

**DX-RTTY**  
continued from page 13

Cole, K5OLU, reported that KR6LS was also on during the contest with excellent signals for only 100 watts.

It sounded as if everyone in the contest was waiting for Ten meters to open to get a crack at Cas, KA9AK. The band conditions were good and Cas' signal stayed in for quite a while at good strength.

I would imagine that all these fellows could have made a lot more contacts were it not for the indiscriminate and excessively long calls being made right on the frequency while they were already in QSO.

ON4BX sends word of printing EP2GF, located in Teheran. I have also copied DL3IR in QSO with this station during the contest. Sandy Morton also reports printing EP2BS back in February. This all adds up to RTTY activity in IRAN so keep a sharp ear out for this rare catch in any mode.

Before closing this month I take pleasure in announcing the following additions to the WAC club.

Nr. 80 Wilfried Van Heddegem ON4HW  
Nr. 81 Harold W. Bryant W6DNJ  
Nr. 82 Arthur Blave ON4BX

We congratulate you upon this still difficult accomplishment on RTTY.

I would also like to announce that all

## RTTY JOURNAL

future applications for WAC be directed to me at the above address as I now have all the records and certificates.

After a quick glance into the crystal ball I would predict that there will be some scores over the 100,000 mark in the just past B.A.R.T.G. contest. This would be something of a "first" on RTTY.

If you were in the contest get your score to Alan, G2HIO, by May 1, also double check your country totals. Like last year, a country counts again when you work it on a new band.

Good Luck to all and see you next month...

73 de John

## RTTY JOURNAL

P.O. Box 837 - Royal Oak, Michigan 48068

"Dusty" Dunn - W8CQ

Editor & Publisher

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# RTTY JOURNAL

APRIL - 1967

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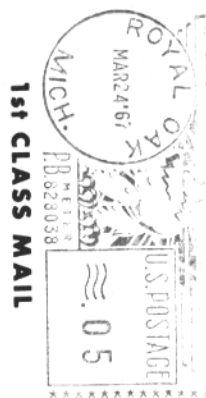
Vol. 15 No. 4

30 Cents

## Two Nice Things About RTTY.



Return Requested  
**RTTY JOURNAL**  
P.O. Box 837  
Royal Oak, Mich. 42068





# Making Continuous RTTY Tapes

Irvin M. Hoff .W6FFC (ex-K8DKC)  
12130 Foothill Lane  
Los Altos Hills, California 94022

One of the advantages in owning a tape reader (often called a T.D. which is short for Terminal Distributor) is that the RTTY operator can prepare short tapes for continuous play. Such tapes are often used for calling "CQ" automatically; for test purposes such as: RYRYYRYYRY or THE QUICK BROWN FOX, etc., and for various other purposes.

Making the tapes is usually quite simple, but joining them together properly at the ends so they will pass through the gate of the tape reader satisfactorily is sometimes troublesome.

Another problem that often besets those who run such continuous tapes lies in their method of joining the ends together -- they wind up with 8-10-12 "letters" characters at the end of each tape, so whenever the end of the tape comes around, the machine sits there doing nothing for that period of time. Such things can be easily avoided. In fact, a clever operator can join the ends of the tape together in such a manner that even an astute observer will be unable to tell at which point the tape actually was ended -- this is especially true for those (like the author) who prefer to make "one-liners".

To make a continuous tape, a typing reperf such as a model 14 should be used, as these are normally of the "chadless" variety. The model 19 on the other hand punches the "chads" completely out of the tape and joining the ends together then becomes a matter of gluing the ends properly -- a messy job to say the least. The chadless tape, on the other hand will easily interlock with itself in a manner that will last indefinitely, as far as the splice is concerned. (The tape will "wear out" eventually just from heavy use, but in this case a new one can be made in a few moments.)

The standard line of TTY copy consists of 72 characters maximum. Before bothering to cut a final tape, type up the proposed text or else write it out by hand, in order to best utilize the available space. There is nothing that says you need to use the entire 72 characters, but on the other hand it does save paper for the other person, and makes a neater appearance --

Now to actually type the tape. Hit a half-dozen or so "blank" keys so you will be able to quickly and easily tell where you started making the actual tape to be used. If you have no "blank" key, just hit the "space bar" a half-dozen times instead. Then hit 12-15 letters keys. This provides the means by which the ends of the tape will eventually be locked together. Then hit the usual "carriage return, line feed and letters" keys. Now comes the text you have decided upon. You can make the text one line or two lines or three lines, but often just one line endlessly repeated makes the neatest appearance on the page. One full line is easy to work with on the continuous tapes, but anything much shorter gets a bit awkward.

At the end of the text type one "letters" key and then enough "blanks" (or "space bar") characters to bring the tape out of the reperforator.

Now comes the part that would be so much easier to look at via "on-the-job-training" than it is to tell about. It will be easier to follow from here if you take a piece of tape and try to imitate the description.

At the beginning the 12-15 "letters" characters will be seen. At the first of these, bend the tape sharply and cut or tear off. At the end of the text the solitary "letters" character will be seen just prior to the string of "blanks" (or "spaces"). Bend on this "letters" character and cut or tear off.

