Teletype Bulletin No. 14

Hrmm, August. Guess there wont be very much activity in the ham shack for a few more weeks yet. What with vacations, swimming, fishing, and loafing there is little incentive to drill, cut, hammer, screw, and solder equipment. There is just as little incentive for writing this bulletin when I could be wandering around Coney Island partaking of the fruits of the land (hot-dogs) and snapping Kodachromes. But I have been getting together some circuits and data for the last few days that might be of interest to you so I had better overlook the heat and humidity and unfold the information.

My ultimatum in Bulletin 13 setting up a subscription price resulted in a brief flurry of checks and quite a few interesting letters. It is quite gratifying to find that all of you that have written like to read this bulletin. But lets plunge into the mail and see what's up.

W2RTW: "Just received a 21A.and am now looking for 'dope' to build a receiving distributor. I have the converter finished and apparently working fb. I had no audio oscillator for a standard so I took my wire recorder down to a local BC station and made a 15 minute recording of each frequency. I then built a dual frequency oscillator and callibrated it against the wire recorder. Usually a ham finds a way."

W0HZR: "The Midwest Amateur Convention will be held here in Minneapolis in early September. Those of us who have been asked to participate in the planning are going to do what we can to give an impressive teletype exhibit..... any suggestions as to what we might give away for information in printed form? I plan shortly to build up two receiving and sending panels for use by W0BP and myself, and for the exhibit at the convention."

W2ITQ, the Program Chairman for the Hudson Division Convention says they would like to feature a teletype demonstration at the convention October 3, 4, and 5, in Albany. As far as I can see I won't possibly have time to do this myself, but I am willing to lend my gear for such a purpose if any of you are interested. It would cost John and I about $400 to drop everything and do the job and we can't afford that. How about it some of you W2's, here is a chance to do some real good.

W2ANB: "Am still working at Bell Labs, Murray Hill, N.J. Haven't gotten my equipment working as yet what with being down here all week and getting home only on week-ends, but certainly hope to have it working by this fall. Was interested in John's conversion of an old typewriter for teleprinter sending. I have some circuits along that line that I worked on during the war."

W2BFD is indeed working on this problem, hindered only by his enthusiasms for other electronic wonders and our one and two hour phone call QSO's. John says that the problem is essentially solved and he will have an article ready one of these days giving all of the dope on the conversion. In the meantime he suggests that you look around for an old Remington "Standard" typewriter which still has the key levers, shaft, and retracting spring in OK shape. The complete upper structure can be destroyed. These should be available for from one to three dollars. This machine is particularly adaptable to teletype for two reasons: The base is the same size as the model 21A printer and the ease with which it can be taken apart for conversion. Most other machines have metal posts which have to be hacksawed, but the Remington posts come off at the bottom.

W1DKR: "As soon as I get the filters I'll build the converter for AFSK and then the Xmtr unit. I saw W1EVZ's setup at the Springfield (Mass) Convention and it worked FB, auto-start and all. Mightly nice setup."

W1BGW: "Have had a QSO with Blackie (W1WB) but he is doing a bit of rebuilding so haven't worked him recently. Watching for an opening on 2 so can work you and the NYC gang one of these days. My RTTY experience dates from Army days but haven't had much time to do much with it until recently when I obtained this model 12 from John."

W7TJY: (Nevada) Seems that Fred was away when the last Bulletin came so I have received a nice letter from his wife Alice. Fred and Shorty W6RL apparently get quite a bit of teletype propaganda over during their 75M contacts. Fred is busy during the summer but will be back at RTTY come September. He has a control panel built and is about ready to get on the air. Fred is traffic manager of the Mission Trail Net and is looking forward to RTTY helping him with his cross-country traffic.

W2SDE is hard at work on his new 16 element two meter beam. He will add one more high power station here in the east with his new 4-125A's.

