

## First Amateur Teletype Contacts Cross Country

Thursday midnight finally rolled around. Listening to the bands (3.5 and 7 Mc) during the early evening hours seemed to indicate that conditions would not be the best. Propagation forecasts were for disturbed conditions.

The first two way contact on teletype heard by this station was between W0BP (Beeps) Minneapolis, Minnesota and W6OQB (Ralph) Arcadia, California. This was a forty meter (7140 Kcs) contact. It was followed by a two way between W6OWP (Forrest) Belmont, California and W6RZL (Dick) in Redwood City, California. Also heard was W7VS (Temp) Portland, Oregon. QRM was very heavy and conditions were the worst. W2PAU (Brownie) in Westmount, New Jersey, was copied poorly due to conditions. Broken copy is helped greatly by the FSK or CW identification from the weaker stations. The SCRTS gang was represented by W6CLW (Ed) Pasadena, W6IZJ (Ed) Sierra Madre, W6FLW (Emile) Whittier, W6AEE (Merrill) Pasadena as well as others mentioned above.

Listening to the eighty meter band, the following stations were copied: — W4OLL, W2NSD, W2JAV and W9TCJ. None of the SCRTS gang were heard on this band.

Late Friday evening W6CMQ (Ted) San Marino was copied on 7088 Kcs. This is the frequency selected by the SCRTS after a period of monitoring the forty meter band. It seemed most free of TFC Nets and fone stations.

Things really picked up on Saturday the 21st. Ted, W6CMQ worked W7VS and W7LU in Portland. Temp and Ted had several contacts during the day, on 7088 Kcs. W6IZJ also worked W7VS and W7LU. Things were really "FB" when Ted received a long distance call from Floyd, W5QDD in Lordsburg, New Mexico, reporting solid copy of W6CMQ's FSK RTTY signals. Later Reg, W6ITH worked Phil, W2JAV at Hammonton, New Jersey, followed by a contact with Rod, W8BYB, in Detroit, Michigan. Propagation was again poor during the evening hours.

Sunday the 22nd was more nearly normal again, with many stations making solid copy and good two way contacts. Ted, W6CMQ contacted Reg., W6ITH in Moraga, California,

(Continued on page 2)

# RTTY

12

RTTY



## HORSE TRADES

This page of the Bulletin is for use of amateurs who have teletype equipment for sale or trade and for those looking for equipment to buy or trade. It is a free service and may be the means of getting some one on the air.

- Wanted—Keyboard for Model 12 or 15 . . . VE3AKO
- Wanted—Keyboard for Model 26 . . . . . VE2ANM
- Wanted—Unshift Lever Bar for Model 12. W6CAP
- Wanted—Receiving Distributor Only . . . . . W6IZJ
- Wanted—Receiving Distributor . . . . . W6ILW
- Wanted—Model 12 Keyboard, with receiving and transmitting distributor or just transmitting distributor . . . . . W6GFI

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**SOUTHERN CALIFORNIA RADIO TELETYPE SOCIETY**

3769 East Green Street  
Pasadena 10, Calif.

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## FIRST AMATEUR TELETYPE CONTACTS CROSS COUNTRY

(Continued from page 1)

as did Ed, W6IZJ. Several contacts were made between Ted and Reg during the daylight hours, it was almost as good as the local two meter circuit. Merrill, W6AEE, also worked Reg. Ted, W6CMQ received another long distance call, this time it was from W6AAN, Fran Martin in Bakersfield, California, reporting solid copy from W6CMQ. Ed, W6CLW worked W6MSG in Paso Robles, California. W0UVL was heard and worked FSK CW. CW was used to get his contact or relay troubles ironed out by W6MSG and W6AEE. Reg, W6ITH copied JA8AF on Fifteen meters solid. Heard but not contacted were W0UYL and W0HKF or W0HVF. Bob, W9TCJ was copied solid but not worked. Brownie, W2PAU worked Merrill, W6AEE late Sunday evening (7088 Kcs).

Many other FSKCW and RTTY signals were heard but not identified due to QRM, etc. The above report is not complete and will be added to next issue. Reports of contacts will be appreciated by "RTTY."