Now make your loop putting the beginning INSIDE the end. Thus the printing will be on the inside of the tape loop. Carefully insert the end of the tape into the first character typed at the beginning of the tape (the "carriage return" character). This will leave the 12-15 "letters" characters extending inside the loop of tape. Now either take a sharp pencil and punch the holes through the two portions of the tape that are adjacent to each other, or else while carefully holding the tape insert it into the tape reader (T.D.) and let it run around. Presto, you are finished. When the tape comes to the end, it will immediately start over, and there will be no annoying superfluous characters at all.

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margin in time to properly print a tape-transmitted signal, so I got the habit of always inserting a few extra carriage returns on my tapes to make sure the printer had time enough to print properly. Now I learn that some of the fabulous 28s have an arrangement to line feed each time they receive a carriage return -- and a friend of mine sent me a page of copy to show how I was wasting his paper, hi! So watch those carriage returns for the sake of your lucky friends.

Now that we have struggled through the first QSL, it won't be necessary to start from the very beginning on the one shown in Figure 3. The trick here is to take a copy of the QSL of Figure 1, put it back in the printer, and then carefully type a line of "O"'s to cover the open spaces only, followed by a carriage return with no line feed and an over-printing of "X"'s. Note that this new QSL has an added feature -- a place for name and address, as on a postcard. When you run out of your printed QSLs you can easily run off a RTTY QSL card. The data can be filled in on the printer or with pen or pencil. Crease the copy at the bottom of the design and paste it to a 4" x 6" file card. After the paste hardens, trim the card to size, and it is ready for mailing.

For the RTTY contest man, the following should prove helpful. The first of two tapes is used in the situation where you have been calling "CQ Contest" and a station answers you. You manually type his call several times and then use the following tape:  
(no carriage return or line feed) deW8QMI  
THANKS OM FOR THE CALL  
PLSS QSL MY NR UR RST DATE-TIME  
BAND SECTION carriage return, line feed, signal bell, and 8 to 12 figure shifts, and a letters shift) (end of tape). When the bell sounds, stop the tape advance, manually type in the data below each heading, using dashes or periods between numbers to avoid shifting.

The second contest tape is used in the situation where the other fellow has called "CQ contest" and you are answering him. When he returns, giving his text, use the second tape (similar to the first one, except for the headings which are as follows:  
QSL URNR UR RST DATE-TIME BAND  
PSE QSL MY NR  
FROM MICHIGAN SECTION BK BK

In use, the contest tapes should be clearly marked with a heavy lead pencil to avoid mixups in operation. They can be endless, but I prefer to have them re-

peated several times on a strip. If you are a slow typist, you can include considerably more routine material -- "thanks for the contact, hope you have good luck in the contest, name here is Ed, etc. etc., and W8QMI is standing by on the frequency for any other contest call." Use of these tapes makes for extremely rapid operation and assures you of transmitting all necessary contest data on your first transmission. If things are rough, you may want to make a reperf of your transmission so you can repeat it completely by using the reperfed tape.

Music on RTTY? Percussion is probably a better term for it. I am sure you have all heard that old refrain "Shave and a haircut" banded out on the be" signal, but I wonder if you have ever tried to do it on tape? Try this ("F" indicates a figure shift, "S" is the letter "S"):

FSFFFFSSFSFFFFS

If you are musically inclined, the basis for this is as follows:

- one half note
- bell and seven shifts
- one quarter note
- bell and three shifts
- one eighth note
- bell and one shift
- one sixteenth note bell

Figure 4 shows the application of this to "Jingle Bells", which you may want to try for yourself. A far more interesting and "hep" version gives it a catchy New Orleans jazz beat and combines with it the typing of "Merry Christmas and a Happy New Year to All". Its reproduction is tedious but worthwhile. The hardest part is keeping track of what you have typed and what comes next. In addition to "F" and "S" as above, now "X" indicates a letters shift, and "Z", a space. Spaces shown here between symbol groups are aids in reading only -- do not include them in your tape:

Carriage return and line feed  
FSFSFXMFS FFSXEFSSFS FFSXRRY  
ZFFSFSFSFF SSFSFSFSS  
FSFSFSFXC FSXHFSSFS XRFSFSFSXI  
FSFSFSFSS XSTMASFSFS  
FSFFSSFZFS FSSFFSSXN FSXZANFSS  
FSFSFSFXD ZAFSSFSFS  
FSFSXZHAFS SSFSFSFSFS FFSFSSSFS  
FSFSFXPFS XPFSSFSXY  
FSFSFSZFS FFSFFSSXN EWZYFSFSFS  
FFSSFSFSFS SSFSFSFSFS  
XEFXAFSFS FSXRFSSFS XZFSFSFSFF  
SSXTOZALFS FFSFFSSFS  
ESFSSFSFS FFSFXL

Carriage return and line feed

# Changing Gears on a Model 14 Reperf.

By - Ralph Leland - W8DLT  
118 Cambridge Rd.  
Pleasant Ridge, Mich. 48069

To change gears on a 14 Typing Reperforator the main shaft must be removed from the assembly. This is accomplished in the following manner.

Remove the typing unit from the base by removing the two large, knurled head, machine screws on the left front and right rear of the typing unit/base. The following steps may now be performed in sequence:

- 1 - Remove the range finder (Fig. 3) by removing its two mounting screws. If the machine is equipped with "tape feed out", the feed out lever also will be removed in this operation.
- 2 - Referring to Fig. 1, remove the large headed retaining disk marked LEFT HAND THREAD, which screws into the top of the main shaft.
- 3 - With a turning motion, carefully lift the cam sleeve, washer and felt disk from the shaft.