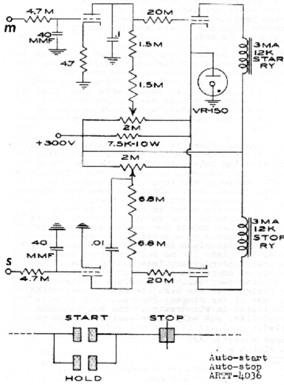
W6HFK recently hooked U.C. for a BSEE and is now looking for new worlds to conquer such as tape gear for his model 12. He will be on auto-start soon too. At long last someone on the west coast is waking up to the idea of auto-start. Shucks fellows, that is half of the fun. It is so darned simple to install, and yet no one out there seems to bother. Hmp.

W6OWP: "As written, I certainly don't support the ARRL proposed F-1 band (7150-7200 kc, the same band as proposed for the novices), but if it is part of a firm stand to get some logic into the FCC ammendments I'm all for it." Bart feels that FSK will cause too much QRM to the c.w. gang if allowed on all frequencies and wants FSK to be limited by the FCC to some segment of one of the low frequency bands.

What Bart says about us causing QRM could be valid, and will be unless we make a special effort to prevent it from happening. If we set up on specific network channels and stick to them there is little possibility of our causing high emotions. If on the other hand we decide to exercise our "rights" and start sending RTTY on other frequencies where we interfere with traffic nets or some such, then we can cause the whole group harm. We have a tough communication problem ahead of us. When we first start I assume that all sorts of makeshift equipment will be pressed into use just to get on the air. If we are to furnish the service that we honestly and ethically should we shall have to settle for very high standards of frequency stability, auto-start operation, and as much tape operation as we can maintain. The blind running of tapes will have to be eliminated. With the proper auto-start circuits we need no longer even call CQ; all we have to do is send the few seconds of start signal and then listen to see who is available.

Our present standards of auto-start are adequate for operation on two meters for which they were designed, but not adequate for operation on the lower frequencies. The short starting circuit is satisfactory and is normally used when the operator is present in the shack or is operating the printer. This consists of from one to two seconds of marking signal. The stopping signal is also satisfactory and is about a half second of spacing signal. The change in standards I propose is in the long starting signal which is used for turning on the printer when the operator is not present. This now consists of from 30 to 60 seconds of marking signal. On the lower frequencies there is a much greater chance of accidental starting of the printer due to some blank carrier appearing on the TT channel. To eliminate this difficulty I suggest we use the same system that was used for the automatic repeater transmitter atop the Municipal building in NYC which requires a mark signal of a certain duration for starting. With two timing tubes and relays we could have any marking signal that is longer than ten seconds, but not longer than fifteen seconds turn on the printer. This shorter time would also bring us within the new proposed regulations for signing call letters every 30 seconds during tests and calls. At any rate our ability to call CQ with a twelve second pulse should be of great interest to the amateur and might even get c.w. stations to try the idea. Circuit ARTT 4036 shows only the short start and the stop circuits. To extend the starting time 13.6 megohms is added to the plate resistor, resulting in 30 to 60 seconds starting time. For full information on this circuit, as well as all of the interconnections to allow it to operate the printer check with drawing ARTT-13 issued by the V.H.F. Teletype Society.

W5QDD: "...em being released from the service on the first of August. Am going back to the Engineering Department of the Telephone Company and will be working on TV and micro-wave."



Auto-start
Auto-stop
ARTT-4036

For the life of me I cannot see any reason for so many of the gang not to be using auto-start with their printer. The circuits are very simple and require only two 6SN7 tubes and a regulator.

Terminal "m" connects to the cathode of the 6H6 "mark" diode in the selective amplifier and "s" connects to the "space" 6H6 cathode.

The two 2M pots adjust the time delay for start and stop. Adjust for one second for start and one-half second for stopping.

The connection of the contacts of the relays depends upon your control wiring. The partial ckt showing the start, stop, and hold contacts is a sample of how to connect the control circuits. The hold contacts are on a separate "hold" relay and are activated by the start relay. If you use a main line relay to furnish ac to the printer motor and this has an extra pair of contacts these will make a fine hold circuit.

The .01 condenser shld be a mica. The 0.1 must be a very low leakage paper condenser.