With only two and a half days of FSK Low Frequency Teletype operation on the log, several things seem to be needed to help make for better contacts. The transmission of a few seconds of Mark signal (after CW identification) before transmitting would enable the distant station to tune his receiver properly. Also a standard method of sending CW identification. Such as use of carrier keying, instead of FSK CW which causes the machine to run wild. Also transmitting Mark on the high side instead of the low side, would enable stations in a round table to copy all without having to retune. There will be many suggestions made as we do more low frequency teletype operating. With all the troubles so far, leaves only one comment—BOY THIS IS FUN!

Merrill Swan, W6AEE

## INFORMATION RECEIVED FROM FRANK WHITE W3PYW

The stations listed below were worked or heard at station W3PYW, Silver Spring, Maryland. Although the power at this time is only approximately 15 watts from a Meisner Signal Shifter, the ease with which the contacts were made was largely due to the other high power stations keeping the channel clear of QRM. So far the majority of activity has been on the 80 meter band (3620). However a few of the boys are operating 40 and 20 meters. The first week-end has proved to be very interesting.

Semi round-table QSO's seemed to be the order of the day at this time. Many 4, 5 and 7-way contacts were made.

W4FJ	W2PAU
W2PAT	W3PYW
W2NSG	W3ODF
W3LMC	W4OLL
W2JAV	W9TCJ
W8RMH	W0LHS
W8DLT	K2WAN
W3ERS	W4ACV
W1BGW	W3PKF
W4SQF	W3RUA
W3LCW	W2TLY (Rec. Only)

On contacting the FCC to determine if we could retransmit any 80 meter RTTY signals on 2 meters or vice versa, was advised it was OK. One must use caution to identify that it is your station doing the retransmitting.

I understand from the FCC that some of the stations are not observing the regulations relating to signing the call by CW, CAUTION IN THIS REGARD is urged by all teletype operators. Do not run the risk of losing your license for a period of six months to a year.

We want to thank Frank for this timely information, and appreciate the letter very much.

## Adapting Model 12 For Use With 1-A Tape Head

JOHN V. GROSS, W6NWM

Many of us have listened to the commercial stations and wished that we could have tape gear to use with our stations. Some time ago there became available a number of the 1-A tape sensing heads. It uses the standard five unit code as the more modern model 14 transmitter distributors, however has no motor or distributor associated with it. Originally this 1-A was used on multiplex circuit in which there was a common distributor unit which also in some case furnished the receiving distributors for the model 21-A printers. I was fortunate enough to acquire a 1-A perforator and a 1-A tape head at the same time. This article will furnish others information as to one way of utilizing this piece of equipment.

To modify the transmitting distributor disassemble and separate the solid section (outside). Saw the individual leaves apart and clean up with a file.

Mount a lug or drill a small hole in each leaf for a connecting wire. Reassemble the contact assembly and connect wires from these leaves thru A plus

to their respective contacts on the 1-A unit. Connect the common return lead from the 1-A unit to the lead removed from the original contact strip. (The two sets of contacts are then in series).

To hold the model twelve distributor on, mount a small relay with a lever so it trips the distributor lock up arm when operated.

Since the units are in series, keyboard will not operate with tape in the 1-A unit, and "LTRS" must be pressed before sending tape.

Run a circuit from the operate pulse voltage "coil of the sixth pulse magnet" to a SPST relay. Use this to operate the magnet on the 1-A unit, as the operate pulse is a bit short for proper operation.

Fig. 1 shows the electrical connections.

There are still some of these units available and this modification is made in such a way that a shorting type plug can be put in place of the 1-A if it is not used.

