

Additional Classified on Page 15

TOROID COILS, 88mh uncases, 5 for \$2.00 postpaid. Lavon Zachry, PO Box 845, Apply Valley, Calif. 92307

WANTED: SOURCE of palets and key caps to convert Stock Market Model 19 to standard. H.W. Lingenfelter W8NFD, 21352 Kenwood Ave., Rocky River, Ohio. Zip 44116

SELL; BOONTON FM signal Generator, model 202-D; H-P Audio Osc model 202-B, 0.5 Hz to 60 KHz. Bother excellent with manuals \$125. ea. Shipping prepaid. Page paper \$7.50 case. WB2PLY, Box 207, Princeton Jct., N.J. -08550

MAINLINE TT/L special plug in filters built to order. Send SASE for prices and other information. Standard toroid for Mainline TT/O also available. All filters precision tuned, J.R. Crane, W8LEW, 26927 Westwood Lane, Omstead Falls, Ohio 44138

LARGE TT/L-2 DRAWING - 15x 30. \$1.00 postpaid. Keith Petersen, W8SDZ, 1418 Genesee. Royal Oak, Mich. 48073. Phone 313-588-3991.

CUSTOM ENGRAVING of your panels will make your home brew gear look like factory built equipment. We can engrave panels to your specifications. We also engrave plastics, brass and name plates of all kinds. Prompt service on all orders. NAME-O-PLATE Co. 20350 LaCrosse Ave., Southfield, Mich. 48075, Tele. 353-7926

I HAVE FOUND ANOTHER DEN-35 demod; for RTTY, Twinplex, Fax, with scope, all plug ins, excellent shape. This is a Security Agency special unit, \$49.00 G. White, 5716 N. Kings High., Alexandria, Va. 22303

VECTOR PLUG IN UNITS. Octal, C12 (no turret) 3" high, 2" square. ideal for RTTY filters. New, 75 cents each. Howard Fasold, WØVQM, 138 Palisade Cir. Manitou Springs., Col. 80829



Return requested
RTTY JOURNAL
P O Box 837
Royal Oak, Mich. 48068

First Class Mail --



RTTY JOURNAL

JUNE 1969

EXCLUSIVELY AMATEUR RADIO TELETYPE

Volume 17 No. 6

30 Cents



'Chuck' W7ND (ex W7IAN)



'Heinie W8NFD

RTTY Pictures- Anyone ?

John Greve, W9DGV has offered to undertake the publishing of a packet of RTTY pictures that can be reproduced on a regular teleprinter. John's letter and proposition is printed below. He will greatly appreciate a card or letter with your ideas and interest. Send to John Greve, W9DGV, 2210 - 30th St. Rock Island, Ill. 61201.

I propose to gather together, have printed, and sell at cost a group of pictures that can be reproduced on a conventional Teletype machine. Depending on size, the pictures will be either full size or reduced no more than 50% for ease of copying.

The cost for a packet of 50 pictures on 25 sheets of paper including postage will be \$1.00. The pages will be punched with three holes for mounting in a hard-board binder.

The publication schedule is early fall so the pictures will be available for the Halloween, Thanksgiving, Christmas season.

Any person interested in contributing to this project should submit pictures, and tapes if possible, along with comments regarding price and number of pictures supplied. If any persons with tape copying facilities so desires, we can also sell tapes that will save the trouble of copying the pictures.

Depending on the response to this announcement and the sales of the packets, we will at a later date offer a second packet of pictures. ...

RTTY Frequencies and the IARU

Dear Dusty:

I would like to explain why the DARC RTTY section has decided to ask the IARU Region 1 (Europe - Africa) to discuss RTTY frequencies as you mentioned in your last issue.

As regulated by your FCC we are also assigned special frequencies for RTTY use. They are 3575-3675-3775, 7025-750, 14075-14170, 21075-21125, 28100-28150 Khz. These ranges are large enough for the RTTY stations in Europe but we have very great difficulty with QRM by CW/SSB/AM amateur stations in near by countries a great many commercial besides stations running high power. RTTY on 40-80 meters is very difficult and to help this situation

at a German RTTY meeting in 1968 we decided to use only parts of the allowed ranges that permitted CW stations only and asked the CW stations to stay away from the small ranges allowed for RTTY.

But this is for Germany only and there is still much QRM from stations outside Germany. Our society has petitioned the IARU to assign separate RTTY bands in the upper parts of the bands assigned to CW only with the hope of reaching an understanding at least among the European and African stations. The IARU (International Amateur Radio Union) does not have legislative power but can make proposals to the ITU which has power to assign all frequencies so the IARU is of importance to the amateur fraternity.

We hope that your FCC will permit RTTY in the 28100-28200 kHz band as this will greatly increase activity on this band. It is very difficult to make "cross band" QSOs on ten.

Thank you for your interest in our problems in this country and hope to see you on RTTY soon.

73, Uli.

Uli Stolz, RTTY Manager
DARC. 597 Plettenberg
In der Ostert 3, Germany

Commercial RTTY in English

Dear Dusty:

In response to your request for information of English transmitting press stations, here is some info. .

U.P.I. (60 WPM) EVENINGS)
WFD86 - 16372 (AFTERNOONS,
WFK85 - 15640 (MORNINGS)
WFI29 - 9327.5
TO LONDON, AND FAR EAST

A.P. (66 WPM)
WFD49 - 19560 (STARTS ABOUT 12:00 EDT)
WFD55 - 15480
WFR63 - 23927

U.P.I. TO SHIPS BROADCAST (66-67 WPM)
STARTS AT 10:30 EDT
WER24 - 14770
WER73 - 18885
WEU52 - 13480
WER78 - 22790

73, Dick W/SIR

RTTY JOURNAL

Use of REED RELAYS on RTTY

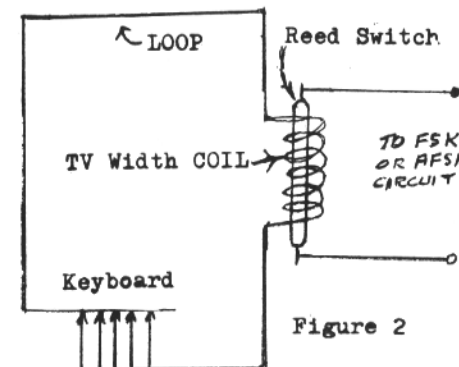
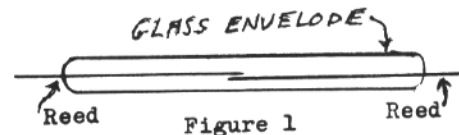
HERB MESLER, W6SAW
1032 Northwood Dr.
San Carlos, Cal. 94070

There are several ways to accomplish isolation of the transmit loop voltage from your FSK or AFSK keying circuit. Two of these methods are dry keying, where the keyboard contacts are connected directly to the keyed circuit, and using a Polar Relay.