W8LBI: "I've gotten involved in a community TV Antennaplex System which takes all of my spare time, leaving me none for even a quickie on 75 M. We have most of the bugs worked out and are almost to the point where we can hire linemen to do all the dirty work. Maybe then RTTY can come into its own at this end."

The response to the establishment of a fixed subscription price for the Bulletin has been very encouraging. Paid up subscriptions and universal agreement with this basis of doing business have been forthcoming. Thank you for your encouragement and your support.

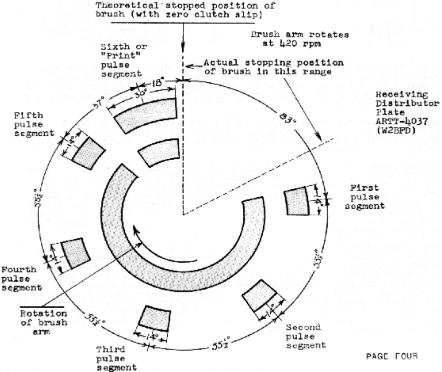
One complaint about the size of the print that I use: too small. I know that it is small, but for some peculiar reason I like that style a lot. Of course I can be outvoted on this, but it is going to take a bit of a fuss to unseat me on this point. I have gone half way with you though and invested in a special black ribbon for the typewriter so that all of the letters will be completely reproduced after going through the offset process. Once all of the letters are actually there the only basis for difficulty rests with your own eyes and glasses.

W7IHI: "Bob Weitbrecht (W6NRM) dropped over to the house last night for a couple of hours to see my RTTY setup. We got the rig on the air and worked Temp, W7VS, over in Portland, for an hour or so on eleven meters. Bob showed me pix of his equipment and circuits and it looked good..... I feel that the many wonderful ideas of Bobs are another reason for requesting that the FCC stop trying to direct our every movement and activity to the point where we cannot pursue our hobby to the fullest extent and for the greatest good. I find that as a result of your articles in CQ that more and more of the hams around here are becoming aware of RTTY and its many ramifications.

Because of the large number of stations that have gotten the model 21A printers or are planning to get these printers there has been quite a bit of interest recently in the problem of making a receiving distributor. The problem is not overwhelming and should be solvable by any of the TT gang who have the courage to try.

Essentially the problem is to make a switch which will, upon receiving a starting signal of some sort, connect six different circuits to one common line, one after the other. Further, each of these circuits should only be connected to the line for about five milliseconds except the last circuit, which should be connected for about twice that time. Two methods are in common use to accomplish this demand, one the distributor such as comes with the model 12 printer, and the other such as is used for tape equipment. The second system, seeming the simplest to reproduce will be discussed here.

The distributor has four major parts. There is the motor which is used to rotate the switch contacts, the clutch which allows the distributor to rotate only once with each starting pulse, the faceplate over which the brushes rotate to make their contact, and, of course, the brushes. The rotation speed of the shaft should be 420 rpm. This is normally derived from faster motors being geared down. W2RWV has even been able to use a fan motor for this job. The motor drives the distributor through a friction plate which allows the motor to continue turning when the clutch is holding the distributor from turning. The clutch is solenoid operated by the starting pulse and is de-energized as soon as the distributor starts to rotate by means of a small cam operated contact on the distributor shaft. The faceplate is reproduced below. This drawing was made from an actual faceplate for no such drawings have been found as yet in any commercial or military instruction books. The plate is made by afixing a plate of copper to a sheet of bakelite and then, with a circle cutter, cutting away all but two rings of the copper. These should be firmly fastened to the bakelite with screws which do no project through to the face of the rings. Then cuts can be made in the rings at the angles indicated in the drawing. The two complete rings should be left on the bakelite, but only those sections shown in the drawing should be connected.