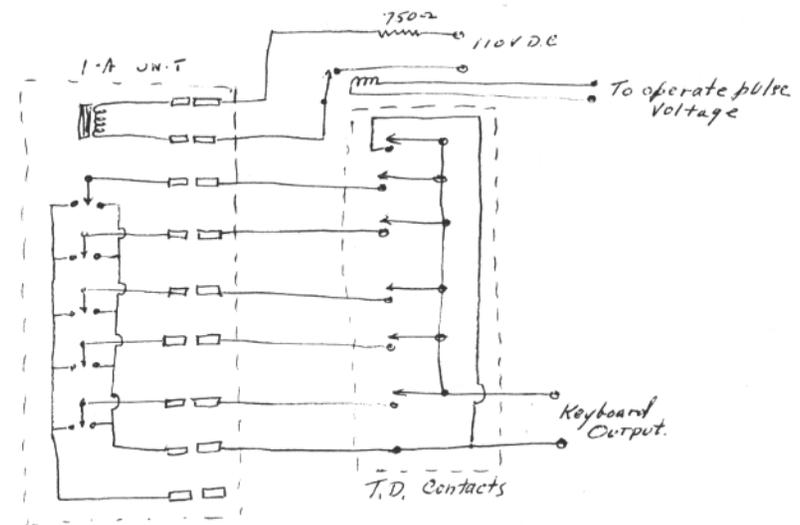


FIGURE 1

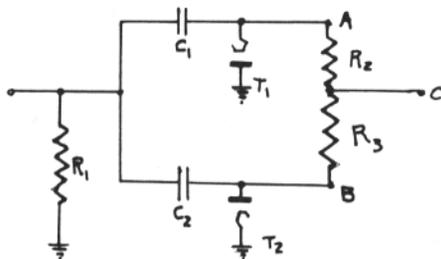
## Simple Circuit to Minimize Bias Due to Frequency Drift

When your receiver drifts off when receiving FSK, the DC Bias from your Terminal Unit will no longer shift around zero but will shift above and below some value, depending on filters used in your Terminal Unit. If you can sit and retune the receiver, then this problem will not be of interest to you. Drift in either the receiving or transmitting equipment will give rise to the same bias distortion. Compensation can be made in some of the Terminal Units in use at present.

Many of you are familiar with the DC restorer circuits in TV sets used to hold the brightness constant, and will see the similarity in this and the DC restorer circuits.

This circuit can be installed between your present detector and the DC amplifier. It is essentially two DC restorers hooked back to back with proper values of R and C. The two diodes are a single 6H6 tube and require only filament voltage. R1 is the normal resistor used as a DC load for your present detector and C1 and C2 are .01 mfd. capacitors, the two resistors R3 and R4 are 500,000 ohms. The junction of these resistors goes to the grid of your DC amplifier which was disconnected to add this circuit.

The operation of the circuit is as follows; when a mark signal is rectified and appears across R1, C2 charges positive and point B goes to zero due to the action of Tube 2. At the same time this positive voltage is passed by C1 and appears at point A. Tube 1 is nonconducting at this time. As a space signal is received, the voltage across R1 goes thru zero and then negative, the charge on C is applied to point B. The voltage at A drops to zero and C1 is charged thru T1 to the negative value



of voltage across R1. On the next change from space to mark, the full peak voltage is applied to point A. Thus point A is varying between a positive value equal to the peak to peak voltage across R and zero, while the voltage at point B is varying between zero and a peak to peak value, but in a negative direction. In this manner the voltage at point C is varied equally plus and minus around zero. But the DC component is not passed by C1 or C2 as such. Only the charges due to the operation of T1 or T2 charge them.

This circuit has been used in commercial equipment and has been found very helpful. A good receiver is fine, but also expensive and leaves no cash to buy teletype gear.

### MEETING POSTPONED

The February meeting of the Southern California Radio Teletype Society was postponed due to the low frequency FSK regulations going into effect the night before the usual meeting night, and as activity will probably continue over the last weekend of the month, the Committee decided to postpone the meeting until March. As it was scheduled to be held at W6GFI's house last month, in all probability the meeting place will remain the same, however members will be notified as to when and where the next meeting will be held on the TTY channel.

## Further News on the New Regulations

ED SIMMONS, W6CLW

The Federal Communications Commission has adopted, effective 28 March, 1953, the following allocation of frequencies in the Fifteen Meter Band for the Amateur Radio Service.

- 21,000 to 21,450 kc—A-1 (CW)
- 21,250 to 21,450 kc—A-3 (Phone) (Also NFM - PM Phone)
- 21,100 to 21,250 kc—Novice CW A-1 Xtal
- 21,000 to 21,250 kc—F-1 (FSK, Teletype)

FCC discussion regarding Docket 10188 concerning 15 Meter Band, etc.

