SEPTEMBER 1952

Teletype Bulletin No. 15

Had my picture taken a few weeks ago, so now you can see who is making all this noise about teletype. The locale of the shot is the Museum of Non-Objective Painting, where I have taken over part time replacing Walt Chamberlain, W6LLP, one of our RTTY gang from Pasadena. The project is the Dockum Mobile Color Projector, called loosely a color organ. Walt is going back to Pasahogan to resume his schoolwork. Below is a picture of Walt that I snapped while we were at the beach one day. His other hobbies are photography, collecting equipment, and spelunking. The picture at the right is an example of his outstanding work in photography.

WAYNE GREEN - W2NSD

Telegram from W0HZR says that the Minneapolis convention will not have a teletype exhibit due to a lack of space. How a convention committee can be so money hungry as to lock RTTY, the most visual part of the amateur radio hobby and a proven drawing card for conventions, baffles me. Oh well, we shall be at the Hudson Convention in Albany anyway. W2PCD has agreed to handle the exhibit and I will give him all the help I can.

WALTER CHAMBERLAIN - W6LLP

I still have quite a problem with the conversion data on the Model 12. For the last couple of months I have been putting in some time now and then on bringing the old mimeographed booklet up to date. Diagrams have been drafted, the material rewritten, etc. The problem is this: it is not economically feasible to print less than 500 copies of the booklet. As far as I can calculate it would be difficult to sell that many copies if the booklet is put out as a separate publication. Therefore it would seem best to present the information in the monthly bulletin. Perhaps I could make a four page suppliment with each issue with the Model 12 data. Since the bulk of you have the 12 all of the data should be of interest.

One of the books on the best-seller lists is called: "Submarine!" Since I have had some personal experience with devices of this description I read the book. Exciting book. He made it seem a lot more exciting than it actually was though by just telling the high spots of some of the most successful war patrols. For the captain and the exec I suppose there was a lot more excitment to it than to the rest of the crew. Sure wish I had kept some notes from those years. Letters are available, but nothing of interest got through the censors. The only way my family knew where I was was by reading the school paper of the school that my skipper had graduated from. It told of his every stop, and wherever he was I had to be too. Some system. You know, every time a new submarine book comes out about the war I rush right out and buy it and keep looking for mention of my boat. So far no luck. We were one of the top boats too. I did get a thrill when the last sub picture was showing at one of the big NYC theaters. There in the lobby was the battle flag of the Drum, complete with all of the sunk ships indicated.

Would you like to read my mail? There is lots of it.

W6VVS: "I have a couple of printers, tape pullers, and transmitting tape heads, but that is all. The local gang seems to be undecided on whether to go for electronic or mechanical distributors and I'm sort of sitting tight on the sidelines until they make up their minds. I'm no expert so will abide by their decision. I'm pretty expert on coil making though and might be of assistance to any group which is interested in developing tuned audio filters."

W2BOI: "The July 1952 issue of "The Bell System Technical Journal" carries an article describing in detail the new type 43A1 frequency-shift carrier telegraph terminal designed for TWX and private-line teletypewriter circuits between points where no simplex or composite channels are available." I can print this circuit if I have some demands for it. It uses some special filters though which are not available. The circuit is quite similar to that now in use by most of the west coast stations.

W6RZL: "Think you did a wise thing of requiring a subscription basis for the reception of the monthly bulletin. After all, if members can't afford the three bucks a year for the Bulletin, I think they had better take up some other hobby, butter-fly collecting perhaps. I have all of the gear connected up and rack mounted ready except for the distributor, which I imagine should be arriving one of these days."

KX6AS: "Am mostly on 20 phone band. There are several licenses here but only two stations on the islands out here so when a KX6 call comes on the Stateside boys jump all over it. The operating practices of some of the eager-beavers is sure disgusting. Is there anything I can do for all of you? 10 meters has been open now and then. Later on will take a listen for the 11 meter band when the fall condx get going good. Can monitor the other bands from the shop here as have a Super-Pro and an AN/FGC-1 teletype terminal set up here to listen in on our FSK transmitters. Let me know when the boys get going on 40 and 20 FSK."

W4IHL has moved to Stamford, Connecticut. Hopes to be on some day: W1WB.

W1SNN has a Model 12, but it is in California. Hopes to get it shipped here soon. -W1WB

W1BGW and W1WB are on two meters about three nights a week for an hour or so. W1OSX and W1KNW will be on within a month or two. -W1WB

W1BGW: "Rig here consists of a Model 12 printer sans keyboard, a Model 14 keyboard, a Model 21A printer (not running yet), and a 522 for two meters. Have a 1 kw rig on 80 c.w. that will be used for FSK when authorized. Also a little (?) 400 watter that is TVI proofed for 80 c.w."