The typing unit should now be turned on its left side and, while referring to Fig. 1, 2, and 4, proceed as follows:

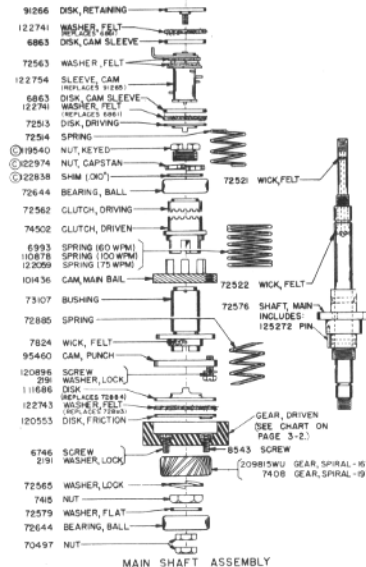


FIGURE 1

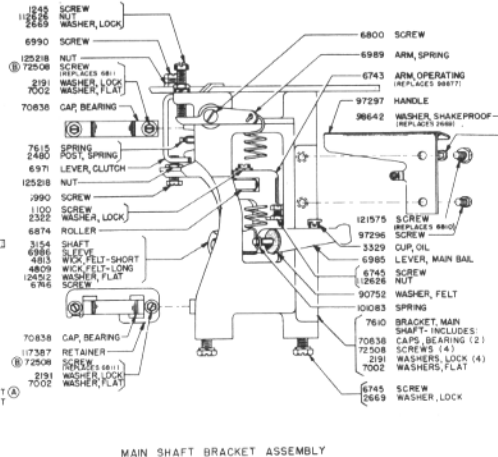


FIGURE 2

- 1 - Remove the screw, washer, bushing and spring that holds the punch arm in place (Fig. 4). This will allow the punch arm to swing down and out of the way.
- 2 - Remove the upper and lower bearing caps (Fig. 2). The main shaft should now be free.
- 3 - Remove the main shaft from the assembly by carefully pulling up and out on the main shaft.

With the main shaft out of the machine and while referring to Fig. 1, disassemble as follows:

- 1 - Slide off all of the parts down to and including spring #72514.
- 2 - Remove keyed nut (LEFT HAND THREAD) and slide off everything down to the driver gear. Note that the friction disk #120553 fits into only one of the three holes in the gear.
- 3 - Remove the gear and replace it with gear #78509 (60 speed)

The main shaft parts should now be re-assembled while referring to Fig. 1. The felts should be soaked with light oil during assembly.

The motor pinion should be replaced with a #78510 pinion (60 speed) after which the main shaft may be returned

to the unit and the bearing caps replaced. Do not tighten the caps at this point.

Working from the top of the shaft, replace the cam sleeve, felt disk and washer. Then replace the retaining disk on top of the shaft.

Rotate the main shaft by hand in a clockwise direction, looking at the top of the shaft. Check to be sure the selector cams are centered on the cam followers as you rotate the shaft. Position the shaft up and down until this requirement is met and tighten the bearing cap screws.

Holding the main shaft, turn the motor by hand to check for backlash. There should be between 5 and 10 . Loosen

the motor mounting screws and position the motor to meet this requirement.

Check to see that there is about .010 clearance between the driving and driven clutch on the main shaft when the clutch is fully disengaged. Adjust by repositioning the clutch lever up and down.

Reassemble the punch arm, complete with spring. Replace range finder, making sure the pointed extension on the tape feed out armature fits between the bell crank and the frame of the range finder (Fig. 3)

Replace the typing unit on the base. Take a range, set the range finder at midpoint of range and you should be in business.

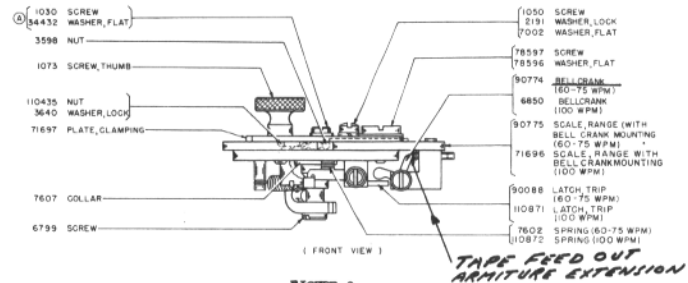


FIGURE 3

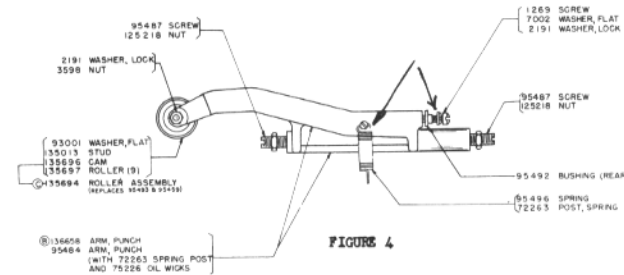
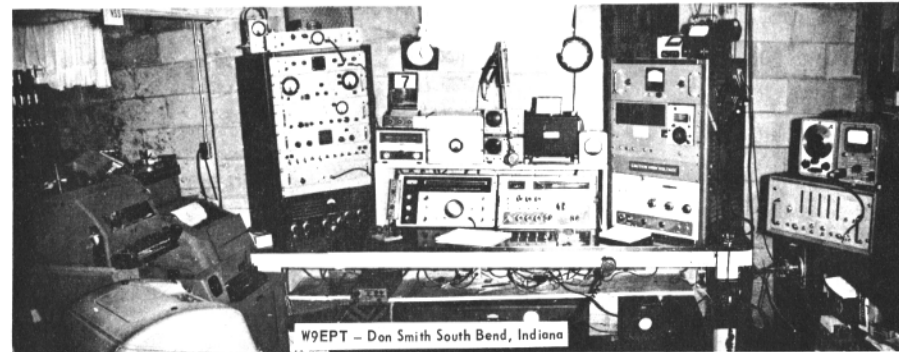