Dry keying may cause problems as with this system there is no voltage across the keyboard contacts to burn off oil or dirt.

Polar Relays are difficult to adjust and take considerable room.

The Reed Switch is about the diameter of a lead pencil and about two inches long. It consists of two overlapping, flat cantilevered reeds of ferromagnetic material surrounded by dry inert gas and sealed in a glass envelope. A small gap separates the free overlapping ends of the reeds. A coil, generating a magnetic field, causes the reeds to attract each other creating a closed circuit. A typical reed switch is shown in figure 1. It should be mentioned



that a Reed Relay becomes a relay when a coil is placed around it.

Operating time of a Reed switch is around one milli-second, well under the normal time of one teletype pulse and if any bounce exists during operation it is not noticeable on a scope. Life of the reed is in excess of 20 million operations. I have been using two reeds for over three years of active RTTY operation and have never had a failure. Prices vary from about 90 cents for a GE experimental reed to about \$2.50 for others. Allied catalog lists quite a few reed switches and as far as I know any of them will work in a RTTY application.

Figure 2 shows a simple installation using Reeds. If you are now keying a FSK or AFSK circuit with a polar relay, just remove it and put a coil for a Reed in it's place. The coil is placed in series with the loop you are using to transmit. Many fellows are using horizontal TV width coils to activate the Reed with good results. Horizontal width coils that should work in this application for a 60 mil. loop are -

Miller #6319 -- Thordarson #WC19 and Meissner #20-1034. . .

All that need be done is to remove the core from the TV width coil, place the coil in series with your transmit loop and slide the Reed inside the coil. Then connect the wires from your FSK or AFSK circuit to the two pins on the reed. Use care not to overheat the pins as this could cause the glass envelope to break.

Reed Switches can be found at times on the surplus market and often these will have a coil around them so they are actually a relay. All you have to do is measure the resistance of the coil and calculate the proper resistance to be put in parallel with the coil for a 60 mil loop.

It is my opinion that a reed switch is far superior to a polar relay as it requires no adjustment and is quite small in size. If you are using a dry keying method the reed will enable you to have a loop voltage across the keyboard contacts, with the keyed circuit still isolated from the loop, to help burn off any oil or dirt.

RTTY JOURNAL

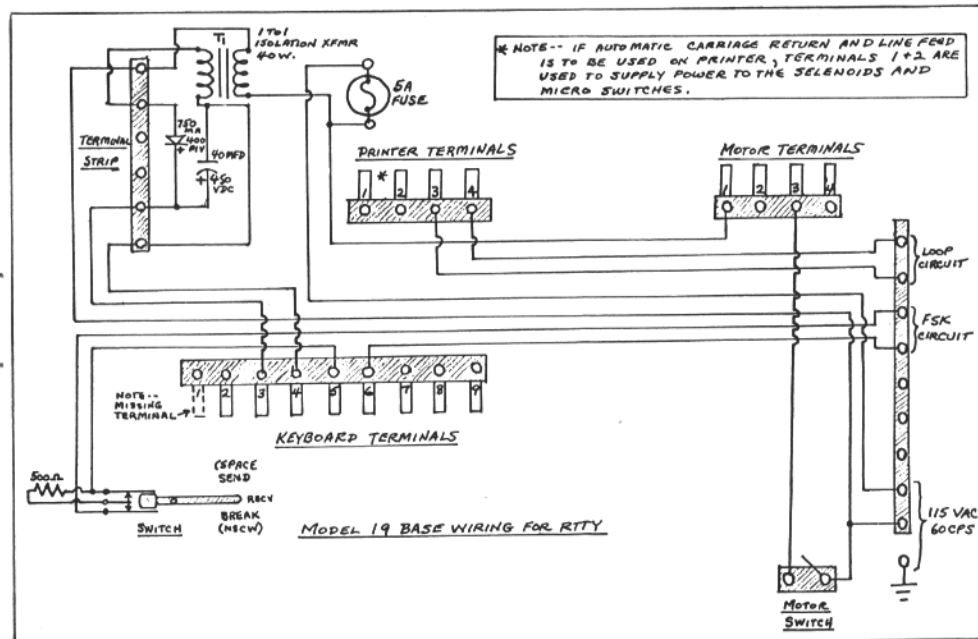
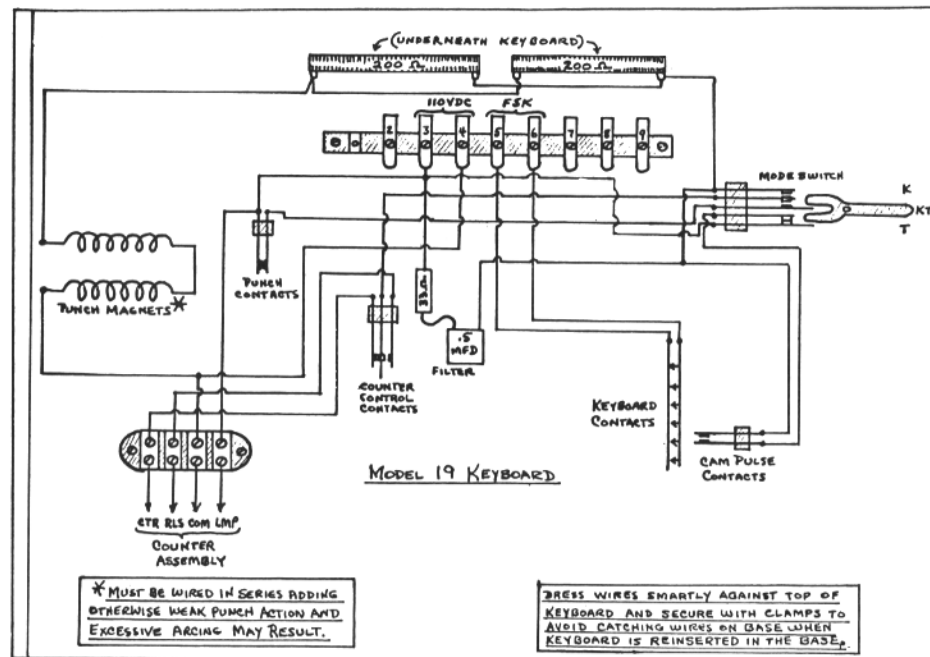
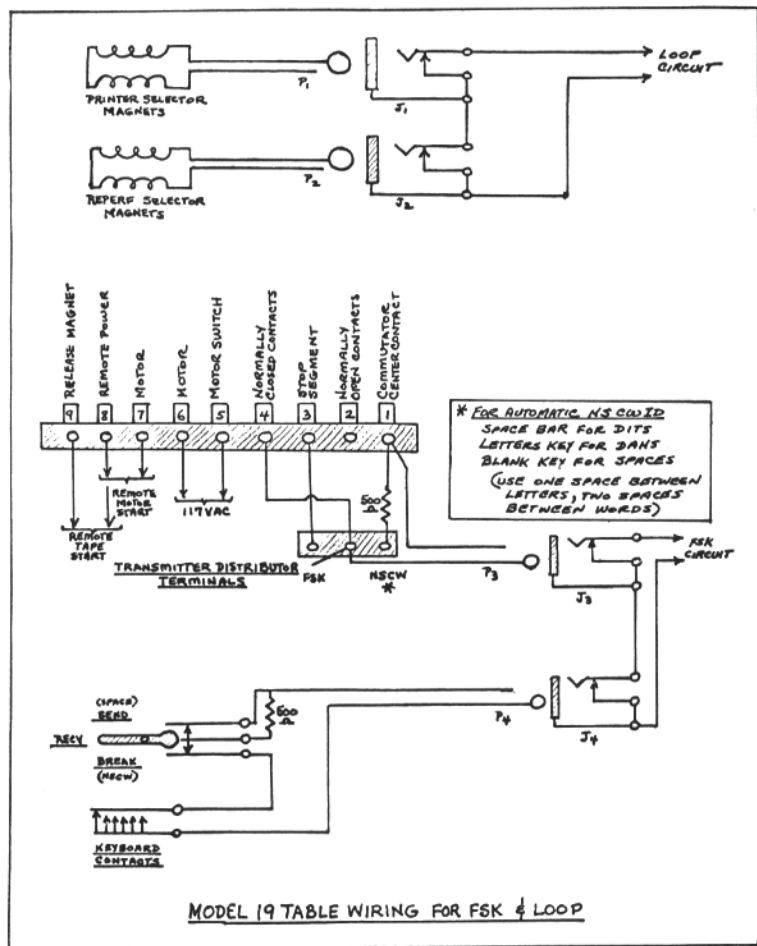
Rewiring A Model 19 for Amateur RTTY