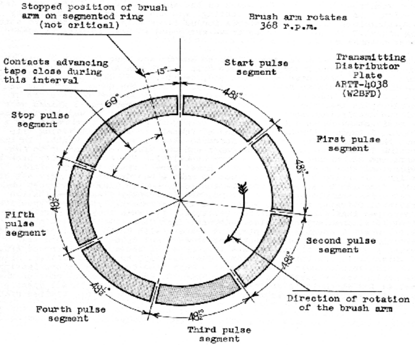


As more and more of you get the model 21A you will be building keyboard units from junk typewriters. This still leaves one piece of necessary machinery to be home made: the transmitting distributor. The cost of these units ($45) is high if you decide to buy one and then there is the shortage of the units which would put delivery off into your old age. This unit is also necessary for operating the tape transmitter. The transmitting distributor is very similar to the receiving distributor already discussed and differs in only two details: speed of rotation and arrangement of the contacts. Your motor should be geared to rotate the brushes of the TD at 368 rpm rather than the 420 rpm of the RD.

The segmented rings of the TD are made the same was as the rings for the RD. Although the drawing below shows only one ring it is usual to have two rings. The outside ring is segmented as shown and the inner ring is unsegmented and acts only as a sort of pick-up ring. The rotating shaft in the center of the plate has an arm which holds two pieces of braid which are insulated from the shaft but are connected together. These pieces of braid then wipe over the rings and connect the inner continuous ring to the outer segmented ring, thus distributing the d.c. appearing on the seven segments to the inner ring. A diagram of the distributor and the interconnections for using it with the tape transmitter appears in the April CQ, page 35. This also illustrates the cam on the shaft.

The brushes can be made from a short piece of braid taken from a piece of shielded wire. The braid should be clamped in a vise and pulled tight before using so that it will hold its shape as a brush. The end should be carefully trimmed so that the braid will make contact over the entire surface of the rings, thus reducing arcing and the resultant noise in the receiver.

The TD and RD arms would normally rotate with the shaft which is continuously rotating but are restrained from doing so by the latch. A friction clutch between the shaft and the brush arm prevents this rotation from being transmitted except when the latch has been released. To start each revolution of the arm a magnet pulls out the latch which instantly allows the brush arm to rotate with the shaft for one revolution whereupon it is again stopped by the latch. The RD, which runs a bit faster than the TD, (420 to 368) pauses for a small fraction of a second before starting the next rotation, thus maintaining synchronism.



W6NRM drove from Wisconsin back to Oxnard, California, and visited several of the RTTY gang on the way. Up in the Portland-Vancouver area he visited W7IHI, W7VS, and W7LU. "All these fellows," says Bob, "are operating on 27.2 mc AFSK, and I have had the opportunity of operating the model 12 gear at both W7IHI and W7VS. They really have a smoothly operating RTTY network on that 27.2 mc frequency, and they can bat it around with no errors. Both W7VS and W7IHI have rack and relay panel mountings for receivers, transmitters, AFSK converters, VT keyers, everything, so that no parts or stuff are mounted on or under their model 12 machines. Very neat layout. I took pictures of almost everybody's stations and will send them to you if they turn out right. I had a long talk with W7LU in person and we talked about everything, RTTY regulations, standards, circuits, ideas for receiving systems, etc., etc. W7LU is also skedding W6OWP for make-break RTTY; Wallie is just getting started in experiments like I did with W7LUK and W6DOU -- I think Wallie will have to do some transmitting of FSK for purposes of comparison... W7VS, Temp, is an ex-Lieut. Comdr of USN, and is working as radio Chief for the Portland Radio Communications Dept. He also has a model 12 machine at his place of work for strictly experimental communications...... Stopped over in Hayward to see W6DOU, Paul Lemon, who I used to work make-break and FSK RTTY on 80 meters last year. He has a nice panel set up beside his model 12 containing a Super-Pro, AFSK converter, etc. He uses an LM (BC-221) frequency meter for generating and injecting the local beat frequency for FSK and make-break RTTY. Mainly because, as he said, that the Super-Pro is not stable enough for good RTTY. Seems like those receivers do drift badly. He is planning to convert a Q-5er into a RTTY receiver, using a xtal controlled first converter. Paul is a radio installer for the California Department of Highways. He is installing RCA micro-wave radio relay equipment and other stuff on mountain peaks around here." Bob goes on to discuss the Docket 10073 and the recent letter from Handy. As Bob says, "...perhaps I am being emotional, however action speaks louder than words...what do you think?" I say: precisely.