FIGURE 4



W9EPT - Don Smith South Bend, Indiana



## Using a model 15 Printer with a model 14 Reperforator.

By - Howard Cohran - K9IUG  
6419 Carlisle Rd.  
Terre Haute, Ind. 47802

After reading the article in the January issue about rewiring the Mdl-19, I thought I would send along a diagram for those who might be interested in obtaining similar results that the Mdl-19 offers by using a Mdl-15 and a Mdl-14 reperforator. The reperforator can be of the receiving only or of the transmitting type.

After careful study of the included wiring diagram you can see that it is possible to punch tape with a 15 keyboard while receiving copy on the page printer. With additional thought and some more wiring it could be arranged for local copy on the 15 while punching tape, assuming of course you are not printing an incoming signal. This would correspond to the both position on the Mdl-19 keyboard control switch. If you are interested in punching a tape of an incoming signal, this too can be arranged. More wire required though.

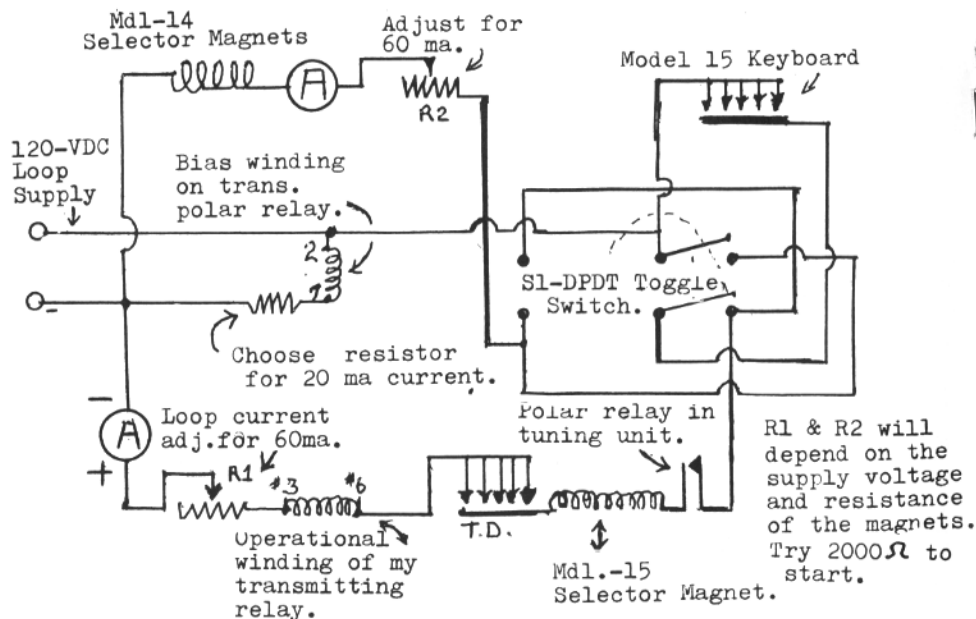
The diagram illustrates the loop arrangement in use at K9IUG's QTH. The

switch (DPDT toggle) is shown in the keyboard only position. This position places the keyboard in series with the Mdl-15 selector magnets and the other equipment in this loop. When transmitting the keyboard will break the loop thus causing the page printer to print what has been typed. At the same time the transmitting polar relay will function and its contacts will key the station transmitter. In the meantime the Mdl-14 will remain in closed condition.

With the switch in the other position (Punch tape), the keyboard will now be placed in series with the Mdl-14 selector magnets. Any character typed on the keyboard will cause the Mdl-14 reperforator to function punching the typed character on the tape.

While the keyboard is in the punch position it is in the Mdl-14 reperforator loop and no longer in the Mdl-15 loop. The Mdl-15 loop has been connected back to the positive side of the supply by the toggle switch. If you have been thinking of getting on with tape now you can pick up one of the inexpensive receiving only reperforators and get the job done. Hope to see you on the green keys soon. 73's K9IUG

\*\* \*\*



CLASSIFIED ADS. Rate \$1. - 30 words. Additional words 2¢. Closing date 10th of month.

WANTED - Teletype Parts for all machines. Models 14, 15, 19, and 28 etc. Must be new in Teletype Corp. pack or military with 5815FSC ....Phil, K2HJC, Box 96, Morrisonville, New York 12962.