Because we have no back issues of any of the 1967 Journals we have decided to re-run some of the more popular articles of that year. If you have a particular one you would like to see let us know.

The following article appeared in the first issue after we took over the Journal and brought a lot of requests for issues which we were not able to supply.

EVERETT HAWLEY - K8JTT
790 Oxford Road
Grosse Point Woods - Mich.

Most nineteens contain excessive wiring and components such as switches, filters, line resistors, relays, brackets, terminals, nuts and bolts, etc. Far more than is required or even desirable for good amateur RTTY. When the average ham takes a first look at his machine and tries to compare it with the diagrams of teletype corporation, which is about all that is shown in the various handbooks, it is no wonder that he is completely lost. But actually the wiring needed for best amateur operations is extremely simple. So why



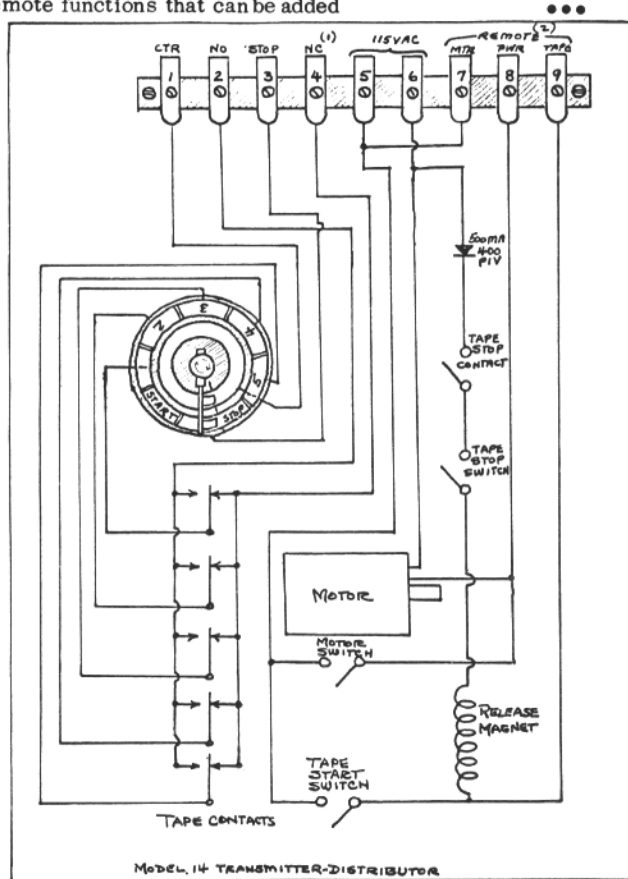
not get out the cutter, hex wrenches and screw driver and strip the machine down to its basic mechanical parts. This will also give you a chance to clean up all that oil and grime that covers everything on the base, motor, keyboard and TD. It is rarely necessary to strip the printer section so that can be merely cleaned up with rags, swabs, a tooth brush, small wire brush, Q Tips, or anything handy. Just get the excessive oil out of there.