W1WP: "I myself do not feel able to state how I can fit the many things I want to do into the actual hours available if I was capable of utilizing every 60 minute hour." (This is a good sign of a healthy mind and a progressive personality as long as it does not result in any reduction in the effort to use what time is available as best possible. When this is used as an excuse for doing nothing it loses validity.)

W1OSX: "Model 15 here, also W2BFD panel with auto-start. Building FSK keyer and trying to figure out an electronic distributor, its not too successful yet. New little YL here so time is limited."

W1AFN, as you probably know, has some model 21A's and some perforators for sale. He is going to have some reprints made of the August column in CQ and part of the December column for the purchasers of same. He is also planning to distribute distributors with them too and is making up the segmented plates for them.

While I think of it I had better make an announcement. While up at the CQ office the other day I noticed that they had a whole stack of back issues of the magazine. Among them are about a dozen issues of the November 1946 CQ which have the original W2BFD article on his AFSK oscillator, receiving converter, and full instructions on the construction of the filters. The issues cost 50¢ each. Hurry.

W3PYW: "To an old 'saucer expert' this recent series of events in Washington must fire your imagination. I am unable to explain what the fellows out at the radar scope at the airport tracked the other evening and I have been working with radar since 1941." (Well, Frank, I spent a few years with radar myself and I don't believe the explanations that were handed out. All of the engineers up here got quite a guffaw out of the lame excuses. I am interested in the saucer problem and have followed the various exposes and reports with an open mind: open, but not drafty. So much conflicting reports and data forces me to adopt a wait and see attitude.)

W3NL has gotten himself worked up over the calling frequency hassle now on the table for comments by the FCC. Andy is all for the idea and has been putting in a lot of time and effort to point out the various factors to the amateurs, many of whom are against it without understanding it. As he phrases it, it would seem like a darned good idea to have certain clear channels for calling frequencies. This would greatly simplify the auto-call problem since there would seldom be any QRM on the auto-call channel. Our present auto-call methods are very likely to collapse with the intense QRM that is usually found on the lower frequencies. If a kw roundtable is parked on your calling frequency you might as well go to the movies. Read the editorial in the September CQ (you have to get the magazine anyway to read W4OLL's teletype converter article) and see what you think of the deal. Calling channels can be ultra valuable to the RTTY stations and I believe we should all sit down to the typewriter again and write the FCC. If this keeps up I am going to make up a rubber stamp with Slowie's address on it.

W3TGP is looking for signs of activity out Pittsburgh way. Perking intst.

W2ANB: "Was interested to hear that John's working on the conversion of an old typewriter for teleprinter sending. I have some circuits along that line that I worked on during the war. Recently I dug them up and had some copies made which I will send along to you and John."

W2RTW is putting in tape gear. He has the transmitter, has just ordered the distributor, and is going to get the perforator soon.

W2AKE has had his printer on order for some time now and expects to be on with RTTY by fall.

W2NSD has a headache. The feeders fell off the 20 meter antenna. My National receiver stopped working. An oscilloscope works intermittantly, both TV sets badly need fixing, the kw 75M rig, after sitting in a damp cellar all summer, has started to softly arc over somewhere in its invisible insides. The two meter antenna is down. The six meter coax has a faulty connector which must be turned just so if the energy is to seep up to the beam. For a long while I thought I had no TVI from the six meter rig just because that connector was shorting out all the r.f. I have TVI. Everything is normal. The wire recorder burnt out it's speaker the other day. Ham radio, bah, humbug!

W2CFT has gotten interested in six meters and should be on the band 'fore long. Maybe then I will be able to work him. Should be able to.

W2BFD: "Arranging to put my extra printer out at Sound Beach (summer place) since I have an awful lot of guys worked up to the point where just hearing the stuff on the air would make them fròth at the mouth in anticipation." John has a new list out of available teletype equipment. 651 pieces.