WE've had some trouble up here in NYC with a powerful signal just outside the 2M band (148.0347 mc). This signal is on the air day and night with an unmodulated carrier of mammoth proportions which desensitizes our receivers to the weaker RTTY signals only 66 kc away. Most of us use the 522 receiver with its nice wide pass-band so that we can receive RTTY stations even when they are not right smack on the channel. Now and then this CAA station puts some tones on for testing, and one of them is near 2125 cy resulting in a lot of false starts for us since this is the standard starting signal. It looks to me as if we are going to have to move to some other channel on 2M.

W2CFT has just returned from a trip to Europe and here is what he has to say about it, "Had a very enjoyable trip but it was all too short. Was away just a little over six weeks and, as it took 11 days over on the Italian Liner Saturnia to Naples and 4½ days back on the Queen Mary, you can see that I had just about a month over there. I covered quite a bit of territory in that short time, consequently the impressions I gained were not too deeply ingrained. I did not go too far out of my way to visit hams or radio stations as I took the trip mainly to get away from radio for a while. I trudged through the ruins of Pompei, took a sight-seeing trip down the Amalfi Drive and on to Sorrento where I spent the night. In the morning I took the boat over to Capri and the Blue Grotto and up to Anacapri and St. Michel. Capri is very beautiful. The following day back to Naples and that evening by train to Rome where I spent two days sightseeing. In spite of my resolve not to make a bus driver's holiday out of this, I couldn't resist the temptation to go out to Ciampino Airport where I met a PAA man who showed me around, and incidently I saw some Italian printers, Olivetti by name, which look like a rehashed standard typewriter. I gathered that they are not too reliable. It seems they use more TG-7B (Army 15's) than anything else. Anyway, from Rome I went by train to Berne, where I spent a very pleasant evening with HB9EC whom I had worked several times. Then on to Frankfort where I met DL4GQ whom I had also worked a number of times. He was very nice and showed me all around AFN, of which he is the Chief Engineer. They have 150 kw AM transmitter. Spent four days in Wiesbaden which is also a very nice town, and before leaving for Berlin took a boat trip down the Rhine to Koblenz and saw many of the castles for which it is so famous. Got to Berlin on May 7th and spent a week with my nephew who is with the State Department there. Visited RIAS

in Berlin and there saw some German printers, one of which is the Seimens which seems to be a Chinese copy of the model 15. There was another quite different but it's name escapes me now. On to Paris, and there I made a pilgrimage to the Museum des Arts et Metiers where I was privileged to gaze upon the granddaddy of all teletype machines: Baudot's original printing telegraph made in 1884. Unfortunately I was unable to obtain any technical data on the operation of the thing. I combed the whole Latin Quarter, visiting one bookshop after another, but no soap. I chided the French hams I met later on for knowing so little about their illustrious countryman. Anyway I could see that the machine used a type wheel about 3" in diameter, similar to some of our modern machines. As a sidelight I saw what must have been the original horseless carriage, steam driven, dating back to 1725. It was used primarily for hauling cannon. The museum is tremendous in size and covers technology in all its phases. Would like to spend a week in there. Anyway, it was good to see Paris again and I felt as though I was coming home, having lived there for over a year 1946-7. Met many of my old friends, including F9CQ, his brother F8MX, F8NH (president of REF), F8NT, and many others. Attended a section meeting of the REF down in Chateaux country near Orleans and met about 40 hams there. (Seems like my resolution went to pot doesn't it?)Well, human nature being what it is, what could you expect?"

Occasional letters want to know about the different types of keyboards. I do not have a cut of the meteorological keyboard, but for those of you interested there was a translation of the symbols into the standard keyboard characters in the #12 Bulletin. Here are cuts of the standard and fraction types of keyboards:

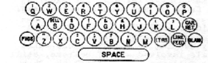


Diagram Showing Standard Keyboard.