The enclosed charts provide for the simplified rewiring and furnish a bases for later changes and trouble shooting that will be worth far more than the one evening that it should take to get the job done. As far as practicable these charts are oriented to the general location of terminals and other components as viewed from the top and front of the base and keyboard. You will note that provision has been made for certain remote functions that can be added

now or later with little difficulty.

The narrow shift CW provision will operate only if the FSK or AFSK line runs directly through the keyboard and TD. But the automatic CW from tape can also be made to operate for wide shift or mark or space make and break. Also note that the send-receive-break tab sticking out of the left front of your machine cover makes a swell little CW ID key if the latching arm is removed. Ours is wired to give narrow shift CW by keying it and to give space when raised up by breaking the FSK line for testing.

If you follow the charts for the power supplies, no outboard supplies will be required, which will leave the back of your table clear for just wiring and terminals. Note punch and TD magnet supplies are merely simple diode circuits from the AC line.



(1) NOTE - NORMALLY CLOSED CONTACTS ARE THOSE IN CONTACT WHEN DISTRIBUTOR BRUSHES ARE ON SEGMENTS 1 THRU 6 (NOT STOP OR START) WITHOUT TAPE IN GATE.
 (2) NOTE - TERMINALS 7, 8, 9 ARE FOR REMOTE CONTROL OF MOTOR AND TAPE START FUNCTIONS.

Comments on Faster RTTY Speeds-

We have had a number of letters from readers expressing their opinion on the petition for allowing faster printer speeds among amateur bands. So far every letter has been against the petition. Most of the objections have been the same and the copy of one letter reproduced here more or less expresses them all.

We would suggest that if two or more stations would like to try the faster speeds they petition the FCC for a special license, often these are granted, on a limited basis, for experimental work.

I believe the allowing of speeds for radio teletype to 100 W.P.M. would not be in the best interests of amateur radio.

1. To the beginner on TTY this would be a hardship to most of them. Obtaining a machine to print 60 was hard enough.
2. The job would be harder for you to monitor. Not knowing what speed to

set up for.

3. As for amateurs keeping up with commercials. . . we are 20 years behind them now and our only hope to hold what we have is use their obsolete equipment.
4. There are only a few who can afford to junk what they have and get machines to copy 100 W.P.M.
5. The granting of 100 W.P.M. speeds would create an exclusive group of operators who could not be copied or transmitted to except by their own group.
6. I do not believe this is amateur radio.
7. One can learn as much about operating TTY at 60 as at 100 W.P.M. so the high speeds are no advantage to the beginner and equipment is easier and cheaper to obtain.

Amateur Radio is a hobby not a business.
 Thank you,
 Harold S. Roth WØLFH

W5VPJ Wins first '50 STATES a YEAR' Award

Congratulations to Bob Wagner, W5VPJ for winning the first award for WAS 69. Bob has confirmations for working all states on RTTY since the first of January this year. Delaware was his last stumbling block but his own state New Mexico caused a little searching also. Fortunately Bob has been so active that anyone needing New Mexico should have it by now. Who will be the next to win this plaque award?

'Bob' WB6ODR



RTTY theory & applications.

RON 'RG' GUENTZLER, W8BBB
Route 1 Box 30
ADA OHIO, 45810



LOOP TIME CONSTANTS, REVISITED, CONTINUED

Last month we discussed the time constant problem in telegraph loops. The time constant problem can be solved easily by using as few selectors as possible in a given loop and by using a supply voltage of at least 130 volts and adjusting the loop resistance to give the desired 60 mA loop current.

Two other means of keeping the time constant small were mentioned: 1) Use low-inductance, high-current selector magnets, and 2) Use a pentode-like switch. The first method was discussed in some detail. Basically, it consists of using magnets with few turns of wire. With few turns, the inductance is lowered but the required loop current is increased. Since the inductance is proportional to the square of the number of turns and the required loop current is inversely proportional to the number of turns, the time constant decreases with fewer turns. The major problem with this scheme is that the selector no longer operates from the standard 60 mA loop. This can be remedied by having a separate loop for each selector. The loop is driven by a keyer transistor or some other switch that can be driven from a 60 mA loop.

MORE TIME CONSTANTS

The second method of operating selectors from low voltages without seriously increasing the time constant is dependent upon removing the normal constraint of a simple switch to operate the loop. Before showing how to use something other than a simple switch, additional discussion of time constants is required.

Figure 1 shows the familiar loop circuit. The equation for current flow as a function of time is:

$$i = \frac{E}{R} (1 - \exp(-tR/L)),$$

where t is the time in seconds elapsed since switch closure, E is the loop supply voltage, R is the total loop resistance, and L is the inductance in H. When the switch

is first closed ($t = 0$), the current $i = 0$. As time progresses, the current slowly increases until it finally reaches a value determined by E/R .

For example, if $L = 2$ H, $E = 40$ V, and $R = 667$ ohms, the current will ultimately reach $40V/667\text{ohms} = 60$ mA, and will reach $0.632 \times 60 \text{ mA} = 37.9$ mA in $L/R = 2/667 = 3.0$ ms. Curve A in Figure 2 shows this.

Consider the same circuit, but make $R = 50$ ohms with all other constants the same. The ultimate value of current will be $E/R = 40V/50 \text{ ohms} = 800$ mA. (Please note that we are not talking about high current operation, but are after something quite different). The time constant will be $L/R = 2H/50\text{ohms} = 40$ ms! This current curve is shown as curve B in Figure 2. (In order to keep the sizes of the curves reasonable, only the beginning of curve B is shown. It has the same shape as curve A but rises to 800 mA with a time constant of 40 ms. Exponential curves of the type being shown here are quite linear in the region near the origin. Hence the difference in the appearance of the two curves.)

How long does it take the current of curve B to reach 60 mA? The solution of this problem will be left to the interested reader: the answer is found by making $i = 60$ mA and solving for t . The answer is that the current will reach 60 mA in 3.0 ms after switch closure. This is shown in the figure. Note that the current rise is much faster and has a more desirable shape. Previously, the current reached on 63.2% of 60 mA in 3.0 ms and rose rather slowly after that; in the present circuit, the current is at 60 mA in 3.0 ms and rises to 60 mA in a linear fashion.

A legitimate question at this point is: So you got the current to 60 mA faster, but it is heading for 800 mA and you are using a 60 mA selector magnet and only want 60 mA. What do you do after the current hits 60 mA? The answer is to add a few minor complexities to the circuit.