W3PYW claims he now has the two meter RTTY DX record. He worked W8BFQ the other night. This is W8WJC and is near Cleveland. Matter of fact I had several wonderful visits out there. Gerry and his XYL Margaret have a super-duper setup for all of the high frequency bands, including two towers that you can see for miles. Trouble is there are no other TT stations around there and Gerry has to work over to Virginia, Maryland, and Eric in order to get a TT QSO. He should be able to work the Detroit gang now with no strain since he has a clear shot at them. He has one of the best UHF locations I have ever seen. From his location west, south, and north there is just plain flat country. With just a bit of help from conditions he rolls a signal out into the plains states. Right near him is W8UKS who has about the same setup, only with a higher tower: 170 feet. Sam has a pretty goon two meter score and is no slouch on the higher frequency bands either. He needs more coaxing before he will get on RTTY though. He has a receiving converter sitting around gathering dust. At any rate: three cheers for W3PYW, that is fine DX.

W3PYW: Frank ran into quite a deal a while back. Seems he was sitting around minding his own business when a friend of his called and asked him if he could put a TV set in the President's plane, the Independence. Frank had been the one to put radar in it so when Harry decided it would be nice to watch the convention while he was flying to it they got aholt of him. He had lots of time though, twelve hours to get the set, install it, and run a test flight. He got a gift set from Bendix and walked purposefully up to the cabin door, only to find it wouldn't fit through. After taking the set out of the cabinet and removing the tube they managed to squeeze the 19" tube through the 18" door, and by folding the chassis a bit, to get it through. Just when Frank was about to let the set sit on the desk without any cabinet and let it go at that he remembered the escape hatch. The cabinet fit through the escape hatch, almost. It was a gnat's eyebrow oversized on two dimensions. Know what he did? He turned to a G.I. that was standing nearby and asked, "You got a table saw?" "Yup." "Well, saw the damned cabinet in half!" That did it, he sawed it in half. When he brought it into the President's lounge in the plane Frank told him to put it back together again. He did! They put some shoe polish on the set and it looked like new again. On the test flight he saw television stations all over the east coast, it worked fine. Later when Harry got out of the plane in Chicago he said: "I am the only man that ever did it - saw myself get on the airplane, saw myself get off, - never been done before." Says Frank: "Lots of fun."

Handy's letter has been the cause of a lot of somewhat sarcastic and often unprintable comments. I must freely admit to prejudice against the ARRL's actions toward RTTY and view any of their efforts with a somewhat jaundiced eye. They did it to me for I was all for them a year ago as you can read for yourself in the back bulletins. Incidently a thought came to me the other day, happens all the time,: why should I be expected to be impartial? Why should I be expected to be looking out for the welfare of the c.w. and phone men? I am here to sell teletype. I am not here to be an impartial judge and render a decision as to what is best. From now on I am going to let the other services fend more for themselves. If I am going to do a bang up job of selling our product in competition with the others I have no business even considering their product and its' value. After all, there are plenty of salesmen on the other side that have never even given the slightest consideration to our teletype.

Anyway, one letter about Handy's brochure ran like this: "I suspect you had your weekly chuckle when Handy was stupid enough to ask you to monitor 40 and 80 to see what RTTY signals are bothering "his boys." I have a blistering letter ready that will forever burn a pleasant memory of me into his dull brain. How he ever expected us to get on his teetering bandwagon after crapping on us defies imagination!" Says another member: "Nuts." My feelings were expressed last month by Bob in his letter: "Actions speak louder than words."

The ARRL is hurting only themselves when they make such absurd and thoughtless recommendations as the restricting of teletype to the Novice part of the 40 meter band. Words fail me. The complete chaos that this would precipitate should have been realized by every one of the members of the ARRL board, and yet they apparently went ahead and made such a resolution without having any understanding of what they were doing. Not even the staunchest ARRL believers have been able to fathom this action. No wonder the FCChas had to go direct to the amateur to find out what the score is. Double taxation, for we pay our dues to the ARRL to get this service and then have to pay Government taxes so that the FCC can do the job.

I appreciate that several of the teletype members are opposed to any comments being printed against the ARRL and are made uncomfortable when they read the above. Gentlemen, will you please tell me if any of my data is wrong, if there are any facts which I have distorted. Then will you tell me what you suggest be done so that teletype can survive. Shall I sit back and let them use RTTY as a weapon against the NARC? I feel that someone should let them know what we (most of us) feel about their actions. Perhaps if I put it on a footing other than the ARRL you will understand. How do you feel about the statements made in the lead article in Radio News for August? Here is 99% of ham radio being sold down the river, stabbed in the back. The notions of one fellow being put forth as facts. Facts that can in turn be used against us, that no doubt will be used against all hams. How do you feel about that?

