that ALL awards for this difficult achievement will be in the form of an engraved trophy befitting the occasion. The only requirements that all contacts be on two way RTTY. The ARRL country list will govern and the roles for the ARRL DXCC will be your guide as to what constitutes a country. This rules out contacts with Maritime Mobile stations (MM or AM). QSL "cards" as such are not mandatory. A letter or other written evidence with all necessary information is also considered valid in lieu of a formal QSL card from the other station.

Apparently there were a couple of "hits" on the composing machine that makes up the copy for this magazine last month. To set the record straight, "WB 0AAO" should have been "YB0AAO" and of course Dave is 3A2CQ.

In closing we are pleased to announce the WAC Award this month goes to --

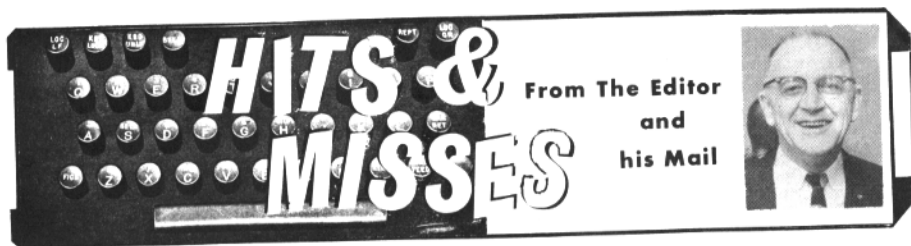
NR 156 Charles F. Krinke
WA6LWB

73 de John

RESULTS- Giant RTTY Flash Contest -1971

1) iIKG	93.757	27) HA5KFB	4.640
2) W4Y G	50.656	28) K1YGF	4.536
3) iICAQ	43.524		
4) WA3YVK	40.368	29) ON4BX	4.522
5) DK3CU	37.814	30) CE3EX	4.378
6) WIKJL	37.033	31) YB0AAO	3.731
7) VK3DM	31.749	32) HA5FE	3.612
8) DM2BRN	29.354	33) DL8RW	3.562
9) ZS6BBL	27.630	34) K1LRS	3.210
10) iIEVK	24.220	35) G3IGG	3.185
11) VE7UBC	24.058	36) DL0EL	2.971
12) F9RC	23.464	37) K8ILL	2.456
13) DJ6JC	20.548	38) DL8CX	2.070
14) iTIZWS	16.900	39) iIAMP	2.035
15) FO8BS	16.245	40) DK1AQ	1.920
16) DJ8BT	15.778	41) SM0OY	1.846
17) UK4FAD	14.644	42) K2CY	1.812
18) iICWX	13.064	43) ON5WG	1.664
19) KZ5LF	11.940	44) XE1YJ	1.210
20) ZL2ALW	10.088	45) WA6WGI	1.176
21) SM4CNN	8.736	46) OZ4FF	1.092
22) W3KV	8.220	47) K9UYU	840
23) OK1MP	7.832	48) K9WJB	765
24) K4CZ	7.260	49) DM3RYA	132
25) JA1ACB	5.748	50) DM3DD	124
26) iILCL	5.680	51) W6AEE	49

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Unbelievable - Unbelievable - This comment from two new RTTY fans "Paco, XE1WU and "Jose" XE1SS, that flew all the way from Mexico for the Dayton Hamfest is an excellent description of the hectic week end. Over 4500 hams registered, exhibits and meetings jammed the huge outdoor flea market packed in spite of some cold weather and best of all renewing old friendships and meeting many face to face after acquaintances made on the air. Our only regret is so little time to do so much. Our RTTY suite had a record crowd, in fact we ran out of Kool Aid for a time Friday night, Irv Hoff W6FFC, flying in from California was a busy man answering questions on the popular ST series of converters. Many regulars of the auto start nets on both 80 and 20 meters were in attendance from all over the mid west and south. A good crowd at the RTTY forum, moderated by Joe, W9OMT heard interesting talks from Ron Guentzler, W8BBB, Tom Talley, W8HQQ and Garey Barrell, K4OAH. We have attended a lot of Hamfests but without doubt Dayton tops them all - all ways.

Probably the most talked about item among RTTY fans at Dayton was a solid state keyboard, with readout on a tv screen, shown by Hal Devices, the keyboard probably borrowed from a Mite or similar machine sends teletype characters to a transmitter. Teletype signals incoming may be used to actuate a regular printer or may be shown on a TV screen, storage of the signals is also provided for on magnetic tape. We did see it work but have to admit it was away over our head technically. Hal Devices have promised to send us pictures and a more accurate and complete description very soon. This particular model was finished in the early morning hours just before the convention and the crowds around their booth prevented us from getting much information. Everything is done by solid state.