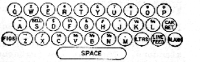


Diagram Showing Fractions Keyboard.

John has come up with another of his regular attacks of genius, to wit: "Dozens of perfect, tiny rectifying units can be cut from the discs of a single burned-out selenium rectifying unit of the type now common in BC and TV receivers. These rectifiers can be used for converting d.c. meters and relays to operate from a.c., powering pias supplies, etc. Ten satisfactory units were made by W2BFD within 15 minutes. These BC rectifiers burn out when overloaded and practically always short out at one small area on each of the discs. The entire area covered with blistered paint is not affected but generally a spot less than 1/8" square. With a vise and hacksaw the plates may be cut up into small squares of any size desired ($\frac{1}{4}$" square is a good size to convert 0-1 ma meters to a.c. or db-level or modulation percentage meters). The edges should be filed smooth with a fine file and then filed to a slight bevel on the side containing the selenium coating so that no burrs will short out the rectifying layer. The plate should now be laid down on very fine sandpaper and moved around with the fingertip to remove the blistered paint from both sides. Very little sanding should be done on the selenium side. There are a number of ways to mount these versatile units. They can be slipped into an FT-243 crystal holder exactly as a crystal and as many as needed may be stacked one on top of the other to handle the voltage anticipated. Allow 26 volts (rms) per plate. Five plates are required for 115 volt service. Approximately nine volts of bias (d.c.) can be obtained from a single plate rectifying 6.3 volt (rms) a.c. from a filament winding. If they are going to be heavily loaded, ventilation can be had by using a small washer between each plate as a spacer. A single $\frac{1}{4}$" disc used with a 0-1 ma meter and a series resistor will give a "volume indicator" to indicate percent modulation, etc." John has further refined his rectifiers by making special units for circuits where a number of rectifiers are heeded with a common connection between one element of them. He takes the full disc and scribes radiuses every few degrees on the disc. The scribe marks are cut deeply so that the selenium coating is removed by them. Then, by drilling a small hole in each of the pie shaped pieces and mounting an insulated screw in the hole with a terminal contacting the selenium part of the pie slice he has ten or more small rectifiers all on one disc, each separate from the other, but with one common element.

W2SPV: "I have been active on 147.96 mcs RTTY ever since I got my model 12. I was lucky enough to get the one that W3NHL had. It was only through the efforts of W2JAV and W3LMC that I got it. It came complete with power supply and W2BFD channel amplifier (receiving converter). Since then I have added the auto-start, but there is still some work to do before I can leave the whole works to operate automatically. I am using an ARC-5 VHF receiver for the auto-start. W2PAT ground a crystal for the receiving channel for me. I am using a 522 transmitter at present, but have a 4-125A amplifier which will go on it soon. The receiving setup consists of a 6J4 grounded grid Wallman (Stacey CQ) converter feeding into a National NC-100. Also have a Brownie converter feeding into an SX-28 for standby. This receiver will be featured in the November CQ (Novice issue), and is not yet out. The antenna is a twin-five Brownie rotated by a TV tenna-rotor. Just got back on 75 phone and am xtal on 3979 kc (do you call that getting on 75?), but expect to be VFO soon (thats better). Also work 10 both home and mobile, again xtal controlled on 29560 kc."

Best of all are the little call letter plates that Ed makes up. They are about 1" by 3" and are made out of black plastic with a white lamination. Ed has an engraving machine and will make your call letters for you for 25¢ per each, five for $1. The letters are white on the black background and really stand out nicely. This is the obvious answer for what to use to cover the old AP or WU nameplates on your printer. As you may remember we have been asked by the wire companies to cover up their names on the machines whenever they are used in public places so that the public won't get the idea that the amateurs are working for AP or WU, or that they are backing us with free equipment. Cover up the names. Send your dough to Ed Kephart, 4309 Willis Ave., Merchantville, N.J. 25¢ each, a steal. They will also look fine on the front of any demonstration gear.

