Well, my friends, another month is gone forever out of our lives. The FCC has yet to remove the pins and needles from our chairs on the FSK deal. Apparently other legislation is holding up the 40M consideration. We shouldn't be over critical of them though for there are several very important matters pending, such as the television unfreeze (which should spread TVI to every part of the country).

Unconfusing you perhaps: Amateur teletype, in its present expanded form is far too much for any one man to coordinate. Two of us are trying to handle it now, John (W2BFD) and myself. John is handling the distribution of equipment and technical developments, I handle publicity and correspondence. We contact daily on teletype and talk on the phone at least four hours a week; we are pretty well integrated. So there is the set-up, John doesn't answer letters - I do, I don't build equipment - John does. Fair enough?

Many of you have indicated on your information sheets that you can operate on 75M phone. Just so happens that I have a wee mite of signal on there too. Tell you what, I would like to have a weekly sked with as many of you as possible on 3805 - 3815 kc. At random I will pick Thursdays at 5, 10, and 11 pm EST. I'll try to make it each week at those times and say hello to you. If there is any news I could pass that on too. In the past I have worked quite a few of you on the hand and I will be looking for more. If I can get my 807's biased right I might try some more make-break teletype on 80M too. There are still over two hundred information sheets not returned, how can I finish the teletype callbook until I find out who has what equipment? Do it now....!

One rumor that has come to me from a couple of sources I would like to scotch. Teletype on 40M will not be tied to the Extra Class ticket. The FCC is interested in promoting TT, not killing it, and a reasonably fair deal is in store for us.

How many have their model 21A machines working? These little things are cute as the devil, inexpensive, and almost silent. Since the typing unit is the only piece of teletype gear that cannot be home-made it is quite possible that many stations in the future will cut their buying of equipment down to $25 for one of them and then make their own keyboard from an old broken typewriter. We have already discussed this and the problems of the distributors. A simple converter (ARTT 4027) and a diode FSK (April CQ) would set up an entire TT station. The whole thing could be done under $50, betcha.

Teletype equipment becomes available occasionally in rather large quantities, presenting problems. For example: a few weeks ago a dozen or so printers were sitting out in Kansas and John had just a few days to get money to hold them for our use. Fortunately W5MXJ put up the money and had them sent to New Orleans, else they would have been sent to John in NYC and then had to be reshipped when someone ordered them, increasing the cost to the buyer or making John pay the difference (as he has done many times). A couple days ago a bunch of 12's and 21's turned up in San Francisco; John won't sleep until they are safe. Suggest that everybody invest in a model 21, get 'em into ham hands.

A message came up from the Washington gang saying that John Gill, W4JCV, has been ill and is now in Florida recuperating. Gill is one of the pioneers in teletype and has been responsible for a lot of fellows getting on the air.

Most of you buzzards are too darned matter-of-fact. Now and then I get a surprise though and rush downstairs and read it to the family. Outstanding in this line I recall letters from W6RL, W6IIV, W3PYW, and W8BAJ. Run down the bias on the imagination and see what happens. After all, when your signal blasts out on 40M you want to have something to say. If we have gone to all the trouble to get the FCC to give us 40M, built up equipment, networks, etc., only to exchange signal reports and the line-up of the rig, then we have wasted a lot of time and effort. Instead of talking about things from antennas to zirconium transistors, why not discuss items from airplanes to Zen Buddhism.
Too Shifty:

There has been quite a bit of discussion on the subject of how much shift we should plan on using for PSK operation. Letters come from W6AEE almost daily with developments in his thinking on the subject of 200 cycle shift rather than the commercial standard of 850 cycles shift. First I would like to explain why the number of shifts chosen. The upper limit of possible shift is determined by the size of the channel as defined by the FCC. With less shift there is a concomitant drop in the discrimination against noise. Other factors involved are the production of beat notes when there is multi-path reception, production of noise at 350 cycles, 2500 cycles, and 3400 cycles. The normal receiving filters tuned to 2125 cycles and 2975 cycles will adequately reject all of these interfering frequencies even under severe selective fade conditions multi-path reception. Even if the filters are made quite broad (as they frequently are for commercial work where only noise and fading are trouble-makers) they will still reject the 850 cycle harmonic which is an inter-modulation product from the normal noise and fading conditions to combat. We will be having QRM from other stations and much less extensive installations of transceivers and antennas. It may be that the commercial standards will have to be readjusted. It seems that we might plan on using deviations on the order of 85 cycles as is used by many multi-channel stations. Commercial receiving systems are in use that will operate with only a few cycles deviation, deviations approaching the keying speed. Most of the converters in use today by amateur stations use LC filters and are not readily retuned for smaller deviations. A few of the gang are building f.m. discriminators into their receivers (W6NRM bulletin and ARTT 4029 from W6AEE). This means poking your hot soldering iron in the receiver, which many are reluctant to do. The only argument I have heard against 850 cycle shift so far is that it will make RTTY signals too broad and will cause unrest in the c.w. ranks. Perhaps the only solution to the problem will be to wait until we do get on the air and then see if we can make the narrower shifts do the same job. QRM is going to be a major factor, witness the letters from Alaska and the others. There are more letters from Radio Moscow all over the high end of 40 meters. Most of the fellows there say they will have to work us on 80 meters, that 40 is just about hopeless.

From the Maelstrom:

W6AEE has been quite a bit of discussion on the subject of how much shift we should plan on using for PSK operation. Letters come from W6AEE almost daily with developments in his thinking on the subject of 200 cycle shift rather than the commercial standard of 850 cycles shift. First I would like to explain why the number of shifts chosen. The upper limit of possible shift is determined by the size of the channel as defined by the FCC. With less shift there is a concomitant drop in the discrimination against noise. Other factors involved are the production of beat notes when there is multi-path reception, production of noise at 350 cycles, 2500 cycles, and 3400 cycles. The normal receiving filters tuned to 2125 cycles and 2975 cycles will adequately reject all of these interfering frequencies even under severe selective fade conditions multi-path reception. Even if the filters are made quite broad (as they frequently are for commercial work where only noise and fading are trouble-makers) they will still reject the 850 cycle harmonic which is an inter-modulation product from the normal noise and fading conditions to combat. We will be having QRM from other stations and much less extensive installations of transceivers and antennas. It may be that the commercial standards will have to be readjusted. It seems that we might plan on using deviations on the order of 85 cycles as is used by many multi-channel stations. Commercial receiving systems are in use that will operate with only a few cycles deviation, deviations approaching the keying speed. Most of the converters in use today by amateur stations use LC filters and are not readily retuned for smaller deviations. A few of the gang are building f.m. discriminators into their receivers (W6NRM bulletin and ARTT 4029 from W6AEE). This means poking your hot soldering iron in the receiver, which many are reluctant to do. The only argument I have heard against 850 cycle shift so far is that it will make RTTY signals too broad and will cause unrest in the c.w. ranks. Perhaps the only solution to the problem will be to wait until we do get on the air and then see if we can make the narrower shifts do the same job. QRM is going to be a major factor, witness the letters from Alaska and the others. There are more letters from Radio Moscow all over the high end of 40 meters. Most of the fellows there say they will have to work us on 80 meters, that 40 is just about hopeless.