There is one item that I consider of extreme importance and it has no connection with ham radio or teletype. As I have mentioned in my past Bulletins, I do quite a bit of reading. A good deal of this is in the field of psychology and the mind. Last week I ran into a booklet that every parent should not fail to read. If you have children that you want to grow up staying sane (quite an accomplishment these days), then this is absolute must reading. The booklet sells for a dollar and can be sent for at the Eidetic Foundation, 252 Mershon Street, Fairhope, Alabama. The name of the booklet is: "Living With Children." Let me know what you think about this booklet.

K5WAT in Lubbock has some teletype machines available and expects to put in an AN/GRC-26 in the near future. One of the ops, W5SOK, sparking the deal.

W5IJC has filed two plaintive letters about the heat in Dallas. Seems it has been over a hundred for several weeks there. I thought that was standard for Dallas. I was down there in 1949 all through the summer and the same thing happened then. It taught me that I could live thru any kind of heat and more or less nonchalanted me to the recent NYC heatwave which had all of the people tearing their hair. At any rate, heat or no heat, the Dallas gang is slowly setting up some gear and should have things in full swing pretty soon. You fellows might give Leroy, W5AJG, a buzz and see if you can get him interested. I had him all sold when I was there, but he has had a chance to cool off for a bit now.

W5RJG has moved from Ft. Worth (where they have the biggest dung heap in the world) to Dallas and is getting his Model 26 back in working condition.

W5RLS in Orange is starting to get his TT stuff set up according 2:W5VHO.

W5DNS is another saucer fan, particularly since he has seen one. That seems to be the deciding factor for most people. None over Brooklyn yet.

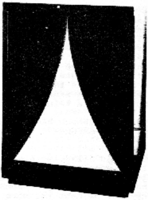
Stenson:"After reading over your bulletins I find that some of the views expressed have good foundation, especially the one that disagrees with the restriction on narrow shifts. I have found in working service RTTY that a shift of 200 cycles, which is used on some circuits, is easier to copy, with less distortion and less fear of QRM from c.w. stations or other close RTTY and broadcast stations. As for the six unit code, at present the only ones using it that I know of are the British, and it doesn't take but a simple conversion: one more code bar, bell crank, and other parts of selection, plus a motor speed adjusted to 75 wpm, to work them. Thus I don't see any reason why the FCC should restrict anyone to the five unit code. I can say though that in time of emergency the use of RTTY, I believe, will be far superior to c.w., in that a much greater volume of traffic can be handled over the circuits."

W4HHK was up this way on vacation and got sold on RTTY while visiting phil, W2JAV. Paul is an old hand at the VHF's, having a 75' tower, 300 watts, a good location, and a quiet receiver. I'll bet he will be working into Dallas, Meridian (Miss.), Dayton, and probably up into W8WJC. Paul has been scrounging around down there looking for a printer and had little success. Guess he will tap W2BFD, like most of the rest of us.

W4CGR, that scoundrel in Sarasota Florida, Dave Johnson, got bit by the TT bug too. He'll never get anything built up unless they set up a work bench in the local gin mill.

W2NSD (me) has added another burden to his existence. In addition to the other few tasks that I have been occupying my time with, I have added one more: Helping to install and maintain the Mobile Color Projector in the Museum of Non-Objective Art for the Guggenheim Foundation. This is fascinating. The building I work in is 14 stories high and empty except for the first floor. I have been eyeing the top for 2M RTTY. Only trouble is that there is only d.c. up there. Curses.

Some of you may be interested in high-fidelity, some may be interested in what I am doing with my time. Some may not give a hoot. At any rate, folded in with this issue of the bulletin is the info on the Karlson enclosure. All of the engineers that have heard it perform agree that the advertising is conservative. A feature article on the enclosure should appear in the September Audio Engineering magazine. We have arranged for a booth at the Audio Fair at the end of October and hope that some of you will get up to hear it. Some of the gang have already heard it perform: W6LLP, W6CLW, W6AEE, W2PCD, W2JAV, W3LMC, and W2ANB. We have taken it around to all of the local stores and all have placed orders. Late in Sept. it should be on demonstration here in New York. W6LLP has the only unit out west at present.



THE KARLSON

W7FGG: "By way of introduction, I am working with Ray Holsclaw, W7GDF, on TT here in Tucson. Just had word that our keyboards were being shipped and have gone full ahead on setting them up. Am personally active only on two and six meters and hope to work you some season soon."(I've heard you on 6M lots of times and worked you once or twice.)

W7GDF: "I would like to try my hand at converting a typewriter. None of us around here even operated a teletype so we want to get ours working as intended before starting on another project such as the keyboard."