With the increase in postage rates
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some change in our subscription rates may be necessary. We have thought about going to 20 pages and trying to sell some display advertising (20 pages is the maximum we can run and still stay under the 2 oz. postage rate) but this means more work every month. Since we are not trying to make money - and we dislike work - for the present we will wait and see how things turn out.

BACK ISSUES---

The only back issues available are listed below. Copies are 30c each.

- 1966 - Aug., Sept., Oct., Nov., Dec., (5)
- 1967 - None
- 1968 - Mar., May, June., Sept., (4)
- 1969 - Feb., May., June., July, Sept., Oct., Nov., Dec., (8)
- 1970 - Jan., Feb., Mar., (2)
- 1971 - Jan., Feb., Mar., April., - May - (5).

New subscriptions and classified ads are cash in advance as we have no method of billing. New subscriptions will be started with the current issue and one back issue if requested. Please do not ask us to start any further back than this. If available, back issues may be ordered at 30c each at time of subscription. The Journal is mailed about the 20th of the month preceding the dated month.

RTTY JOURNAL
P.O. Box 837 Royal Oak, Mich. 48068
DUSTY DUNN - W8CQ
Editor and Publisher

SUBSCRIPTION RATES 1 Yr. (11 issues)
U.S.--Possessions--Canada-- Mexico
First Class ----\$ 3.00 Air Mail -----\$ 3.50

All other countries --1st Class---- \$ 3.50
Air Mail--Central--South America 5.00
Air Mail --Other Countries - - - - - 5.50

RTTY JOURNAL

SOURCE of PAPER

By Alton E. Broussard, W5VAQ
P.O. Box 647
Lafayette, La.

An inexpensive or free source of teleprinter roll paper is available to almost all hams living in or near cities having a daily or large weekly newspaper.

Those newspapers that use rotary or web presses print on huge rolls of paper. The pressmen do not replace an exhausted roll after it is completely used up, but rather shortly before. The paper left on the almost exhausted roll is used for copy paper but there are always more "short" rolls than are needed.

Hams may get these shorts for nothing or almost nothing.

The cardboard cylindrical corps on which rolls are wound are three inches in diameter, too large, of course, to fit in the teleprinters. Those operators using Model 26's, can place the paper outside the machine, as will be explained later.

The "short" rolls can be sawed, either manually or with a power saw to the right width. A fine-tooth saw works best.

After the roll is cut into proper length "logs", the trick is to reroll the paper on a smaller corps. A simple device can be made to accommodate the big role and the spindle on which it is to be transferred. A wire crank made from a coat hanger speeds up the operation of unwinding the paper from one roll and winding it on the smaller spindle. Conceivably the device may be motorized.

Model 26 operators may hang rolls from the back of the machine on a trapeze. As in the case of using fanfold paper, a paper guide is a must.

ALL-STATE RTTY AWARD

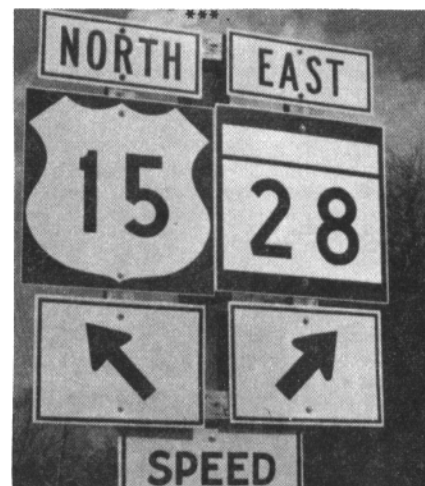
The Florida RTTY Society reminds all RTTY amateurs of the All States Award which is awarded to any RTTY operator for two-way radiotelewriter communications with all fifty states of the United States.

QSL cards confirming contacts must be submitted to the Secretary of The Florida RTTY Society by registered mail and sufficient postage must be included to return all cards by the same class mail.

There is no fee attached to receiving this award, contrary to published reports.

The ASA certificate is one you will be proud to own and if you can qualify
RTTY JOURNAL

you are urged to submit your QSL cards. All applications should be sent to The Florida RTTY Society, Inc., P.O. Box 6047, Daytona Beach, Florida 32022.



Take Your Pick !