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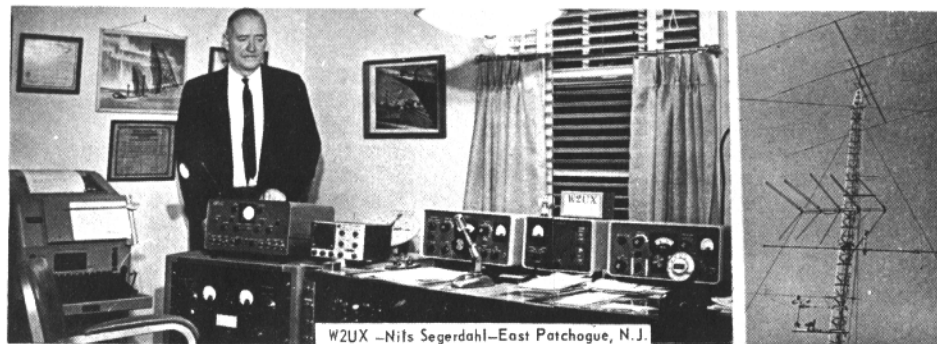
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RTTY CHANNEL FILTERS, octal mounted, 1275/2125 cps or 2125/2975 cps. \$5.95 pair. 88mh toroids, uncased, 5 for \$2.50. Herman Zachry, WA6JGI, 3232 Selby Ave., Los Angeles, Calif. 90034.

WANTED - Model 19 & Model 14 typing reperforator. Offers from within 100 mile radius to WA2DCA, Crooked Lane, Cherry Hill. N.J. 08034.

Clean Model 26 with table-First check for \$55.00 gets it. Will ship prepaid. Bill Casmaer WA6JZU, 7527 Astoria Pl., Goleta, Cal. 93017.



# VHF RTTY NEWS

RON GUENTZLER W8BBB Editor

988 Chelston Rd. South Euclid, Ohio. 44121



## VHF STATION SUGGESTIONS

There are two principal reasons for this month's dissertation: 1) To show some of the differences between HF and VHF station layout, and 2) To present some suggestions for arranging equipment in a VHF RTTY station. The ideas to be presented are to be construed as suggestions and certainly can be modified to suit individual conditions and preferences.

### General Recommendations

The availability of room for adding a VHF setup to an HF station or the introduction of RTTY into an apartment is not as serious a problem as may first be thought. This is especially true when VHF FM is being considered. A crystal controlled receiver and transmitter can be located in other than a "prime" area; for example, they can be placed under the work bench, in a closet, or in some other location where access for occasional maintenance is convenient. The keyer and terminal unit (TU or demodulator) can also be located with the transmitter and receiver. Therefore, only the teleprinter (teletype machine) need be at the operating location along with any desired metering and the few necessary switches.

We strongly recommend that if FM is being considered it be commercial gear of the type intended for public safety use ("police-type"). We do not recommend trying to convert FM gear to AM use or converting AM gear to FM use; the reason being that there is so much difference in practically all portions of the equipment that a good unit designed for one type of service will usually offer only very poor performance when converted.

If there is a strong urge to build something, spend the time, money, and effort building the TU, the keyer, etc. Because most of the FM equipment available is mobile equipment, there will be opportunity to build AC power supplies for the transmitter and receiver; we recommend separate power supplies rather than a

combined supply for both transmitter and receiver. Also, an FET preamplifier or a better tube in the first RF stage might perk up a receiver. A power amplifier for the transmitter to take the RF output power from 30 watts to 1/2 kilowatt is a good project to keep one busy for a few evenings. Otherwise, leave the receiver and transmitter alone!

Should two or six meters be used? If there is some activity in your area, then join the group. However, if there is no activity, the following points should be considered. The advantages of using six meters (over two meters) are greater range, occasional skip, and less crowding. The advantages of two meters lie in being less prone to TVI and in requiring smaller antennas; these advantages for two meters exist in practically all locations, but are especially advantageous to the "cliff dweller".

### Specific Recommendations

These recommendations are aimed at the FM user. They are only recommendations. We use the general ideas mentioned and have been involved in many lively discussions defending our views.

The following equipment should be left on 24 hours per day unless you are not interested in being on more than once a week and are not interested in autostart operation: the receiver, the terminal unit (demodulator), and the printer magnet loop.

The following equipment should be on normally when "in the shack": transmitter filaments, and keyer.

The motor in the teleprinter should be on when actually receiving or transmitting or when turned on by the autostart.

Receivers intended for commercial service are designed to be on continuously. The objections to leaving a receiver on seem to fit one of two categories: 1) Cost of electricity, and 2) An emotional block to "leaving something on". A "typical receiver" draws about 30 to 50 watts. Using the higher figure, this amounts to 1.2 kWh/day or 36 kWh/

month; at 2.4¢/ kWh, this amounts to less than \$1.00 per month!

### Station Layout

A "typical" VHF station is shown in block diagram form in the figure.

The entire station is controlled by means of three switches (lever-type switches are most suitable).

1) The switch marked "MOTOR" has three positions. One position locks the motor off so that the printer cannot start while one is poking at its innards. The center position allows the motor to start from the autostart circuit in the terminal unit. The third position allows the motor to be turned on manually when testing or when in a QSO with someone who is slow in returning, or during a break for breaking stations, etc.

2) The switch marked "FILS" turns on the transmitter and keyer filaments. It also can be used to turn on and off additional equipment such as the receiver, if desired.

3) The switch marked "XMT" is also a three position switch. One position is transmitter off (receive). The center position is transmitter on (transmit), voice or CW ID, and the third position is for transmitting RTTY.