W7LUT, Forsyth, Montana, got interested in RTTY through my CQ column and has ordered a printer from John as well as all the dope on the panel. He likes the column and suggests that it be made a monthly department. Ahem! I appreciate hearing that, but don't write to Perry and say it for I don't have the time to handle the column every month without ceasing the Bulletin. I feel that the Bulletin is a more personal means of communication. Out of the 70,000 or so readers of CQ there are probably a lot of non-teletype hams looking in. There are only RTTY'ers on the Bulletin mailing list. That makes a big difference in what I can say and what circuits and data I can print.

W7LU: "Have had several one-way RTTY QSO's with W6OWP, in Belmont Cal., recently. Bart uses a #15 machine, but my #12 makes too much noise except on very loud signals. We used make-break operation on the 40M band. I am using a BC-457 running 60 watts to a long-wire antenna. QSO's were around 10 am and were about 75% readable down there. Thirty years ago we didn't do much better with 60 kw Poulsen arcs, hi! Am about ready to install a VT keyer on my #12 machine and then perhaps we can make it a two-way. These QSO's illustrate the importance of making one's transmissions short: say six to eight lines of copy, as both QSB and QRM take out a lot of stuff. FSK will be an improvement."

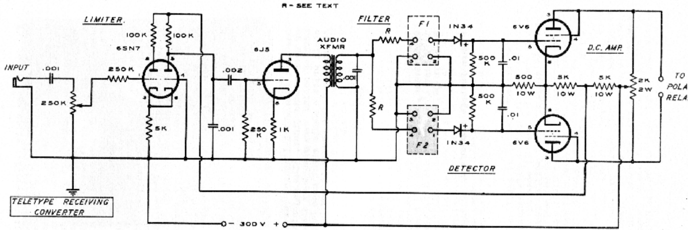
W8MO, up near Detroit, got infected with RTTY after an exposure to CQ.

W8QKF, near Cleveland, has ordered a #12 from John and should have it by now. I am sure Gerry (W8WJC) will be pleased to have company. So far he has had to work hundreds of miles on two meters for TT contacts.

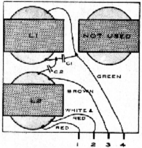
W9SKF phoned to say that it won't be long before he will be on the air up in Milwaukee and be working W9TQ.

W0CIH in Superior, Nebraska, is very eager and bursting with questions.

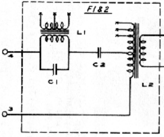
W0LBM is working RTTY into the local CD setup.



TELETYPE RECEIVING CONVERTER

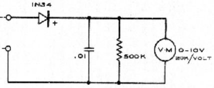


TOP VIEW OF FILTER



FILTER FROM BC-733D

F1 2125∿ C1-.001 C2-.005
F2 2975∿ C1-.00075 C2-.01



FILTER ALIGNMENT CIRCUIT

ARTT-4037

The two filter units referred to in ARTT-4037 are the 90 & 150 cycle filters used in the BC-733D. To convert them to the mark and space tone frequencies: 1) Remove the cover by using a small screw-driver or chisel and cut the junction block loose from the cover plate. 2) Heat and pour off wax; save. 3) Cut leads off bottom side of the junction block and remove the unused choke. 4) Loosen the bolts on the two transformers and connect as shown in the diagram. 5) Connect a source of 2125 cycles to the input of the filter (terminals 3 & 4) and adjust the air gap on L2 for a maximum reading on the meter in the alignment circuit. Change the input to 2975 cycles and adjust the air gap on L1 for minimum voltage. Repeat this procedure until a good selective curve is obtained. If the filter is not made by W.E. you may have to use slightly different values of condensers to compensate for the different inductances. This filter is now tuned for the mark signal and can be labled F1. To adjust F2 set the audio input to 2975 cycles and adjust L2 for the maximum voltage. With 2125 cycles input adjust L1 for minimum. Repeat for the best curve. This filter will then be the space filter. 6) Reheat the wax and pour back in the cans. 7) replace the covers. 8) Install the filters in the converter. One hint: the voltage difference between maximum and minimum should be on the order of a hundred to one when they are adjusted correctly.

Now about R in the converter circuit. Put a 250K resistor in the mark side and select a resistor for the space side which results in an equal output (voltmeter from 6V6 grid to ground) to that obtained from the mark section.

Thanks to Merrill, W6AEE, for this circuit and the conversion data.

One last item which I cannot leave out is a quote from the notebooks of Leonardo da Vinci, "The majority of people in this world leave nothing behind them when they die, except well-filled privies." I could write a whole eight page bulletin on that subject. Give it some thought, painful though it may be.

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