ST-3 - FOR SALE, works fine, top quality parts, complete bandpass input filter, meter indicator, 850 - 170 shift, normal - reverse switch, \$55. Paul, WB6JOI, 29604 Stonecrest, Palos Verde, Cal. 90274

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CLASSIFIED ADS Rates-\$1.- 30words. ADDITIONAL Words 3¢ ea.
CLOSING DATE FOR ADS- 1st of month.....

SB-401 w/crystals, SB-301 w/cw filter, \$500 for pair. Will sell separately. Very nice TT/L-2. Model 15 printer, 2 model 14 reperfs, model 14TD all on custom table with super station control. Many other non-RTTY items. S.A.S.E. for complete description. WB4RKA, R. Wanat, 443 Atlas Drive, Madison, Alabama 35758

PARTS - ALL MACHINES - fast service on all machines from 14s thru 35s. SASE for list. Sell Fred your surplus RTTY for highest cash or trade. Typetronics, Box 8873, Ft. Lauderdale, Fla. 33310 W4NYF

MORE RTTY! THAT'S RIGHT. In 1970 there were more feature RTTY articles in HAM RADIO Magazine than any other general amateur magazine. You need RTTY Journal, but you need HAM RADIO also. \$6.00 per year; \$12.00, 3 years. Ham Radio, Greenville, N.H. 03048

TOROID COILS, 88 mh UNCASED. 5 for \$2.00 postpaid U.S. H. R. Fasold, PO Box 375, Apple Valley, Cal. 92307

SALE: TELE-TYPEWRITER SIGNAL DISTORTION TEST SET TS2/TG transmits four test signals, R, Y, space or standard test message. Portable in wooden chest, manual and wiring diagram included. Used good, \$32.00 each. Telfax Facsimile Transceiver; desk type, W.V. model 600 SA, simple to wire back to back for landline use or over a VHF audio frequency shift hook-up. O A dim. 12x13x7 5 inch drum, synchronous drum motor, running condition, used good, \$11.00 each. Atlantic Surplus Sales, 580 3rd Ave., Brooklyn, N.Y. 11215

WANTED: All models of teletype machines, new teletype parts and Northern Radio Converters, type 107. Let me know what you have; I plan on traveling throughout the country and will stop in. Telemechanics, Inc. 85 Shields Ave., Williston Park, N.Y. 11596

HAL DEVICES - RTTY EQUIPMENT Now, a single source for BOTH parts and circuit boards for Mainline RTTY Equipment. Recently added to the HAL/Mainline series - the HAL-AK-1 AFSK Oscillator parts kit for \$27.50. The HAL-AK-1 features a new circuit board (same size and using the plug-in connector as in the ST-6) and 15 turn potentiometers for precise adjustment of the tones for 170 and 850 Hz shift. Other proven HAL Devices RTTY Equipment: HAL ST-5 TU Parts Kit - \$50.00 (with HAL circuit boards, meter, and meter components. HAL ST-6 TU Parts Kit - \$135.00 (Now supplied with meter, lamps, and associated parts). Screened, but not drilled cabinet for ST-6 - \$26.00. Wired ST-6 Terminal Units - write. HAL RT-1 Solid State TU/AFSK generator - \$51.50 (with cabinet) Write for complete details on these and other HAL products and parts - look for us at the Dayton Hamvention. HAL DEVICES, Box 365 RJ, Urbana, Ill. 61801

BACK ISSUES - RTTY JOURNAL - Have all issues from Vol. 1, No. 1, will reproduce any issue for \$1.00 PP. \$1.10 first class. John Isaacs, 3175 Val Verde Ave., Long Beach, Cal. 90808

COLINS 51S1 GENERAL COVERAGE receiver - 0.2 to 30 MHz. Used less than 100 hours. With manual, choice of filters, cabinet or rack mount. \$850. C. Fenwick, W0FTM. 4340 Eaglemere SE. Cedar Rapids, Iowa, 52403. 319-366-1012 after 7 PM.

EPOXY DIODES - 1000 Volt PIV at 1.5 Amp. 24c each ppd. 88 Mhz Centertapped unpotted toroids. \$1.50 for 5 ppd. Send stamp for list. M. WEINSCHENKER BOX 353 IRWIN, PA 15642.

M2ASR 100 wpm \$825. M19 60 wpm \$135., other electronic odd lots. New list twice a month. Send SASE to CFP Enterprises, 10 Graham Rd., W., Ithaca, NY 14850.