(1)—Effective 28 March, 1953, Allocations for F-1 and A-3 have been made for the 21 Mc band. (See above).

(2)—Effective March 28, 1953, the Novice CW band is to be moved from 26,960 to 27,230 Kc to the 15 Meter band at 21,100 to 21,250 Kc.

(3)—Effective 28 March, 1953, the restriction on the use of the band 220 to 225 is removed.

(4)—85 written comments from amateurs and groups were received by the FCC in respect to this Docket. Some comments were to the effect that too much space was provided for radio printer operation and not more than 25 or 50 Kc should be set aside for that purpose in view of the comparatively small number of amateurs engaged in radio teleprinter operation. While the total frequency space allocated to the radio teleprinter operation remains the same as proposed, provision for such operation is shifted to the band 21.00 to 21.25 Mc because of the change made in the final rules regarding the position of the radio telephone segment of this band. It is expected that, actually, only a small part of this frequency space will be occupied by radio teleprinters as experience with other special types of operation in the amateur bands indicates that amateur teleprinter operators will tend to gravitate to a few spot frequencies rather than to utilize the entire band.

(5)—It is an accepted fact that television interference attributable to operation of amateur transmitters can be resolved satisfactorily by appropriate measures.

## AVAILABLE EQUIPMENT

Ed Simmons, W6CLW, 455 So. Oakland Avenue, Pasadena, Calif. has some model 21-A printers and has technical manuals for it. Also some miscellaneous TTY gear for sale.

Chas. Patrick, W6OZE, 402 No. Lucia, Redondo Beach, Calif. has miscellaneous TTY gear for sale or trade.

John Williamis, W2BFD, 3806 61st St., Woodside, L. I. New York, has gear of all types available from time to time. He represents the VHF Teletype Society. Also has available circuit and layout on his Terminal Unit.

Thomas Howard, W1AFN, C/O Arrow Sales, Boston, Mass. has 21-A printers and other miscellaneous TTY gear for sale.

The above information is listed to help get other stations on the air and IS NOT AN AD. Other persons having gear for sale or trade are invited to use the "Horse Trades" section (last page).

## PROPOSED FREQUENCIES FOR 20-40-80 METER FSK

Bulletin Number 19 from Wayne Green W2NSD suggests the following frequencies for a start on the low frequency FSK work, in order to find each other and make QRM a minimum.

3620 KCS—7140 KCS—14340 KCS.

The SCRTS has tentatively selected 7088 to 7090 KCS as their first start. This frequency has been found to be the least heavily occupied. However after a few weeks of operation, this frequency may prove an unwise choice.

One valid reason for a selected group of frequencies is the use of AUTO START on the Terminal Units. It is felt by some that this will not be possible, however as we get more experience, it should be possible to design a circuit that would be immune to QRM.

The SCRTS group is planning on being able to relay directly as well as by use of reperferators. This should be a help in handling traffic. At present the TFC net of the SCRTS is handling a small amount of traffic for the Mission Trail Net on the Pacific Coast. It is felt that handling of this type of traffic helps qualify for "In the Public Interest."

Suggestions relative to frequencies to be used should be addressed to the Society.

## Model Twelve Teletype

MERRILL SWAN, W6AEE

The Model 12 Teletype is a Page Printing Unit. The depressing of the keys on the keyboard resembling that of an ordinary typewriter causes electrical impulses to be transmitted to the audio oscillator, or frequency shift equipment. The output from the Receiver feeds into the Terminal Unit causing the corresponding character to be printed on the Printer Unit.

The Model 12 Page Printing Teletype is found in two different models. A Transmitting-Receiving Model, Fig. 1, and a Receiving only Model.

At the present time, more Model 12 Teletypes are in use by Amateur Teletype Stations than any other model. To many, this description may be of little interest, but for the benefit of newcomers and to those who have never observed an amateur teletype in operation this is written.

