Teletype Bulletin 11

MAY 1952

AMATEUR RADIO TELETYPE SOCIETY MONTHLY BULLETIN

Many of you have already heard the news, but some haven't, so here is the text of the new section that the FCC proposes be added to the amateur regulations:

12.107 Special provisions regarding radio teleprinter transmissions. The following special conditions shall be observed during the transmission of radio teleprinter signals on authorized frequencies by amateur stations:

(a) A single channel five unit (start-stop) teleprinter code shall be used which shall correspond to the International Telegraphic Alphabet No. 2 with respect to all letters and numerals (including the slant sign or fraction bar) but special signals may be employed for the remote control of receiving printers, or for other purposes, in "figures" positions not utilized for numerals. In general, this code shall conform as nearly as possible to the teleprinter code or codes in common commercial usage in the United States.

(b) The nominal transmitting speed of the radio teleprinter signal keying equipment shall be adjusted as nearly as possible to the standard speed of 60 words per minute and, in any event, within the range 55 to 65 words per minute.

(c) When frequency-shift keying (type F-1 emission) is utilized, the deviation in frequency from the mark signal to the space signal, or from the space signal to the mark signal, shall be adjusted as nearly as possible to 850 cycles and, in any event, within the range 800 to 900 cycles per second.

(d) When audio-frequency-shift keying (type A-2 or type F-2 emission) is utilized, the highest fundamental modulating frequency shall not exceed 3000 cycles per second, and the difference between the modulating audio frequency for the mark signal and that for the space signal shall be adjusted as nearly as possible to 850 cycles and, in any event, within the range 800 to 900 cycles per second.

12.111(a)(2)(1) Amendment:

(1) 3500 to 4000 kc, using type A-1 emission and, on frequencies 3500 to 3800 kc, using type F-1 emission, to those stations located within the continental limits of the United States, the Territories of Alaska and Hawaii, Puerto Rico, the Virgin Islands, and all the United States possessions lying west of the Territory of Hawaii to 170° west longitude.

12.111(a)(3) Amendment:

(3) 7000 to 7300 kc, using type A-1 emission and, on frequencies 7000 to 7200 kc, using type F-1 emission and, on frequencies 7200 to 7300 kc, using type A-3 emission or narrow band frequency or phase modulation for radiotelephony.

12.111(a)(4) Amendment:

(4) Amend by addition of the authorization for the use of type F-1 emission on frequencies 14000 to 14200 kc and 14300 to 14350 kc.

All in all we couldn't have done a better job of proposing rules if we had done it all ourselves. 12.107 sets up our presently used equipment as standard and establishes standards for FSK and AFSK deviations. 12.111 permits FSK in all c.w. bands below 27 mc and not in any phone bands. The possibility that we might want to use six unit printers or experiment with narrower frequency shifts at some future time is, it seems to me, of very minor importance compared to the possible delay that might be brought about by quibbling. If the stated standards are used then the FCC monitoring stations will be able to monitor us, but if they allow other standards of shift, etc., then this might be impossible. This contingency alone is probably enough to scotch such changes. My feeling is that any changes be left for later and that every single member of the Teletype Society (you) should write a letter to the FCC: Secretary, Federal Communications Commission, Washington 25, D.C. Since the letter is going to the Government you naturally must send it in quadruplicate. Quadruplicate, don't forget that. The closing date for these piles of letters is July 1, 1952 so better do it now. You agree with their proposed rules 100%, or more, so tell 'em so.

The proposed weekly get-together on 3810 kc set for Thursday nights started off with a dull thud. The times were 5, 10, and 11 pm. Naturally I got held over in NYC so that I missed the 5 pm sked on the first week, and conditions were miserable for the other two times. W1PST, W0UVL, and W0KMK called in later and we had a short chat. The next Thursday I missed the whole shebang. Tell you what, lets set the early sked for 6 pm so that you can get home from work. This should be early enough so that the band won't have collapsed yet. I'll make it whenever I can at 6, 10, and 11 pm Thursdays. Whoever does get there should call CQ Teletype Net. If you can get on 75 phone give a call.