Consider the circuit shown in Figure 3. The only changes from the previous cir-

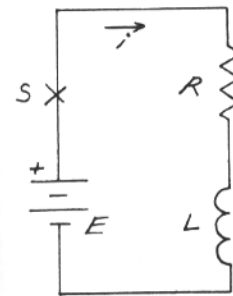


Figure 1

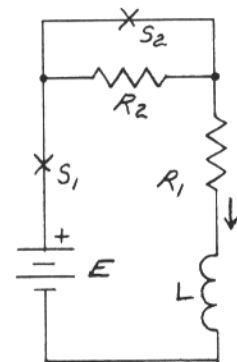


Figure 3

cuit are the addition of the switch S2 and the resistor R2. Make $R1 = 50$ ohms, $R2 = 617$ ohms, $L = 2$ H, and $E = 40$ V. Assume S2 is closed and S1 is open. No current flows. Close S1. The circuit action will be exactly as described above. The current will increase from zero in a linear fashion and will reach 60 mA in 3.0 ms (curve B). If, at the instant that the current reaches 60 mA, switch S2 is opened, the current will remain at 60 mA! This is shown by the dotted line labelled C in Figure 2.

The question that now arises is: Who opens S2?

S1, S2, and R2 can be combined into one device; it is called a pentode or pentode-like device. For example, if higher voltages were being used, a tube such as a 2E26 will do an excellent job of stimulating the combination of S1, S2, and R2. The signal that is to key the loop is fed into grid 1. An adjustable bias voltage is applied to the screen grid. The plate is connected into the loop. The screen grid bias is ad-

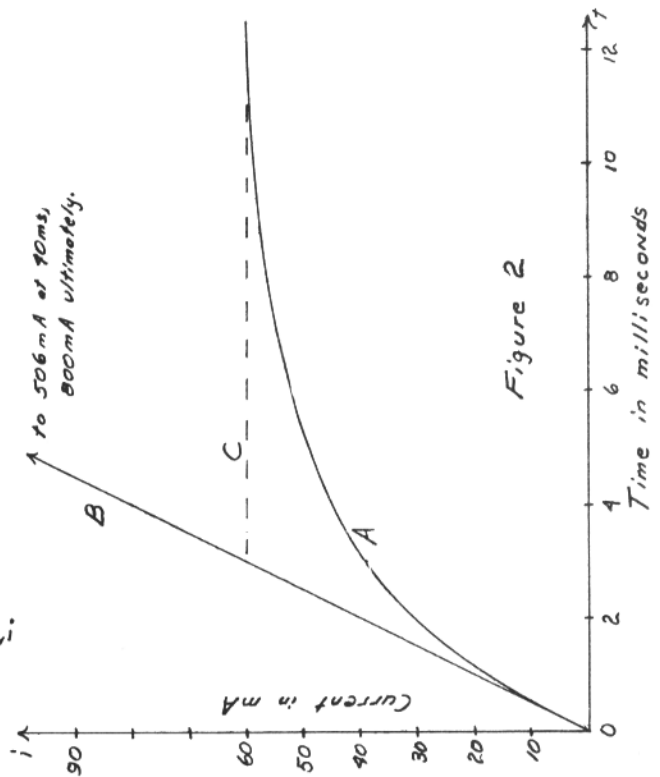


Figure 2

justed so that the plate current will never exceed 60 mA. When a signal is first applied to grid 1, especially a fairly healthy positive voltage (sock it to it!), the tube acts much like a triode or switch and strong conduction begins. However, once the plate current reaches 60 mA, the tube becomes quite "soft" and the plate current tends to remain at 60 mA. (This is the constant-current mode exhibited by pentode-like devices).

An up-to-date "pentode" is the triode JFET. A simple clamp on the gate will give the same effect as the screen adjustment in the vacuum pentode. Unfortunately, we do not know of any JFETs that are healthy enough for this service, but there may be some on the market now. The single JFET with a clamp will give the same effect as the two switches and R2 in Figure 3.

A pentode can be simulated by two schemes involving bipolar transistors. One method is to employ feedback and a clamp. This was suggested by Bill Carver, K6OLG. The second method will be described

shortly.

The above pentode schemes all suffer from a common problem. The pentode must dissipate a fair amount of plate (or drain or collector) power during the marking condition after the 60 mA current has been reached. For the example with the 40 V supply and the 50 ohms resistance, the drain or collector dissipation would be about 3 watts. If an actual pentode such as a 2E26 were used in a 260-Volt loop, the plate dissipation would be about 15 watts.

The plate dissipation can be reduced to nearly zero by using a circuit that is close to the one shown in Figure 3. Make each switch the CE junction of a bipolar transistor. Make R2 a physical resistor. Have S2 in saturation (simulating a closed switch) during the spacing condition. When a Mark is received have S1 driven into saturation. This transistor will then act like a switch. Include an auxiliary sensing circuit that monitors loop current; when the current reaches 60 mA, have the sensing circuit turn S2 off. Because the transistors are either in saturation (on fully) or off, they will always have practically zero collector dissipation. Therefore, all the power is dissipated in R2 and essentially none in the transistors; the transistors can be physically small and only R2 which is relatively cheap need be large.

This latter circuit is essentially the 177010 magnet driver built by Teletype Corp. for use in M28 and holding-magnet type M15 teleprinters.

With this "dual-switch" arrangement, it is possible to obtain a fairly good waveshape (curve B from 0 to 60 mA, 3ms, and curve C from then on). Because the wave rises faster than in a conventional RL circuit, it is better. Note that only one 2H selector is in the loop and 40V is used. This is about as far as one can go in the direction of low voltage with standard selector magnets and then only with parallel-connected holding-type magnets.

CURRENT DECAY

We have purposely ignored the current decay (Mark to Space) transition. It was covered in some detail previously. It can be as serious a problem as the current rise waveshape. The curve B-C waveshape should be simulated, approximately, during the M to S transition. If S2 remains open for a while after S1 opens, then a 1200-ohm resistor in series with a diode when placed across S1, will give a good

"discharge" waveshape.

It would be worthwhile for someone to develop a circuit for amateur use that does what has been described above.

We have been gathering some VHF operating information; it will appear next month.