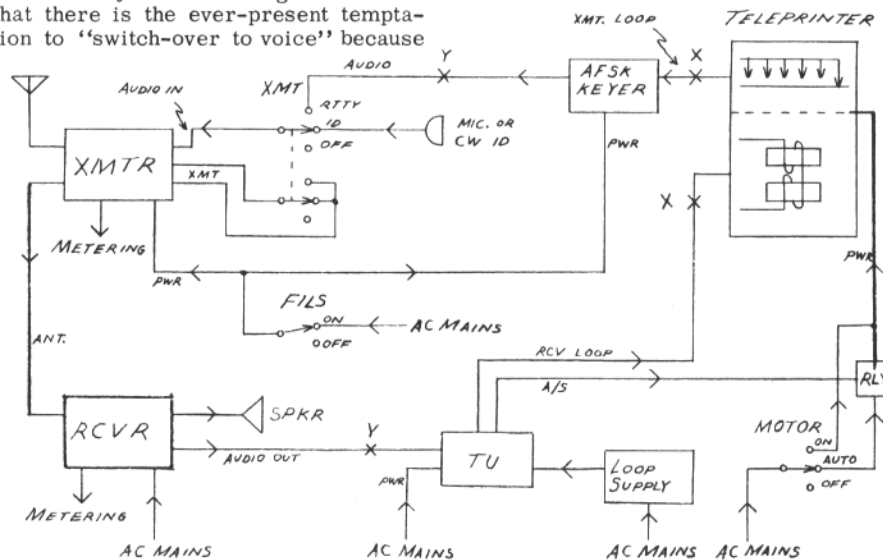
We use voice ID for three reasons: 1) By law, some means other than RTTY must be used, 2) It is fast, and 3) On occasion, it is desirable to communicate by some means other than RTTY. There is some objection to using voice ID in that there is the ever-present temptation to "switch-over to voice" because

it is faster. This is a point well taken.

The "XMT" and "FILS" switches could be combined into a four position rotary switch. This is objectionable because rotary switches are a nuisance to operate when compared to lever-type switches. Although the "FILS" switch only requires two positions, a third position can be used for switching to a second channel or for switching antennas, etc.

The diagram shows the printer connected to the TU and the keyboard connected to the keyer. The reasons for this arrangement are as follows. FM receivers do not suffer from the overload problems that plague AM receivers. Therefore the receiver can be on while transmitting (this is the reason for suggesting separate power supplies for the transmitter and receiver). We have found that by having the printer always connected to the TU and the receiver, and the keyboard in a separate loop connected to the keyer and transmitter permits us to print what is actually being transmitted. In this manner we have a reasonably good assurance that if we are printing what we are sending the person at the other end is also. We have many times heard, as probably everyone else has, 10 minutes of steady mark from a station that was "sending" something into a local loop and copying perfectly, having forgotten to include the keyer in that local loop.

continued on page 14



RTTY JOURNAL

# RTTY-DX

JOHN POSSEHL W3KDF Editor

P.O. Box 73 Blue Bell, Penn. 19422



Hello there...

You fellows had better check your reserves of paper. At the rate it was apparently being consumed in the B.A.R.T.G. contest in early March I'm sure that most of you are pretty low by now. I'm also willing to bet that a lot of bruised and battered fingers (two in most cases) got a good soaking in hot water right after the contest ended to reduce the swelling. From here it seemed that there was plenty of action and conditions were good to excellent to all areas on all bands. Although it was apparent that a good many country multipliers were missing, this lack was more than compensated for by increased activity on the Ten and Fifteen meter bands. More on the contest activity a little further down the page.

In last month's issue I was very happy to announce the RTTY operation from VR6TC. This month I must reluctantly announce that it was all the doings of a pirate station. There seemed to be an air of skepticism prevailing in listening to the chatter between you fellows that had either heard or worked him. Accordingly, I wrote to his QSL manager, W4TAJ, who along with W5OLG, have been instrumental in getting Tom set up on CW and SSB, asking him to verify the activity on RTTY. Here is a direct quote from the letter I received in reply. "Absolutely no. Tom, VR6TC, has no RTTY gear and none is contemplated at the moment." Scratch one.

If that weren't enough, Lou, IIORS, told me that Arthur, ON4BX, had a SSB QSO with FO8AA and that that station has not operated RTTY either. Scratch two.

I have always been impressed with the RTTY group as being quite mature, but with such goings on one begins to wonder.

Well, let's see what the action has been on the continents.

**NORTH AMERICA**  
The contest brought on a tremendous burst of activity from the USA and Canada that hardly diminished until the party was over.

Just before the contest W8IVC/VO2,

Rick, at Goose Bay, Labrador got on for the first time. He was in there giving out numbers in fine style from that elusive VO multiplier during the test. I can only imagine Rick's reaction to the barrage of signals calling him.

I tuned across Jose, PJ2MI giving out a number and waited with bated breath and fingers poised (two) above the keyboard for him to sign when suddenly his linear blew out and he went QRT.

Pierre, XE1YJ, very kindly sent me a copy of his log. "Murphy's Law" caught up with him again as there was a power line failure to put him off the air for a time. I remember that a few contests ago the power transformer in Pierre's transmitter blew out in the middle of the contest. In spite of the delay XE1YJ finished with 93 QSO'S, 15 countries, 3 continents, for 22,830 points.

Thanks to Bill, KL7BAJ, many of you got that Alaskan multiplier. Bill was on all the high frequency bands with a fb signal.

Ray, W2LNP got a chance to experience what it was like to be on the receiving end of a DX station during a contest. Ray was operating with Jean at FG7XT. It must have been quite an interesting experience.