ARTT 4029 from W6AEE. He adds that he has added a 6A16 buffer to this and gets a 3000 cycle output from that on either mark at 7253.725 kc or space at 7252.675 kc. To change frequency changes will have to be made in the AFSK and PSK converter using the present tones (2125 and 2975 cycles) to provide PSK at radio frequency used by W6AEE. W6AEE also sent in a brief sketch of an AFSK and PSK converter using the present tones (2125 and 2975 cycles) to provide PSK at radio frequency used by W6AEE. W6AEE also sent in a brief sketch of an AFSK and PSK converter using the present tones (2125 and 2975 cycles) to provide PSK at radio frequency used by W6AEE. W6AEE also sent in a brief sketch of an AFSK and PSK converter using the present tones (2125 and 2975 cycles) to provide PSK at radio frequency used by W6AEE. W6AEE also sent in a brief sketch of an AFSK and PSK converter using the present tones (2125 and 2975 cycles) to provide PSK at radio frequency used by W6AEE. W6AEE also sent in a brief sketch of an AFSK and PSK converter using the present tones (2125 and 2975 cycles) to provide PSK at radio frequency used by W6AEE.
It was recently featured on TV at the Los Angeles Hobby Show. His excellent mobile setup will be described in the May CQ. They are small, light, and make tight grip. Several times I have mentioned that I would like to have some pictures of your, equipment, or most anything that would look good in CQ. Well, I'll give you six more months at this rate before you all die of paralysis of the atrophy. One article for CQ is widely recognized in the audio field and should sell nicely. This just happened along at a time when the need for a better enclosure is recognized. There almost any other speaker just gives up. There is a good cue for a commercial, eh? When you subscribe to CQ please remember to tell your friends. Everybody else sitting on his hands? We have been using the CQ filters. You will see it in the April CQ labeled "The Useful Diode Modulator" by W5JRC. Everybody else sitting on his hands? W6NHM has been using the W6NHM VT Keyer on the 2111 printer with poor results. The keyer will kick the selector magnets but not the 6th pulse magnet. It will kick the relay that operates them but not for long enough time for them to operate the respective magnets which they control. He still has a few of the gears left for single spacing the paper. King Ross called the other day and offered to make the metal stand-offs for the W2BFD panel on a cost-plus basis, but reasonable. This has been a major problem for me and maybe others have faced it too. I like to use John's type of construction: building on aluminum panels and then mounting them on the standard steel rack panels with stand-offs. This means that you need a metal rod from 3" to 5" long, drilled and tapped on both ends. They are more than hard to find, even here in New York. I have a 35th Ave. Jackson Ave., L.I., N.Y., and he will make them for you in the shop in his cellar. W5UUN, writing for the Tulsa Radio Club group, says that they have been thinking quite a bit about the practicality of homemade keyboards. They have an interested fellow who is with IBM service and may be able to tune something out soon. I hope so. He also mentions that he was disappointed by the lack of detail in the March QST about the Codetyper. Doane suggests that those stations that are auto-start and have the automatic answering device should also install a page tearer, folder, and postage meter. The incoming message would then start the automatic answering device if the station log. Any takers? Doane has been workin~ on the problem of the electronic distributor. He too has been working on the problem of the electronic distributor. He tried all relays at first and then shifted to a multivibrator for stepping control through the teletype signal. This apparatus is still mostly in the brainstorm stage though. We have another experimenter enlisted too, and that is the important thing.

Page Five

KL7BK wrote from out of the blue to say that he has designed and built his own receiving converter and got it down to the point where the antenna was the limiting factor in receiving, not what was on the back end of the system. He has been distributing data sheets and has been giving them to friends in the Los Angeles area. KL7BK has been believing data sheets and has been giving them to friends in the Los Angeles area. He owns a model 12 (sans keyboard) and has a couple lugs on lend. You see too, he is working on the problem of the electronic distributor. He is also a big fan of the first and then shifted to a multivibrator for stepping control through the teletype signal. This apparatus is still mostly in the brainstorm stage though. We have another experimenter enlisted too, and that is the important thing.