The fraternal spirit seems to be well developed among teletype hams for I have had phone calls and visits from quite a few of the gang. In the last few weeks I have had visits from W3PYF, W6KLD, W0HFU, and W6LLP. Phone calls from W5QDD, W4RHV, W9SKF, W3PYW, W1RTA, W1EVZ, W7LUK, W8AKA, and others have come in from local and long distance. I enjoy it.

Little men in blue-grey brought these items:

W2SDE has ordered a full set of tape equipment and should be set up soon for tape operation. Both he and his son can do drafting and have offered to help with the drafting work for the proposed book covering all phases of amateur teletype. This problem was a major stumbling block toward the construction of the book and I hope that we can get busy preparing it soon.

W1CKJ writes that the Springfield (Mass) Trade High School is about to establish an amateur radio station to operate on all bands phone/c.w./RTTY through 450 mc and will include television. They now have three model 15's but lack the typing units for them. Anyone have such a unit to offer? They also have a model 14 which only needs minor repair parts.

W7IHI-W7VS-W7LU Vancouver-Portland area have weekly RTTY skeds.

W5IJC down Dallas way has a model 26 and a W2BFD 1946 design receiving converter. The whole works does a good job but he wants some company on the air. How about some of you Cowtowners making a sked with Baity? He is an engineer with the phone company in the Transmission and Protection Engineer's Office.

W7VS suggests a set of signals similar to the "Q" code for teletype. For example: TTR- How are you printing me?; TTT- Do you have tape?; TTS- Pse send space signal; TTM- Please send mark signal. Temple has a good idea here and I would like to know what you think about it. What groups have you found necessary? I'll bet the land-line TT'ers have lots of 'em.

TOKIO: Warburton sends information gleaned from his experience in running some of the Army's longest teletype circuits. "All transmissions started with five spaces, two carriage returns and a line feed. The 'LTRS' key is pushed a few times to make sure that the machine is in lower case and to slow down any machines that have speeded up while waiting. All lines are finished with two carriage returns and a line feed following them (to prevent the first letter of the next line from being caught in the middle of the line due to sluggishness of the carriage as you mentioned in a previous bulletin). From experience I would recommend that all men owning machines that go to lower case at the touch of the space bar take it off. We used it here at one time and it wasn't practical even on the smallest installation with the best operators."

W6NRM/9: "That clip I speak of was found in the Teletype Manual, and so I decided to try to make it up. It is a simple job and anyone can do it. The only trouble is remembering to hit the 'LTRS' key after 'FIGS' typing. Sometimes I forget to and then find I have a string of meaningless figures. &%"# (oops)..."
Here then is the clip for disabling the unshift-on-space feature on some model 12's. The drawing shows a simple clip which can be made from a piece of quarter inch brass rod, half-inch long. A slot is cut 3/8" deep from either end, one slot being at right angles to the other.

The slots must be at least 3/32" wide each; this may easily be done by using a hacksaw with two blades placed together to increase the sawcut width. Insertion: Having the bottom of the typing unit open to view, there are two push-bars near the side opposite the selector magnets side. These two push-bars, lying side by side, will be found to have three small pieces of metal arranged in a line between them. The one push-bar having the middle piece of metal is slightly lifted out of its slot in the push-bar guide which runs across the whole group of push-bars. The clip is placed in the push-bar guide so one clip slot straddles the guide and the lifted push-bar is then let back into the other slot of the clip. This completes the operation and the machine does not have "unshift-on-space" feature.

Doane: "I spent three weeks in the factory where the model 14 - WU 2B tape printers were being made learning every phase of their troubles so that I could properly teach this particular printer in the field. I finally got so that I could assemble a torn down 14 in about an hour (with the proper tools). It has a mechanical cam distributor (TD) for the keyboard and a special mechanical cam (RD) for the typing unit. Both are superlative and can be operated separately on some models. The a.c. models can be plugged in so as to test relays and can be used on long lines make-break signals while other models are made for polarized mark and space signals. This is made possible through changes in table wiring. The model 14 is going to be the hams delight (if we can get 'em - Wayne). It is very simple, rugged, and has a minimum of electrical wiring in the printer itself. Note: The cams and goose necks from the model 12 are useable on the 14, and possibly the motor too.