Here is an item from W3ISE. Warren reports that while in a CW QSO with OX3LP he was told that OX3LY has full RTTY capabilities. Perhaps we can hope to hear a signal from Greenland soon.

Max, at KP4AQL was busy giving out numbers during the contest.

## SOUTH AMERICA

At this writing, Walt, W7ARS, has started his "wintering over" schedule with KC4USV at McMurdo Sound in Antarctica. They will initially use twenty meters but as the winter really sets in down there they will in all probability handle the bulk of the traffic on forty. Walt also indicates that there will be RTTY activity from some of the other bases down there in addition

to KC4USV. Assisting Walt in getting the traffic mailed out and replies put on tape will be W2LNP and K5PJB for Eastern and Western USA, and Lou, IIORS will assist in disposing of the European traffic as he did last year. You gentlemen are to be commended for the time and effort you are putting into this public service project.

Incidentally, Arthur at ON4BX reports printing KC4USV with good signals at around 0800z on 14 mc.

OA8B has been printed a few times, usually on about 21.1 mc. on a schedule with WA4ZRS and handling traffic.

Numbers were being distributed by YV5AVW, YV5FQ, and YV5AV, as well as LU1AA, and LU8DR, making South America a sure thing as a continental multiplier for the contestants.

## EUROPE

While starting to gather the bits and pieces of material that go into making up this column and listening on the band at the same time; I came across SVOWJJ in Larissa, Greece running a test tape on 14 mc. Of course, all the bits and pieces were immediately dropped in an attempt to QSO him, but with no success. Watch for this one, he has a beautiful signal in these parts.

A nice letter from Sandy Morton, Hon. Treasurer of B.A.R.T.G. indicates that he should be on with a GM3 call perhaps sometime this Spring. Sandy finished a new TU the night before the contest and gave it a good work-out the following two days. He has also logged 39 different countries since the first of the year.

Anyone in the contest could not help but have Europe in their log as there was tremendous activity from there. It just isn't possible to list all the stations in this brief space.

A few of the stations that created sizeable pile-ups on the bands by being the only representatives from their call areas were, EI6D, GI3HCP, UQ2KAA, and UA4-KED. There was also a good deal of activity on Ten and Fifteen from Europe but very little if any narrow shift. Art, ON4BX recommends some sort of incentive if future contests for narrow shift. In areas of high activity such as Europe and the USA it is usually the only way to beat the qrm problem. We will be glad to air anyone's ideas in this direction.

The other day I happened to print part of a QSO between SM6OH and HB9P/mobile. I had to hear it out as my curiosity was aroused. At first I had thoughts

of Carl going down the road with one hand on the wheel and one on the keyboard. Judging from Chris' remarks I think he had the same thoughts. Well, it turned out that HB9P/mobile was on the Lake or Zurich and the occasion was The Convention of Swiss Short Wave Amateurs. We hope they had a pleasant week-end.

The QSL cards for the DXpedition to Monaco, 3A0AV, in November 1966 are now being sent out, if you have worked this station and have not received a card direct your requests to the operator, Maruo MONTI, IIZBS, via Terraglio 115, Preganzic-Treviso Italy.

## AFRICA

Here is some very exciting news from this continent. Alban, 5T5AD, in Mauritania is now on RTTY with a very fb signal. A letter from Jean, F8KI, says that Alban has had the machine for two years and that F2ZV of "France-Press" was instrumental in getting Alban set up and assisted him in his first transmissions. Art, ON4BX, also reports a QSO with this station on 4 March. Your scribe was fortunate to have a QSO on the 8th after F3LL and I1KG. Alban is using a KWM-2 and a TH-4 beam so he should put in a good signal to all points. His QTH is P.O. Box 100, Nouakchott.

During the contest Orbra, EL2F, was giving out what I believe were the only numbers from Africa. Our thanks to Orbra for giving us a chance for WAC.

## OCEANIA

I guess that the whole RTTY population of Australia was out for the contest. It was really amazing to hear so many strong signals coming from that part of the world. Those logged here were VK2KM, VK3KF, VK3PB, VK3ARD, VK3NR, and VK6VK. Have no doubt that Bill, VK2EG was in there too, but I missed printing him. Bob, WA6WGL, had a contest with ZL3HJ and KH6AX and KH6FOX were in there representing the Sandwich Islands. Did anyone hear any activity from any of the other Pacific Islands?

## ASIA

There is quite a bit of activity to report from this area this month; this is quite unusual.

Howie, operating KR6FQ, was on the bands a week or so before the contest and many of the boys in Europe made contact with him. During the contest he was on 14 mc. and created some really king-size pile ups.

Continued on page 16



So we goofed, not once but twice and will probably do it again. - the VFH heading is now VHF, and we had the wrong price for toroids in W2LNP classified ad. It is correct this month. Guess he had a lot of response at give-away prices so if anyone has something to give away we strongly recommend an ad. Whats next?...

Through an arrangement with G2FUD of England we now bulk airmail over 30 copies a month to him. He in turn reads and mails them in that country. This saves a dollar a year to European readers as well as exchange problems in sending money out of the country. The actual delay over direct mailing is only a few days.

Arthur will be glad to do this for any European country that has low mail rates to England. Contact Arthur Owens, Gwernarth, 184 Hale Rd., Hale, Cheshire, England.

This issue turned out to be sort of a "TAPE" edition. Next month we hope to have a couple of transistorized demodulators. Nothing new, but one simple one and one more complicated.