I would like to call your attention again to ARTT-4028 in the Bulletin #10 which is an excellent circuit for converting AFSK directly to FSK and affords an easy method of accurately keeping to the 850 cycle shift standard. The five low frequency crystals involved are, I believe, still available surplus. They are numbered as follows: (2)- Channel 44, 24.4 mc; (2)- Channel 43, 24.3 mc; and one of either Channel 42, 24.2 mc, or Channel 45, 24.5 mc.

W6KLD: "I'm now the proud possessor of a model 12 and a panel. See you on 40 the first day.....I'm experimenting with R/C filters and will give you a report when I'm finished. It looks promising, but nothing definite yet. Another project consists of trying to tame the ARC-5. Went out to Guam and looked over the printers that were junked out there but they were one big mass of rust and corrosion." (When Jerry was here in NYC a few months ago saying hello to John and me he heard that there were some model 15 printers out on Guam that were junked. Jerry has gone all the way to Guam, how many of you have even checked with your local junkies?)

VE3AKO reports that he now has a model 12 printer and expects to have it going by fall on the low frequencies. He reports that VE3RA and VE3APK also obtained model 12's recently and expect to be active by fall since all three of them are working together.

W6RZL is 30 years old, unmarried, and working as a transmitter engineer for Press Wireless. Hobbies: Hot Rods, Sport Cars, Women, Ham Radio, RTTY, books, and WOMEN!

W3RHX, another bachelor, has really been doing it to himself. He works days with Sylvania in the Patent Department, and goes to school nights working towards passing his Bar exam. In his spare time (?) he has built up a receiving converter, put in a model 12, and is about ready to go on RTTY. Quite an accomplishment.

W8QDW: "Am working on an electronic keyer using 2D21 thyratrons. It worked scattered all over the work bench, hope it still does when put in the set. Will pass the dope on when and if I get it working. The 2D21 handles 500 ma for 30 seconds so guess they can work TTY without overdoing themselves. When I get that done I want to experiment with an old portable typewriter keyboard as a TTY keyboard. (I wonder if the thyratrons will give any noise reduction to the printer operation. I doubt it because thyratrons are not known for their quietness when passing square waves.)

JA2DS, Now KX6AS: "When you boys get on the three lower bands with FSK I'll be there to talk with you on RTTY from this end. Have commercial equipment available to use. It will be set up for MARS operation but can be used on the ham bands too. Right now my call letters are KX6AS. Have a new beam up for 20M and a 400' long wire for the other bands. Will be here until next year and then will be back in Japan again. The rig is a BC-610 and runs 750 watts on c.w. of FSK. The ten meter band has been opening evenings, wonder if any of the gang would like to try 11 meters, the time would be about 6 pm Pacific Daylight Time. Will be looking for RTTY signals in there." If any of you are interested in a sked write to Dale Schermerhorn, 1960th AACS Squadron, Navy # 824 Box 11, c/o FPO, San Francisco. He is on Kwajalein in the Marshall Islands. It is nice out there, but a bit far from the radio stores.

W0BP in a swell letter mentions that the FCC is pretty well set in their ideas about our identifying with both c.w. and RTTY and also on the aged equipment standards. Beep suggests in his letter to the FCCthat they add one section to the effect that special experimental authorization might be issued to any RTTY stations wishing to use other standards for experimentation. A good idea. This parallels the rules of the BC stations. Beep also says: "How does a ham tell when he has 850 cycles shift? The Collins 75A2 ($440) is calibrated to 1 kc, not 50 cycles, and the Hallicsratcher SX-73 ($975) designed for 'carrier shift tele-typewriter' is guaranteed for 0.2% which at 7 mcs is 14 kc! Gotta have audio standards. WWV sends tones of 440 and 600 cycles alternately for four minutes and I have heard them send 'W' on 800 cycles at times. We ought to prevail on them to send 850 cycles, or better yet, 425 cycles from which we could derive color coded harmonics on 850, 2125, and 2975 cycles." Now there is a notion that is R9 plus. I think that we might try a concerted letter writing effort in September when more of the RTTY'ers are rested up from their job of writing the FCC on Docket 10073 and 10188. The NBS may be back from vacation then too. Beep has one more gem..... "Let's not kid the editor of a certain amateur teletype bulletin if he does not get on the air with TT; I know a bald headed barber that sells hair tonic, and another man who sells brassiers." Beep is right, I have been unable to get on TT for all of my ham time goes to the bulletin and answering your letters.