Lou Buck called the other day and mentioned that if any of the gang happen to get up to Montreal this summer they might stop and visit him for a bit and pick up some teletype equipment he expects to have by then to get rid of. He would like to meet any of the gang.

W5DNS has a couple useable TD distributor disks if anybody wants to trade. These are the commutators that the brushes gallop across. Joe also mentions that he is interested in dope on those old saucers. He spotted one a year or so ago at a distance. You know, that article in Life recently was interesting. I have been following the various articles about the saucers for some time, but had been a bit discouraged at the rather rough treatment accorded to saucer speculation. The Life article snapped me out of the day-in day-out breakfast-lunch-dinner reality that I had sort of slipped into and made me aware of how close we actually are to the mysteries of the galaxy, of life. Joe is also a science-fiction fan and knows whereof I speak.

W2BFD came up with an interesting suggestion for beating the phone company. The plot is this: If you want to get the other fellow on the air all you have to do is put in a collect call to yourself at his number, then he should know that you will look for him on the air. This system works well for notifying relatives and family that you have arrived at some place you are flying or driving to. "Hello, operator? I want to make a collect call to Wayne Green at ....etc."

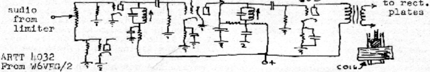
John has another hint to pass along: Before you start touching up the adjustments of the model 21A better check everything else. Most of them don't need adjustment. Say, how many want more data on the 21A?

W5SXC has a 21A and a keyboard perforator to sell for $35 for the pair. Vern wants to know what is the matter with the ARRL in this RTTY business, maybe we need a few new directors (or did he write 'dictators?').

W2MYL has invested in several aluminum panels of the size needed for the BFD panel and is willing to put them in properly appreciative hands. The line forms to the left. Graham is putting the finishing touches on his second panel which will give him two complete teletype installations. One of these is available for tests and demonstrations and will probably get into his son's hands (W4UGC) down in Roanoak when FSK opens up.

W2ZL turned up on 75M the other day and mentioned that he has been doing OK on 2M RTTY working W2PAT and W2JAV. He still types with one finger!

As you may have guessed, every one is not building their receiving converters the same. The standard design in the East follows the W2BFD Nov. 1946 CQ article which uses two stages of tuned L/C. Most of the west coast gang are using one stage of L/C triode amplified. W6ITV says that he has four tuned elements in each channel with the result that it is too durned sharp for FSK and for some of the off note local boys. W3CDF and his father W2HQ use R/C circuits with good results. WØHZR and W6NRM/9 have experimented with R/C also and come up with pretty fair circuits. W6VEG tried a differnt tack and used 80 mh chokes, two to a channel. He made up for the low Q by using a 6AC7 amplifier in place of the usual triode. As a refining touch he drilled out the wooden dowel of the chokes and fastened the whole deal over a slug tuned form so they could be tuned right on the nose.



ARTT 4032
From W6VEG/2

The bridge arrangement in the input circuit is used to balance the noise output of the unit and makes it much better in weak signal work. It is adjusted by running the receiver noise into the unit and adjusting the polar relay current to zero. This assures equal output from each section. Without this precaution there would be trouble due to the difference in gain of the two channels resulting from the need for large tuning condensers with the small chokes.

Again I would like to remind you that your job is only half done. It is up to every single (and married) one of you to help all the others and yourself by reading the FCC proposals carefully and then writing to Mr. T.J. Slowie in quadruplicate telling him how much you appreciate and approve of Docket 10073. Incidently, it would be a fair gesture to also back the Docket 10173 which proposes the 40M phone band since NARC has wholeheartedly backed us from the begining in our quest for FSK channels. Perusal of the letters sent in a few months ago showed that the NARC members backed us but we completely let them down. Besides, I like phone, hi.

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There's always a hitch: I overlooked the inclusion of the word "also" in section 12.82a3 of docket 10073 (see CQ). At first I thought this meant we could use RTTY only for signing call letters. NO! It means we MUST sign with both RTTY and Morse (FSK or c.w.). Hand keying de-syncs printers. "LTRS" and "BLANK" would give dot and dash though but can't tape that. Suggest we alllask word "also" be removed unless this would materially hold up proceedings