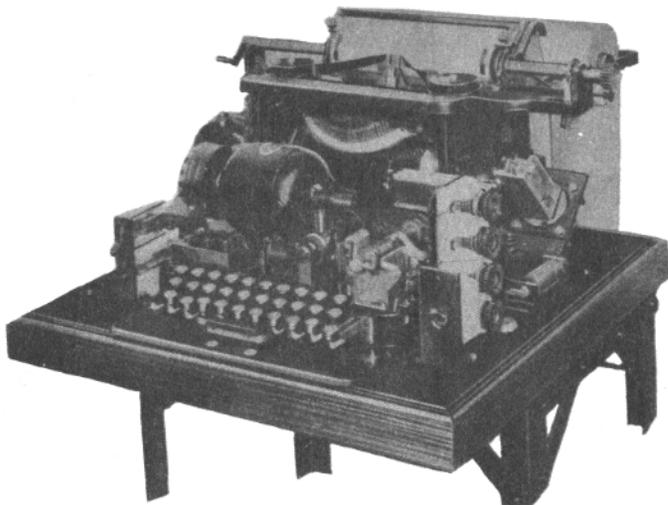


FIGURE 1

Basically the Model 12 comprises a keyboard distributor unit, a printer unit and associated table for mounting these units, as well as the polar relay and the motor generator set. The Model 12 is a very sturdy unit, originally placed in commercial use in the early 1920's. Many are to be found in operation after thirty years of service. Most of these Model 12's that have found their way into amateur use, have been replaced with more modern units. For the greater part, modern units are smaller physically, quieter in operation. Amateur service is not as demanding in its requirements.

The printer (Fig. 2) is similar to a typewriter in many respects. The major differences are that the type bars are operated from code bars which are operated by five magnets, and a sixth magnet which causes the printing operation. However unlike the typewriter, this printer has no lower case characters.

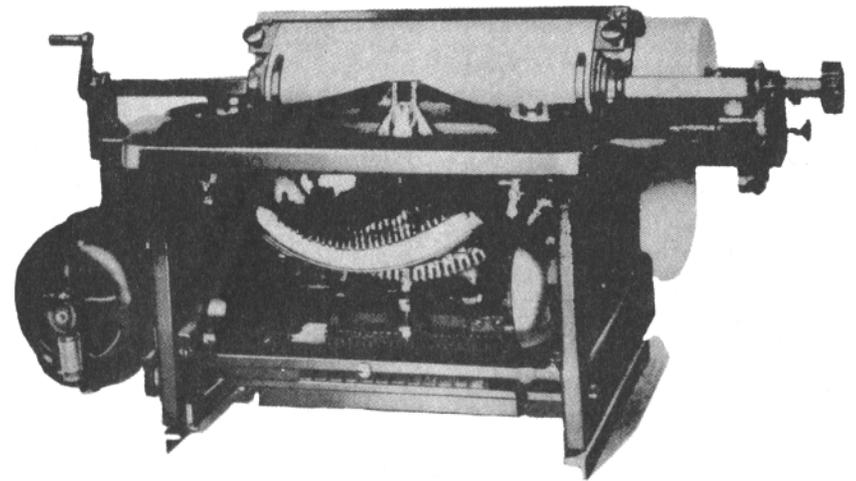


FIGURE 2

Lower case or letters position is all capitals and the upper case (figures) has various punctuation marks and other functions. Also included are provisions for bell, carriage return and line feed operations. All printed characters have the same pressure applied, which is unlike the typewriter where the pressure with which any character is printed depends on the strength with which the key was struck. Mounted on the left side of the printer frame is a small motor which operates the printer after the proper letter or function has been set up by the selector magnets.

The keyboard portion of this unit (Fig. 3) mounts the receiving distributor, which operates the selector magnets on the printer. This distributor has seven contacts, the first one operates a magnet which allows the cam to revolve, sensing each of the next five contacts in order (these operate the five magnets which select the letter or function) then the sixth pulse magnet which causes the main shaft to turn, operating the selected letter or function. An adjustment is provided on this distributor shaft to allow for "Range Adjustments," which normally needs no attention after once properly functioning.