Coming soon - Selcall - a method for selective call-up that can be used with any printer. Using integrated circuits. WA8PCK and K8ERV have an answer. In use now on several trial machines with auto start it starts the machine on the reception of any 4 letter code and shuts it off with four or more Ns.

As we write this we still have ice and snow on the ground, the entire "staff" of the Journal is taking off for a week in Florida as soon as this issue is in the mail. So if you write and don't get an answer -- have patience.

We will be back in plenty of time for the Dayton Hamfest, don't forget April 14-15. Sheraton Biltmore Hotel for the RTTY hospitality suite.

Sorry but the January issues of the Journal are "All Gone". We have plenty of February and March issues left. Also from April through December of 1966.

Our latest word from the ARRL on the petition for RTTY operation in the CW portion of ten meters is "no word of any action". The FCC has more pressing problems I guess and there is the possibility that if the new licensing regulations are acted on that RTTY may be designated for certain frequencies in case of a new alignment for different classes of licenses.

And ten meters has been very good, New Zealand has to work on the low part of the band, Japan on the higher portion so maybe some kind of listening schedule can be arranged for checking both sections. Most US action seems to be from 29020 to 29090 mhz.

- VHF NEWS  
Continued from page 11.

Because of the possibility of "ground loops" giving hum and noise problems, it is recommended that the audio lines between the keyer and transmitter and between the receiver and TU be balanced or at least ungrounded at one end by using an output transformer in the keyer and an input transformer in the TU. This is especially important if the TU and keyer are physically separated from the transmitter and receiver.

Commercial FM equipment is crystal controlled and is usually designed to be remotely operated; therefore, remote operation is simple. It can be seen, by referring to the diagram, that two audio pairs and two control pairs are required. One control pair is for the transmitter filament control and the other pair is for transmitter keying. The filament control is best accomplished by supplying the AC power for the transmitter from a source close to the transmitter and

operating a relay coil over the control pair.

Commercial FM equipment has provisions for metering various points in the transmitter and receiver. Usually a microammeter or DC voltmeter is required and most metering is done to chassis ground. Therefore it is possible to extend to the remote point any "vital" metering desired. We usually watch the IF grid and the discriminator on the receiver and the final amplifier plate current and the RF output power on the transmitter.

Conclusion

The material presented above shows one way to interconnect the radio and RTTY gear for VHF operation. The small number of leads required between the radio equipment and the RTTY equipment means that remote operation of the radio equipment is relatively simple. Therefore, the radio equipment can be located where space permits.

There is much information available in the various amateur periodicals regarding interconnection of equipment in an amateur RTTY station. Probably the best single source of information regarding all phases of RTTY operation is: THE NEW RTTY HANDBOOK, Byron H. Kretzman, W2JTP, Cowan Publishing Company, 14 Vanderverter Ave., Port Washington, New York, \$3.95. We strongly recommend that a copy be obtained, if you don't already own one.

Activity

This past month has been very quiet. We have only two new stations to report. Both are on 146.700 MHz, AFSK, vertically polarized, 40F2. In the Cleveland area: K8NHR Howard Baker, Amherst, 50 W. Beam; in the Detroit area: W8SDZ Keith Peterson, Royal Oak, 25W.

We have had an interesting letter from Ed Bruening, W8DTY, in Ann Arbor, Michigan questioning the use of vertical polarization. Anyone having any comments on vertical versus horizontal polarization for VHF use is encouraged to present his views to us. As we see it here, vertical polarization should be used with FM equipment in order to be compatible with 40F3 operation which is always vertically polarized (to the best of our knowledge); on the other hand, horizontal polarization should be used with AM equipment in order to conform with the prevailing practice for 6A3 and CW operation.

Wayne Snyder, W8QGT, Warren, Ohio asked about the availability of crystals for FM equipment. We have had very good results with International Crystal. When ordering the crystals, the make and model number of the equipment should be specified and the oven temperature should also be given, if one is being used. We recommend that the "commercial grade" crystals be purchased. In some cases, the cheaper "amateur grade" will not come onto frequency because the oscillator circuit in the receiver presents other than 32 pF capacitance to the crystal.

That's all for this month. Keep the information coming.

73, RG

Emergency Repairs for Model 19

Regulated Power Supply

R. J. Popkin-Clurman W2LNP  
134 Wheatley Rd. Brookville  
Glen Head, L.I., N.Y. 11545

This repair, while intended to be of an emergency nature, has worked as well as if a new Thyatron were installed.

When the 323A or 323B Thyatron gets weak or one of the pair loses its filament in the REC30 or type KS5988 power supplies, the voltage will not build up high enough for the regulators to control the "Good" Thyatron that may be left. Poor Thyatrons usually have a hazy blue color, instead of the deep blue of good ones, and tend to ignite intermittently.

A simple effective "fix" is to substitute a diode for the defective thyatron. A solid state silicon rectifier capable of handling 200 volts at one ampere will do the trick. Alternatively an 866A with the base adapted so that the filaments may be lit in the 323A socket (5 prong) will also work.

The effect of the added diode is to bring the average voltage level to a point where the regulators can control the remaining good grid control rectifier.

Not to be overlooked are the readily available industrial Thyatrons such as the 710/6011 which are just as good as the 323A. The industrial Thyatrons usually have a 4 pin base and it is necessary to make a 5 pin socket adapter to fit the 323A socket.