--73 ES CUL, RG

WHY???

Here is a puzzle that I have not been able to solve. When I resonate an 88-mh. toroid with a capacitor at, say, 2125 Hz., I use a 1-megohm isolation resistor between the audio source and the L and C, which are in a parallel circuit. Say that I adjust the audio amplitude so that about 1.5 volts r.m.s. is developed across the LC circuit (measured with a v.t.v.m., 1-megohm input on a.c.), and then tune the circuit precisely, using hand-selected value mylar or mylar/paper capacitors, such as Mallory PVCs, Elmenco Arco DP tubulars, Sprague Orange Drops, Cornell-Dubilier DPMS tubulars, etc. I use a digital frequency counter.

Now, if I increase the audio amplitude to develop 5 volts across the LC circuit and measure the resonant frequency, I find it is lower by 3 or 4 Hz. If I go to 15 volts, it decreases another 2 or 3 Hz., etc., but if I return to 1.5 volts, the resonant frequency is back where I tuned it. This happens with any toroid, using any capacitor. So it appears that the resonant frequency always decreases as the input signal increases. And if I raise the temperature by a few degrees, the resonant frequency goes lower by several cycles -- this change is not due entirely to changes I can account for in the capacitor. (For these reasons, I am now a firm believer in resonating all filter sections in the circuit where they will be used, and at the signal level and approximate temperature they will be operating under, if at all possible). I've suspected the reason for the apparent shift in resonance is due to changes in core losses in the toroid, but this is only a guess. Can someone tell us the real reason? Jerry Hall, K1PLP.

BROAD MINDED

USE NARROW SHIFT

RTTY JOURNAL

RTTY-DX

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



Hello there. . . .

Let's start off this month with congratulations to the latest member of the WAC Club.

Nr. 120 Marcel Lagrue F8KW

It is interesting to note that with the present lack of activity from Africa Marcel managed to get that one confirmed the hard way. A QSL from FB8XX on Ker-guelen. Now before you all run to the rig I might hasten to add that this was back in 1966 when FB8XX and FB8YY were quite active for a while on RTTY.

I recently received some correspondence from Don, KL7EBK, and in addition to the news of pending activity from the Pacific area Don presents an excellent idea that should be of interest to all RTTY DX'ers. I'm passing on his thoughts to you with the hope that it may generate some organized RTTY-DX activity in the very near future. Like many of us that are interested in the DX phase of RTTY Don found that after an initial burst of activity in which new countries come quite frequently it soon settles down to a waiting game with long periods between new countries or even between contacts for that matter. What Don proposes is a RTTY-DX Net on 14090 khz, a weekly affair that would take place on Saturdays tentatively at 0700z. Of course Nets are nothing new on RTTY. We already have many Nets for traffic handling, auto-start Nets for the exchange of technical information, and the MARS. However, for the most part they are all on the lower frequencies with fairly local coverage.

The RTTY-DX Net that Don proposes would operate very much like the Pacific Ocean Net now in operation on SSB (0700z-Friday-14240 khz). Here is the way it would go. The Net Control should probably be in the Central Pacific area as the skip there seems to be better to all areas at the approximate time mentioned. First, stations in the Pacific area would be called for check-in by call area. After this would come Central and South America, then the

D X HONOR ROLL

wrkd/cfmd			
1. FG7XT	89/76	29. W4EGY	37/28
2. ON4BX	82/76	30. XE1YJ	33/28
3. I1KG	78/72	31. G3IYG	33/25
4. W3KV	77/72	32. WB6QFE	30/25
5. ON4CK	70/63	33. DL5PQ	35/24
6. W8CQ	62/60	34. VK2EG	33/24
7. K8YEK	65/58	35. YV5CIP	30/24
8. W4AIS	62/53	36. W8GPB	45/23
9. WA6WGL	54/49	37. WA2YVK	30/23
10. W6CG	51/46	38. CF3EX	31/22
11. W5QCH	48/46	39. VE5LG	29/21
12. W1GKJ	52/45	40. W5FG	23/21
13. WA8BOT	51/45	41. WOHAA	32/19
14. K8QLO	48/43	42. W1ACW	28/19
15. I1ROL	50/41	43. VP9BY	26/19
16. VE3AYL	48/40	44. W3AVQ	22/19
17. K4VDM	42/40	45. ZL2ALW	28/18
18. K8JTT	41/40	46. G3LDI	26/18
19. WB6ADY	39/38	47. KL7EBK	27/17
20. W4CQI	49/37	48. K9QNV	24/17
21. W3ISE	47/35	49. HK3SO	21/16
22. W8CAT	39/33	50. PJ2CR	27/15
23. UA1KBW	36/33	51. OA4BR	22/15
24. W7VKO	35/33	52. W6TX	20/15
25. W2LFL	47/32	53. K9BJM	15/15
26. PY2CQ	43/32	54. VK3NR	32/13
27. VE4BJ	33/31	55. W6ZH	15/13
28. K6EV	33/29	56. W4FUI	33/11
		57. WB6RXM	21/8

States, and then Europe, Africa, etc. After the check-in is completed the Net Control would go back and call each check-in and find out which station(s) he wished to contact down through the list. All contacts to be short with only basic information exchanged while under Net Control. At the moment Don is trying to line up a station in the Pacific area to act as Net Control and we hope to keep you informed as things progress. In the meantime keep in mind 14090 khz, Saturdays, 0700z. Tune there when you can and if the frequency sounds dead make some noise. If you have any ideas on the subject get in touch with Don directly as follows---

D.L. Sticher. KL7EBK

RTTY JOURNAL

Box 1351, Star Rt. 1
Juneau, Alaska 99801

To date Don has come up with the following news from the Pacific area that should be of interest to us all.

KOREA:

Don, W7QCN is now in Korea and has been issued the call HL9VM. He is using a KWM-2 into a dipole which will be replaced by a Quad shortly. Activity is on SSB at the moment but he has the necessary permission to operate on RTTY. He is looking for a machine but indicates he will have one soon and perhaps by the time you read this he will be on.

JAPAN:

Sako, JA1MP, usually on around 14095 at 0830z. He has special permission to operate below 29 kmz and is using some very late RTTY gear like the Model 32 KSR. Up at Don's location he is usually 20 db over nine. Incidentally we hear via Stan, WB6QFE, that Sako may shortly be on the West Coast USA on a visit.