The transmitting distributor is similar except it has only six contacts. The first contact (rear) is the start pulse (open circuit) then the next five in order are operated from the keyboard levers. These last five may or may not be open circuit, depending on letter or function selected. There is no magnet associated with the transmitting distributor. Both receiving and transmitting distributors are driven from a common motor. The necessary differences, 440 OPS for receiving, 386.6 OPS transmitting in speed is provided by gears between the two units. Early models of this unit had brush type motors, later units have sync motors. Needless to say, the sync motor operates quieter (R.F.) than the brush type motor. The brush type motor had an R.F. filter unit mounted on the keyboard base.

Also a few receiving only distributor units (Fig. 4) are being used. They are identical to the above except that no keyboard or transmitting distributor is included.

Mechanically all Model 12's are similar. The major differences being in the function which can be performed. Among these are the ability to unshift (from figures to letters) on space function.

bell on either "blank key," "upper case J" or "upper case S." The latter bell function is used on the more modern units. Also some printers have double line feed only, which requires the modification of the line feed ratchet gear, to avoid using paper too rapidly.

Lubrication points on this unit, which should be looked after periodically are: Main shaft clutch teeth, main shaft gear and pinion, grease. Fill oil cups on various lever bearings where provided; right and left bearing on segments casting, shift shaft, shift push bar, ribbon feed assembly; platten roller bearings, carriage return cylinder, carriage return link and pawl. Also the small motor bearing on side of printer. Oil cups

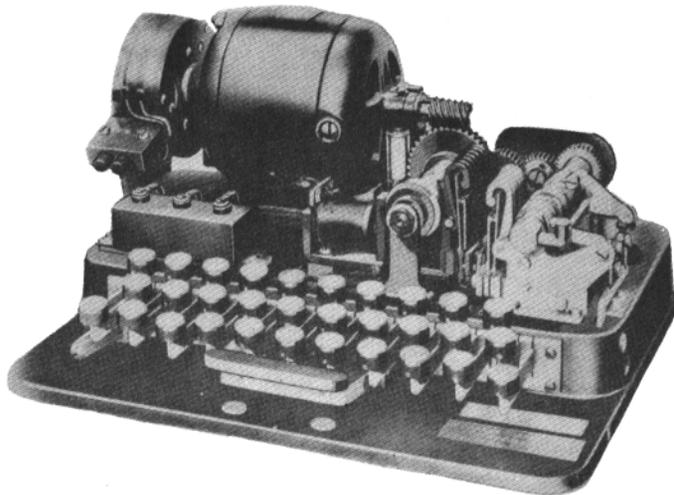


FIGURE 3

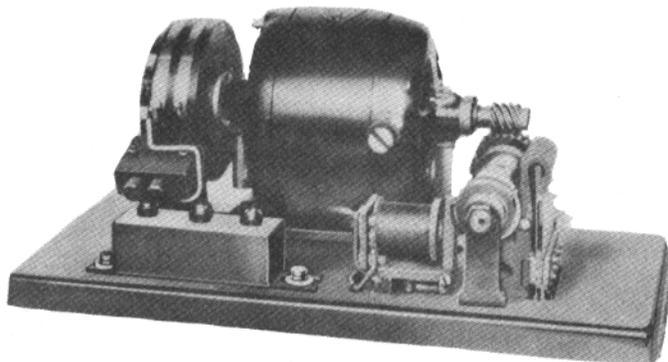


FIGURE 4

are found on some of the distributor's bearings which should be oiled, as well as the trip off latch assembly. Oiling and lubrication of the printer unit and keyboard distributor unit will pay off in avoiding loss of copy due to stiff or dry bearings. Typewriter oil and greases can be obtained from most stationary or typewriter stores.

An early issue of RTTY will carry an article on adjustments of the printer, and of the keyboard distributor unit. Modification to provide for unshift or space function and other changes to modernize the Model 12 will be printed from time to time.

Comments on this description will be welcomed by RTTY.

## Traffic Net News

EMILE DUVAL, W6FLW

The Southern California Radio Teletype Society Net operates every Tuesday evening at 8 p. m. on 147.85 mc.

A different Net Control Station is appointed every week and it is the intention of the Traffic Net Committee to let all Net stations act as Net Control.