Page Four

W5ELPL, Los Alamos, has been with the CAP for the last seven years. He has a model 12, copies of the 1X/FSK-1 detectors, and has put the 799D-2 circuit into his rig. He is now an electronics engineer for the University of California. W6NRF, Cooksville (Tenn.), says that interest in teletype is growing in that area and that the gang is enthusiastic with the articles in Q. That is a good cue for a commercial, eh? When you subscribe to CQ please remember to tell your friends. They are small, light, and make tight grip. Another problem that impressed me was the Elco connectors. These are a development for power in the basement and having the printer and keyer about 100 feet away. He owns a model 12 (sans keyboard) and has a couple lugs on lend. You see too, he is working on the problem of the electronic distributor. He tried all relays at first and then shifted to a multivibrator for stepping control through the teletype signal. This apparatus is still mostly in the brainstorm stage though. We have another experimenter enlisted too, and that is the important thing. W6NRH. Everybody else sitting on his hands? Actually I am not spending all of my time on teletype, just most of it. I have been spending quite a bit of my time on teletype, just most of it.
Another diagram I am interested in very much is the psychogalvanometer
W~AGL/5 has just gotten.

Dope on the AN/FGC-I equipment.

I was thinking: First time I worked W4JCV the signals were Q3; first time
with W3LMC they were Q2, and Fredrick, I barely heard him for months,
and W3LMC Baltimores. We were passing it around, using both phone and
and RTTY with Q5 signals at all stations at all times, well here is what I
wonder often this is duplicated elsewhere? Do fellows work a station, barely
work it is, and call it a day, or do they

It is a good suggestion on message handling from an expert (Doane) is that
many of the failures in messages are in the carriage shifting. When
feasible leave the figures for the end of the line, then at the end
of the message repeat all of the figures used in the message. This
method frequently saves a rerun.

Due to the large volume of bulletins I send out every month it is im-
possible to separate any one for special treatment (except for airmail),
therefore I will send any stamped envelopes you may send me on top.
Since I get up to a dozen letters daily I had to work out a stand-
ard routine. The letter comes in, is removed from the envelope, dated,
checked for bulletin requests, etc., marked in my master log, data ex-
tected for the bulletin and CQ, and answer written if needed, and then
filed. When the rush is on to get out the monthly bulletin or the CQ
column, or any of several other emergencies, I am likely to misplace some
of the mail and not get it answered, etc. When the emergency
clears I find letters all over the place; on the dresser, table, desk,
and on the cabinet. Of course now and then I find a letter in the
files of the airmail but missed. I hope that you will see that I am
the cold shoulder that is what happened. You probably got lost in my
files. That is my excuse, what is yours for the information sheets????

VE3ATF says that he, VE3TC, and VE3BUO have been on two meters with TT
since the middle of January and that there are five more fellows ready
to go on soon. Toronto is teeming.

W1JW (Silver Spring, Md.): "We grind away down here. New beams,
higher power, new exciters, new receivers. I was thinking back the other
day on how WJAGL-Leesburg was going. I was with Fredrick, Md
and W1JMO Baltimore. We were passing it around, using both phone and
RTTY with Q5 signals at all stations at all times, well here is what I
was thinking: First time I worked WJAGL the signals were Q3; first time
with W3LMC and Fredrick, I barely heard him for months, and finally worked him. Now we sit on a frequency and bat it around
just like the telephone and forget the not too distant past when it was
otherwise. I wonder how often this is duplicated elsewhere? Do fellows
work a station, barely work it is, and call it a day, or do they
currently try to improve, get better signals? This gang down here is
always on the go. No lousy dipole antennas, no converted 522 receivers,
no 522 transmitters; every one is making or has a low noise converter,
at least 500 watts input, at least ten elements, and RTTY equipment to
match. We are enjoying RTTY on two meters and the friends we have met
and spend our time making new gear and talking to these friends. The new
bug is FSX on two METERS. We believe that we can work DX consistantly if we use FSX. Isn't this much better than just sitting around waiting
for the POU to give us a new deal on a phonograph player?"

John would be interested in hearing from anyone with J-196 bias meters
that might be talked into parting with them. I would like to have
some dope on you and who is interested in astronomy? W8BAJ and I have
peek through something larger than his 3" refractor. Wonder how many
others are interested in astronomy? W8BAJ and I have 3" reflectors.