PHILIPPINES:

DU1DBT, a club station at the Don Bosco Institute at Rizal is working on getting set up on RTTY. They have a machine, TU, and a kilowatt into a Quad so there should be no trouble hearing them once they get going.

GUAM:

KG6AAY is active from time to time. This is a Club station operated by the Navy and the activity depends upon a RTTY oriented ham passing through the base.

ANTARCTICA:

KC4AAD, A1, at Longwire Station, has been putting out a very potent signal from a very long Vee Beam that is probably oriented toward the States.

HONG-KONG:

Phil, VS6DR has told Don that he has a Model 15 and is just about ready to go but as yet has been unable to get the necessary permission to operate RTTY. He feels certain it will come soon and will be ready when it does. Phil needs a manual for the 15 and if anyone can help him he can be found as follows--

Phil Wight, VS6DR
Box 16321
Hong Kong

PONAPE:

Jack, KW6EJ, presently on Wake is due for transfer shortly to KC6 and has full intentions of setting up RTTY opera-

tion when he is there. This will be a bit in the future as he is first due on the West coast before reassignment.

To the above we might add the activity of Louis, FK8AZ in New Caledonia and the pending operation at YJ8JS in New Hebrides by ZL2AKH, along with the ever increasing number of stations active from VK and ZL.

We all certainly thank Don, KL7EBK for gathering one above information and giving us an idea of what is going on in the area and what is in store for the very near future. I am sure that when Don's plan for the Pacific RTTY-DX Net gets rolling it will be an incentive for many more stations to join the "Green Keys" gang.

Orbra, who as EL2F and EL2N has been very active in contests and given Liberia to many Dx hunters will return to the states as W9GEK next month. Orbra is leaving a complete RTTY set up at EL2F but at present no operator seems to be interested. EL2D is building however, and hopefully will keep this country active when finished. Orbra home address will be W9GEK, 228 Rose Ave. Fond du Lac, Wisc. 54935 after the first of July.

Well, the main activity since we last met here was the DARC Contest. Again, we were not able to take part in the action and as no reports were forthcoming at press time we will have to postpone any comments for a later date. I suppose that many of you here in the States were wondering why you received those very nice log sheets for the "Giant Flash" Contest so long after the Contest was over. It can best be explained by the fact there was a Dock strike on the East Coast that brought all surface mail to a halt for about three months.

For many years, Leo, EI6D, was the only station on the HF bands from Ireland. Just lately however, Leo has been getting some relief with the fb signal from Paul, EI5BH. It is also possible that EI4AL may be active by this time.

A real fb signal has been coming from Spina, PY2UR, in Sao Paulo. This is also the home town of Jose, PY2CQ, so perhaps he has been getting some activity going from down there.

Zip, OA4BR, is now set up on RTTY on

Continued on page 14

RTTY JOURNAL



Over 3300 hams registered for the Dayton Hamfest, this must make it one of the largest in the country. RTTY was well represented from most of the mid-west states, several eastern ones and W7PBV showed up from Nevada to meet the gang and also plug the SAROC hamfest held in Las Vegas every winter.

Keith Petersen, W8SDZ, Tom Lamb, K8ERV, and Ron Guentzler, W8BBB, were speakers at the RTTY forum with a large attendance. The Journal hospitality room was busy - but a funny thing happened, we came home with two more bottles of Kool Ade than we started with. We will save it for a priming charge at next years gathering. Who is going to be the first West Coast ham to join us?

A lot of interest was shown at Dayton in the use of transistors and integrated circuits in RTTY application. Without attempting to understand them ourself we will appreciate any articles regarding their use in RTTY any of our readers can send us.

Regarding RTTY operation in the lower CW portion of the ten meter CW band - 28 to 28.5 MHz. Docket No. 18508 of the FCC proposes such rule change and unless opposition appears will hopefully be adopted. Filing date for briefs and comments is June 11, 1969. Final adoption should not be over several weeks later. The ARRL has promoted this change and although we can think of no objection we doubt if acting as individuals without organization much could have been accomplished.

Germany and many European countries have been allotted 28100 to 28150, Canada can use these frequencies so probably RTTY will settle on some spot in this range.

It is a little early to start building but at least start thinking about getting on ten now. 50 watts can work the world.

RTTY JOURNAL

Although many seldom operate on the ham bands we know that a great many of the Journal subscribers are active on one of the MARS services.

Most Mars divisions have some kind of bulletin or magazine serving their members and covering all modes of operation, and procedures. The Journals interest is of a technical nature primarily and we are always glad to permit a reprint of any article that we have originally published in any of these bulletins. If there are any services in the way of notices or announcements we can publish of interest to all Mars services we will be very glad to have them.

The published ratings of many pieces of ham equipment are not true when used on RTTY. Many have found this out the hard way including the writer. Traps that the manufacturer will swear he has tested at 1kw will melt in short order with the continuous strain of RTTY. Finals and excitors in many cases should be run with extra cooling or at reduced ratings for satisfactory service. Check with the manufacturer first if you are not sure of the rating on RTTY.

About a year ago we mentioned the formation of a RTTY Society in the Delaware Valley Area. This organization has been active for the past year and any area RTTY fans are urged to attend a meeting when possible. Second Thursday of each month at National Borough Hall, National Park, N.J. Write for any information to Delaware Valley Green Keys, PO Box 223, National Park, N.J. 08063

Second Annual Meeting of
International
Italian RadioTeletype Amateurs
June 14-15. Send for details.
Lamberto Rossi - I1ROL
PO Box 50 - 56021 Cascina, Italy

Results of 'Giant Flash'

RTTY Contest -

Air mail results of the "Giant Flash RTTY Contest" have been received from Fanti Dott Franco, IILCF who managed the contest for the CQElectronics magazine. The top 50 scores are published below and the 10 top SWL winners. We were especially interested in the SWL scores and the larger interest shown than in any other contest. 28 different countries appeared in the contest which was held in two eight hour periods on the 15 and 22 of February.