SELLING OUT WAREHOUSE FULL of teletype & facsimile machines, parts and equipment. Loads of electronic equipment and computers. No fair and reasonable offer refused. No list or catalog available. Saturday or Sunday by appointment. Week days 10-4. Goodman, 5826 S. Western Ave., Chicago, Ill. 60636. (312) GR 6-8200.

POTTING COMPOUND FOR TOROIDS, etc. 1/2 pint kit includes dispensing tube, actuator, mixing tools. Hardens in a few hours 35c per kit. Amplifier Modulator AM879/FRC contains tubes, trans, pots, coils etc. Best buy on the market. Large quantity in stock only \$3.00 postpaid. Over 10,000 items in stock, write - all inquiries answered. Bob - Frank Electronics, 407 Ritter Rd., Harrisburg, Pa. 17109

MODEL 28KSR, 60 WPM, Sync motor, Good condition, \$300.00. Model 28 typing reperft, 100 WPM, Sync, no cover, \$75.00, Warren Dunning, WA31V, 2828 S. Simpson, Philadelphia, Pa. 19142.

TOROIDS: LOWEST PRICE ANYWHERE. 40/\$10. POSTPAID. (5/\$2.00) 44 or 88 mhz center tapped. 32KSR Page printer, reconditioned, perfect; \$225. MITE UGC41KSR Page printer, perfect; \$250. Mod28 Sprocket to Friction Kit \$25. 28LBDX TD \$70. 28LPR reperft with gear shift; \$170. 33 parity keyboard with cables, excellent; \$38. Model 15KSR, reconditioned; \$65. Matching RA87 P.S., Unused; \$7. Lorenz 15KSR, newest, many features; \$75. Sync motors \$7. GEARS for most machines: List for stamp. 14TD \$20. DPE tape punch \$14. HP200CD Audio Oscillator \$95. R390URR receiver \$550. 11/16" tape; 40rolls/\$10.00. 33ASR, complete, excellent; \$700. Stamp for complete listing. Van W2DLT 302R Passaic Stirling, N.J. 07980

SALE: TELETYPE SPROCKET WRENCH size 5/16" x 12 inches, long steel unused \$1.00 ea. 60 WPM set of gears (2) for model 14 TD, unused \$6.00 set. 60 WPM set of gears for model 14 typing reperft (pinion unused) \$6.00 set. "Here Is" answer backkey-board for model 15 teletypewriter with attachments to set up identifications, 21 characters, complete with keytops, springs and gear, used, excellent, \$12 ea. Atlantic Surplus Sales, 580 3rd Ave. Brooklyn, NY 11215

MODEL 28 TDs, 5 level code, adaptable to 8 level, less motor and connecting gears, \$30 ea. LBAC 243-WD. Cabinets, \$50. ea. Model 28 typing reperforator, 5 level code, less motor and connecting gears, \$35. ea. BRPE high speed tape punch, 60Hz, \$50. ea. Model 15 printer covers, navy gray, \$2. ea. Fan fold paper 8-1/2 wide \$10. per case. Teletype paper, 3 copy, \$3. per case. TDs, \$10. ea. Model 28 motors for reperforators, \$20. ea. Many other parts available. D & B Electronics, 151 East Lomita Blvd. Carson, CA. 90744

SELL OR TRADE: NATIONAL HRO-60, excellent for RTTY, with A,B,C,D. Coils (10-20-40-80 meters including short wave) Excellent condition, some scratches on cabinet, electrically perfect. \$175.00 or trade for model 28, 32 ASR or KSR. Will consider FSK transmitter with heterodyne VFO. John E. Fail, KL7GRF RRT 1, Box 1428, Ketchikan, Alaska 99901.

Additional Classified on Page 15
 RTTY JOURNAL

Additional ads on page 14

MODEL 28KSR, manual & reconditioned \$225.00. Model 28 reperft, manual & reconditioned \$130. Model 14 TD, reconditioned \$20. Model 19, good with manuals, loop supply and model 15 table, all \$75. Several loop supplies, auto ID keyer, phase shift type monitor scope 3", TUS all home brew and other goodies, write for information. WA5ODU, 601 Newport Blvd., League City, TX. 77573. 713-932-4303.