The listing of stations answering Roll Call for Net operations for the past month are:

FEBRUARY 3, 1953 W6IZJ, NC

W6AEE	W6RL
W6CL	W6SCQ
W6FLW	W6GFI
W6GPF	W6IZJ
W6NWM	

Total Checking in: Nine

FEBRUARY 10, 1953 W6SCQ, NC

W6AEE	W6NAT
W6CL	W6QQM
W6CLW	W6SCQ
W6DEO	W6EV
W6FLW	W6PNW
W6IZJ	W6NWM
W6RL	

Total Checking in: Thirteen

FEBRUARY 17, 1953 W6EV, NC

W6CL	W6NWM
W6DEO	W6QQM
W6FLW	W6RL
W6GFI	W6ZH
W6IZJ	W6EV
W6NAT	W6AEE

Total Checking in: Twelve

Also those who reported in by proxy.

FEBRUARY 24, 1953, W6SCQ, NC

(Station operated by W6IZJ)

W6AEE	W6NAT
W6BWQ	W6IZJ
W6CL	W6SCQ
W6CLW	W6QQM
W6NWM	

Total Checking in: Nine

The Net Operation is shaping up very nicely and after 8 weeks of operation procedure has been smoothed out almost to perfection. All stations are invited to participate.

## Amateur Radio Teletype Handbook

RTTY will have available its first Handbook late in September of this year.

The first issue will attempt to cover the electronic circuits used for both FSK and AFSK transmissions.

Photos and descriptions of the various types of teletypes currently used in amateur teletype circuits. Other units manufactured by others than the Teletype Corp., such as M. K., etc.

One section will outline mechanical repairs and maintenance information. Another section will cover Biography on teletype from sources outside of amateur circles. Articles in Electronics, QST, CQ, IRE, AIEE, Wireless World (Brit.), U. S. Patent Office Gazette, W2NSD Bulletins, W2BFD's letters, etc.

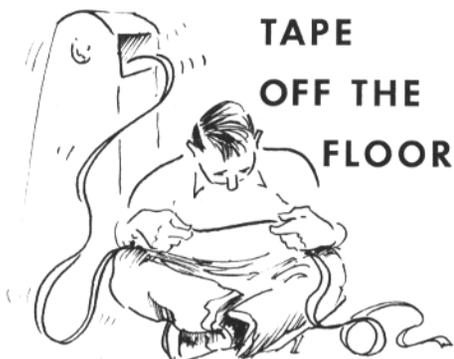
Terminal Units designed by various amateurs will be included if possible and any other teletype equipment designed by amateurs. Design information on filter units will be included along with basic filter information.

RTTY would appreciate comments on this forth coming Handbook.

Any amateur teletype station wishing to be included in the station list portion of the Hand Book should write RTTY giving address, call, equipment in use, etc. Requests from receiving only station will be appreciated. Address your replies to Southern California Radio Teletype Society, 3769 East Green Street, Pasadena 10, California.

## PRICE OF BULLETIN SET

The Committee on publication of the Bulletin "RTTY" has established a price for the Bulletin effective with the April Issue of 15c per copy. The subscription rate will be \$1.80 per year. Requests for information regarding this rate was requested by so many amateurs and some had already sent in money for the Bulletin that in order to keep the records straight it was announced at this time. For individual copies coin or stamps will be acceptable. On subscriptions stamps will be acceptable although money is preferred. Thanks to all those who sent money in and it will be credited to your account.



## TAPE OFF THE FLOOR

.... This is W6OQB, Arcadia testing with W6XXXX W0BP, that W0 gets me. This DX has got me going, I have buck fever. How about you? W0BP Minneapolis de W6OQB, Arcadia Calif.

\*\*\*\*\*

.... Ed, W6CLW reports that there are plenty of good signals on forty and that they work his printer fine business. He worked a fellow in Paso Robles who had a Model 21-A on the forty meter band. W6SCQ de W6QQM.