1. W2RUI 31,948	13. WA6WGL 13,572
2. G3MWI 29,590	14. DJ9OZ 10,620
3. VE7UBC 26,404	15. WA2YVK 10,404
4. K2LGJ 21,912	16. IICGE 9,450
5. DL1VR 18,168	17. SMØKV 8,760
6. IICQD 16,940	18. WB6RXM 8,235
7. WB6JSY 16,587	19. DMØGST 8,074
8. W3KV 15,847	20. IIEVK 7,506
9. SM4CMG 15,660	21. PAØGKO 7,391
10. ON4BX 15,340	22. HB9ADM 5,729
11. IIKBT 15,295	23. LX2FB 4,710
12. IICAO 14,238	24. LA6OI 3,980

DX News- cont.

Continued from page 12

6 Meters and looking for contacts. He hopes to be the first North/South American QSO on VHF RTTY. He has been hearing the W4 and W5 call area on AM fone so it conditions are right. Drop Zip a note if you are interested in a sked for VHF RTTY-DX.

It would seem that many of the boys in England prefer QRP on RTTY. Brian, G3IYG 35 watts, Martin, G3VXA 20 watts, and Jack, G3EFP 30 watts, all into either dipole or trap verticals. It is amazing the solid copy those fellows put out even under poor to fair conditions. Brian says that out of some twenty W's worked he has received only two answers to his CQ's. I'm sure that we can do better than that fellows.

Larry, operator at GB2SM, the Science Museum in London, is usually open for business most days at around 11-1300z, as mentioned previously this is a demonstration station and the copy is viewed by the general public that may happen to be there at the time.

--73 de John

25. ON5BV 3,640	38. HA5FE 1,296
26. OZ4EDK 3,328	39. DJ9XB 945
27. SM5CLW 2,832	40. F3PI 910
28. PI1HRL 2,728	41. DL3II 804
29. K9MNF 2,556	42. IIZAN 800
30. K9XUYU 2,313	43. IIPHD 693
31. K1VGF 2,295	44. IIVN 682
32. DL8KS 2,254	45. OZ6OB 534
33. VE5LG 2,043	46. IILCL 490
34. DL8CX 1,836	47. IIMKG 420
35. G3IYG 1,628	48. DL3NO 216
36. F9RC 1,410	49. IITLM 138
37. DM3DD 1,397	50. IIMY 128

HIGH SCORE S.W.L. "PRINTER"

1. WA1DPX - Dick Raymond -	26.375
2. Colin Jones - England	23.670
3. Alexander Morton - Scotland	21.590
4. Richard Coates - England	18.760
5. Paul Menadier - USA	13.320
6. BRS-26140 - Fred Bourne	13.296
7. NL-497 - William Fieten -	5.760
8. I1-13846 - Riccardo Raia	54
9. I1-14071 - Fiorenzo Repetto	28

BROAD MINDED ? -

USE NARROW SHIFT

...

BACK ISSUES -

ONLY back issues available are July through December 1966, February 1968 to date. The TT/L-2 Reprint is also available. Single copies are 30¢ each. RTTY JOURNAL Binders are available at \$2.50 pp in US, Canada or Mexico. \$3.50 elsewhere.

RTTY JOURNAL

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"Dusty" Dunn - W8CQ

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RTTY JOURNAL

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TYPEWRITER RIBBON REINKER, Hand operated model now only \$3.00. K575 or K764 Ink available at all National Cash Register Co. stores at 75¢ per tube. Walter Nettles W7ARS-8355 Tanque Verde Rd. Tucson, Ariz. 85715.

HALLICRAFTERS HT37 and HT41. Both excellent. \$300 for both items FOB Akron. Paul Davis, K8NQT, 1830 Toepfer Road. Akron, Ohio 44312

TELETYPE SYNCHRONOUS Motor: complete with fan and base checked. \$8.00 ea. Keyboard for model 15, with all keytops, springs and gear excellent \$5.00 ea. Keyboard for model 15 with (here is) attachment on keyboard to set up identification, complete with all keytops, spring and gears excellent. \$15.00. 4 X 150 A tube - unused \$14.50 ea. Automatic - Teleprinter LO-15, later version of model 15 with (here is) attachment on keyboard, white keys, greenish color cover, very quiet and much smoother than 15 model. Excellent operating condition \$80.00 ea. With steel table to match with electric box add \$15. extra. Fax Trans - Receiver; combination, desk model, 5 inch drum, 115 vts 60 cycle single phase. 25 amps, excellent \$12.00 ea. Atlantic Surplus, 300 7th St., Brooklyn, N.Y. 11215

MAINLINE TT/L-2 FSK demodulator. Now you can have the TT/L-2 custom built with your choice of filters completely wired and tested with silkscreened front panel (see May QST) suitable for rack mounting, available with/without 2 inch scope indicator on same chassis. Also available ST-3 / AK-1 completely wired and tested ready to go. Mainline TT/L-2 filters wired and tested. J-J Electronics, Communication Specialist, Canterbury, Conn. 06331

SELL or TRADE: 28 ASR keyboard with typing reper, less motor, and new 14 TD mounting base, Bob Graham, 2105 N.W. 30th. Oklahoma City, Ok. 73112

RTTY RIBBON INK: Intense, highly legible black. Cheaper than replacing ribbons. Is it good? Ask any user. Big 2 ounces only \$1.00. Marvin Cook, WA2RDO. 1992 Windsor Street, Westbury, N.Y. 11590

Isolation noise pad for model 15 printers deadens noise much better than felt. Made for US government. \$5. PP. Herm Bohning, 1 Caryl Ave., Yonkers, N.Y. 10705

SELL: 32V-3 with new tubes and manual \$125, excellent. Sell TT/L-2, built in scope, \$175. Need base with keyboard for 28 KSR. W4AIS, 7 Artillery Rd., Taylors, S.C. 29687

SALE, KEYBOARD with "Here Is" answer back attachments for model 15. Used to set up identification. The "answer back" mechanism is an electromechanical device which allows the identity of the called station to be transmitted automatically to the originating station upon receipt of "Figs, upper case D" from the signal line. The answer back device has a total of 21 characters. The first character is always a "letters" combination; The remaining 20 may be any characters desired. Complete with all communication key tops, springs and gear, like new, \$15.00 each. Atlantic Surplus Sales, 300 7th St., Brooklyn, N.Y. 11215

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Additional Classified on Next Page