HEWLETT-PACKARD HP-512A frequency converters, DC to 100 MHz. Use your present 10 MHz. counter (or 1 Mhz. counter with a simple decade divider) to measure frequencies to 100 Mhz. to the nearest cycle or better. Identical to HP-525A plug-in unit except self-contained with own power supply. Rack mount or cabinet (included). Checked out, in very good condition, \$75.00 FOB. Berkeley Scientific 1 MHz. EPUT counter (military unit) with 7 DUC's and counting times to 100 seconds. Excellent condition, \$125.00 FOB. Write Ronald Ott, 2320 C Parker Street, Berkeley, California 94704

SPACE/ONE DELUXE RTTY DEMODULATOR completely solid state, choice of three shifts 850-170-425, famous TT/L2 loop supply adjustable, regulated power supply adjustable, AM/FM operation, Normal/reverse, Mark/ space lamps, Standby/receive lamps, lowpass filter for 60-75-100 WPM, auto start, motor control, Desk top cabinet, one knob controls all functions, can be supplied with either high or low tones. Introductory offer \$250.00 FOB. See Ham Radio-June issue. J & J Electronics, Canterbury, CT. 06331

FOR SALE; MODEL 28 KSR printer, Good condition, ready to go. reasonable. WB8COY, Steve Hresko, 5358 Florida Dr. Swartz Creek, MI. 48473. Phone 655-8693 after 4 P.M.

MODEL 19, Model 14 typing reperforator and keyboard, Model 14 TD, Power supply, line unit, audio TU with scope & meter. \$200. W6JX, 14945 Dickeson St. Sherman Oaks, CA. 91403

NEEDED; INFORMATION, INCLUDING CIRCUIT diagrams, for frequency shift keying a Heath SB102. Any information appreciated. Barry Simpson, 4819 S. Fife, Tacoma, WA. 98409

"K5ANS" DIGITAL AUTOSTART, character counter. Like new and in good working order. Price \$70. Phone 617-944-0443, L.E. White, 26 Boswell Rd. Reading, Mass. 01867

TT/L2 MAINLINE DEMODULATOR. Rack mounted with 7-1/2 panel and scope. Uses "low" tones, and has 850-170 shift with linear discriminators and filters. \$200. WIKJL, PO Box 689, Portsmouth, N.H. 03801

SALE; MODEL 28 TYPING REPERFORATOR, for specific use, it utilizes the 7.00 unit code. Tape data-11/16" W. chadless or fully perforated. Special features; comm. characters, printing in line with feed holes, shielded signal leads, single shaft, type guide, remote non interfering LTRS tape feed out, hand wheel shaft/ with knob, and auxiliary mounting. P/OAN/UGC-13. Can be used with model 28ASR, used good, \$75. ea. Atlantic Surplus Sales, 580 3rd Ave. Brooklyn, N.Y. 11215

TYPEWRITER RIBBON REINKER, Hand operated model now only \$3.50. K575 or K764 Ink available at all National Cash Register Co. stores at 75c per tube. Walter Nettles W7ARS-8355 Tanque Verde Rd. Tucson, Ariz. 85715

FOR SALE; HEATH IB101 DIGITAL frequency counters, Like new and in good working order, \$125. Phone (617) 944-0443, Loring White, 261 Boswell Rd. Reading, Mass. 01867

FOR SALE: ESSCO SOLID STATE DEMODULATOR TU-7 Cabinet with TU-1M, SM-1, PS-3, FS-M1 plug in boards. Never used. All manuals, \$100. William Fearnley; W8VII, box 2074, White Sulphur Springs, West Virginia, 24986

ONE 28KSR GOOD CONDITION \$150. Two M14 signal distortion test sets nearly new \$40. ea. One M14 reperforator nearly new, \$40, W3YB, F. Kienzle, 580 Durham Rd. Pennell, Pa. 19047

MODEL 26, \$30. CV89A audio converter \$90. Both in good condition. Chuck Barrows, K7BVT, 5541 SW Miles Ct. Portland, Ore. 97219. 503-244-4967

FERRITE BEADS - 9 for \$1.00 PP. RMV Electronics, Box 283, Wood Dale, Ill. 60191



RTTY JOURNAL

Kermit Slobb, W9BT, (right) President of the Chicago Area Teleprinter Society, (CATS) asking questions about a Model 35KSR during a tour of the Teletype Corporation Skokie plant by C.A.T.S. members the evening of April 7, 1971. At left is Tom Leu, K9EFU, President of the Teletype Employee Amateur Radio Society (T.E.A.R.S.), who were guides for the tour, and center is Robert C. Wordel, W9WQB, Chief of Public and Community Affairs for the Teletype Corporation.

All out-of-towners are invited to the CATS meetings, held the first Wednesday of the month, 8:00 PM Chicago Park District Edgebrook Field House, about five blocks south of Devon Avenue (6400 N) on the west side of Central Avenue (5600 W). No meetings in July, August or September.