Many of the RTTY gang have recently received a letter from Ed Handy of the ARRL asking that the TT gang sign up with the ARRL as Official Observers, etc. He further asks that all TT stations report any non-ham TT stations operating in the ham bands to the ARRL. This seems to me to be much less efficient than our present system of handling this situation which is to report the offending stations directly to the FCC. However if the ARRL for some reason wants credit for the observations there is no reason why you can't send them a copy of the report to the FCC. The latest ARRL proposal that the TT'ers be stuck in with the novices on 40 does not seem to indicate any great interest in the welfare of the RTTY amateur and seems a poor way to preface a request for us to help them with their monitoring system. Even the most rabid c.w. operator letters I have received have at least offered the RTTY'er a portion of each of the bands, their interest being to keep QRM at a minimum for c.w. The ARRL has proposed the mightiest QRM pileup of history: all of the RTTY stations in only 50 kc, and the novices in the same band. Wow!

Review if you will the background of 10073 so far. Weitbrecht proposed that all A-1 frequencies be opened to F-1 early last year. Toward summer the NARC got together and petitioned for phone on 40. A few weeks later the ARRL petitioned for F-1 in the same part of 40, thus creating a conflict with the two preceeding petitions. Last winter the FCC asked for comments from the amateur on the subject. The results of this was the proposed rules set forth by the FCC which were essentially the NARC and Weitbrecht proposals. The ARRL, it would seem, was overruled by the very amateur it was supposed to be representing. Draw your own conclusions.

W8FTN now has a model 12 which he bought from W3POW and expects to have it on the air by Fall. Tom now lives in Cuyahoga Falls, Ohio, and has had some printer experience taking care of some 15's and tape gear for the B & O as a Maintainer in the Communications Department.

W9EXO wants to sell his #12 with MG. Prefers local buyer.

In the last few months I have received many letters from hams that want to know more about teletype, but felt that they were in need of some very basic knowledge before they could hope to understand many of the things discussed in this bulletin. I'll bet that a lot of you have neglected getting a good basic understanding of just how teletype works and how we go about connecting it up to different equipments. The next issue of CQ, the August issue, should do the job pretty well. This is intended as an article that you can hand anyone who wants to know how teletype works by radio. If someone just wants to know how teletype works you can either tell him to go home or give him the first CQ column (Dec CQ) where he will find out about the teletype code and then the Feb. CQ where he can, if he has courage, try to follow my explanation of how the model 12 works. Don't forget that diagram of the model 12 either, that may come in handy. I have just drafted up a new one of these diagrams which will appear in the booklet on converting the model 12 which should be available soon.

The deadlines are now well past for writing to the FCC. I hope that all of you wrote concerning Docket 10073 and 10188. In the next month or so we should have some idea as to the effectiveness of our campaign. I have copies of over fifty of the letters sent to the FCC and of this number only three disagree with the majority as to the allocation of all A-1 frequencies for F-1 emission. I regret that we had even that degree of dissension in our ranks and hope that this weakness will not be our undoing. My faith in the greater maturity, and hence a greater ability to see things objectively, of the teletype ham over the normal run-of-the-mill ham (a faith built by your letters and by personal contact with many of the group) indicates to me that we can be trusted with all A-1 frequencies. Let one simple rule guide you: Be considerate. I believe that we have the quality of group that can set a standard for all of ham radio. We must have the highest standards of equipment stability. We can have just as high a standard of ethics. I also cherish the hope that our standards of discussion material will not fall into the established ruts of present phone and c.w. contacts. Only a hope.

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