Cpl Robert's (Army) sent in this "carrier control mark hold" circuit. This is to
prevent the printer from running "wild" if the incoming signal should fall for
any reason. When a signal is absent the negative voltage on the grid of
the 6AG5 will be reduced to zero causing it
to conduct, producing the same effect at
the 6V6 plate (W2RDP's panel) as exists when a mark signal is transmitted.
As soon as the carrier comes on the printer begins to print. Adjust the
potentiometer so that only noise coming into the panel will create the
mark hold.

Copies of bulletins 2-3-4-5-6-7-8-9 are still available for a slight fee, if
you want or lack any of these drop me a line for I am getting tired of
filling up the pigeon holes of my desk with them.

Since the June column for CQ is due soon I will have to start to work on
it. I would like to be a bit more dramatic this time and work a bit
harder on "selling" teletype to those that know little about it. It
would be very helpful if I had a few anecdotes to put in. What thrills and ex-
citement have you had from teletype? Sit down to your printer or type-
writer and get in practice for 100%, send me a letter.

$ I am happy to say that the request for some funds in the last bulletin
did not go unheed, seven people sent in money. My heartfelt thanks
to them and a cool hello to the others. Here is how it works out in the
sixth district for example: Of 96 subscribers 22 have given $1 or over to
a total of 31. A total of 600 plus bulletins have been mailed to
these 96 costing an average of 25¢ each, or $150. There is, so you
figure, a definite. The W6 district is at present a bit above the other
districts in donations though: 20% have sent something. Tell you what to
do, just put your call letters on an envelope and put in a dollar, address
it to me, stamp, and mail. While you are at it you might return the info
sheet too.

W2RI is moving his 4-5-22 gear to his new home and expects to be able to get
on the air again soon. Glad to hear from the Doc, hope to work him soon.

W2YM says that W2ROZ, the two meter DX'er up in Middletown, N.Y., is
teing more and more interested in TT and may be on one of these days.
He has a wonderful location out there and can work from Philly on up to Troy
easily, a bit hard for me.

N? I'm almost 30, still single (or I couldn't support the bulletin),
overnight (a bit), and a wide range of interests: astronomy, going,
concerts, meeting, television, radio, submarines, General Semantics, Krishnamurti,
good books, astronomy, Tesla, psychology, science-fiction, Gamemanship,
writing, philosophy, Gilbert & Sullivan, philosophy, geology, DX'ing,
dl metering, cartoon, the News Yorker, painting, singing, women, and
amateur radio teletype.
Most of my extra time (?) is now being put into the writing of a book on teletype. I am trying to make this a complete volume that will cover every aspect of amateur teletype and serve both as a text book and as a handbook. Naturally this is going to take a lot of time, I figure about two months of solid work. I need help on this though if I am to get it done while we are all still young. Are any of you able to draft diagrams into printing quality? I can do it but it would add another month to the job at least for there are about 40 diagrams that must be drafted. More than four of the gang can do this or have people working for them that can do it, I know. I need pictures of the model 14, 15, 19, 21, 24, 25, & 26 printers. Even more than that I need to know what you want to have in the book. Send me the questions that should be answered, things that have puzzled you about teletype. Send me the dope on how you beat certain of the problems that jump up in this new field, etc. The more dope I get the better the book will be. If you have information saved up in your files then make a copy of it for me so everyone else can have the data, okay? The book will be 96 pages according to present plans, and it may be a lot bigger if some of you scrounge around a bit.

Any of you read "The Mechanisms of Life" by Dwight Bulkley, Claremont, Gal? Whew! Another bulletin done, and a proper too. Maybe I had better cut back to just post cards every other month instead of all this. You need a rest by the time you have read this far. Sit back, relax, close your eyes, isolate yourself in space and time, isolate yourself from the world around you, relax.

Wayne Green, W2HSD
1379 East 15th St.
Brooklyn 30, N.Y.

Return postage guaranteed.
Please forward if necessary.