\*\*\*\*\*

The Gremlins are at work again. This time they really had W6NAT baffled! Imagine a fellow coming on the air asking who is QRMing the band with a steady 2975 cycle tone. Reports back to Bill proved that no other station was heard in the area and he must be listening to some elusive dx. After about 2 hours of frantic non-copy he traced the unknown station to his own Audio Oscillator. He had it on earlier in the evening checking his tone filters and failed to turn it off, but the funny part was that the fool thing was apparently radiating and being picked up in the receiver input. Result, no copy of any stations that evening. Hi.

\*\*\*\*\*

.... CQ CQ CQ WEST COAST de W9TCJ W9TCJ W9TCJ.

.... OK solid again Temple. Ed, W6IZJ just came in the door to see if we were really copying each other, Hi. W7VS de W6CMQ.

\*\*\*\*\*

.... W6CMQ/W6ITH/W7LU/W6AEE—Solid—Well won't hold it long. Too low power here at present....

\*\*\*\*\*

.... Think I will sign now and work on this shifter as well as look on 20 as I promised the East Coast gang that I'd look for them, cu soon again. W6AEE de W6ITH ga pls.

\*\*\*\*\*

.... Worked W2JAV for quite a while yesterday in New Jersey. He was using an ART-13 with about 150 watts. His signal was solid all the way. W6IZJ de W6ITH.

\*\*\*\*\*

Barney, W6GPF reports a fellow employee is all rigged up for two meter teletype and has a model 14 setup. This will give us two stations in the San Diego area to work. Fine fellows and lets get some other stations on down there. Also Barney, would you pass the fellows name and call along for the next issue of RTTY.

\*\*\*\*\*

.... Since the bands opened up to FSK on Friday, I have worked W2JAV and W8BYB in Detroit on 20. On 40 about seven stations. Let's see—W6CMQ, W7LU, W6IZJ, W6AEE. Just noticed JA 8AF on 15 meter RTTY and here is his tape. W6IZJ de W6ITH.

\*\*\*\*\*

.... Hi there Johnny, Long time no see. Will be reading your mail til your thru. W6NWM de W6ZH.

\*\*\*\*\*

.... I am keying the plate voltage on the oscillator, crude huh? W6AEE de W2PAU.

There were several antennas lost in the recent wind storm here in So. Calif. and an amusing incident was noted from a station who said "Turn your beam on me, your signals are not what they usually are," and the answer came back, "Don't have a beam here anymore will have to work you on this antenna which is about ten feet above the roof."

\*\*\*\*\*

.... I guess Wally isn't on right now but you will hear him later. I will be on at 5 p. m. five p. m. today and then at about 7 a. m. tomorrow. How now Ted? W6CMQ de W7VS.

\*\*\*\*\*

.... the unshift bar is not the right one and has holes where it shouldn't orther have holes, so I am looking for another shift lever to fix it up or maybe patch up the holes in this one. W6CL de W6CAP.

\*\*\*\*\*

There have been a few inquiries as to who the snooper is on this column... so I guess I had better break down and confess to the copying off the air. This column is conducted by W6CL. Any contributions will be appreciated.

\*\*\*\*\*

.... W2PAU is tuning the channel.

\*\*\*\*\*

.... OK Merrill and many thanks. Sorri that the power here was not very good, but was only using the buffer tube, A 6AC7 in the output, and don't expect that I was radiating more than a watt or two. What did it look like when the QRM was off? W6AEE de W6ZH.

\*\*\*\*\*

.... Solid Herb and the signal was OK. Right side up!!! and the shift looked fine here. I am sure that it will be fine business when there is an amplifier on it as it was quite stable. W6ZH de W6AEE.

.... and Ham what are you doing up at this hour? And how's forty meters in the daylight hours, boy bet you are sure having fun hi. Will not hold it long here. W6EV de W6SCQ.

\*\*\*\*\*

.... You have a 21-A there don't you? If so what did you do about the bell? Seems to be a very nice little printer, I like it. Sure is a lot quieter than this old beat-up 12. W6GFI de W6DEO.

\*\*\*\*\*

.... been trying to break in for some little time. All my fault however, forgot to complete the circuit by not plugging the unit thru the transmitter. Sure swell to get in for a brief few minutes and a special hello to you Ralph—our first contact on RTTY. W6OQB and the gang from W6BWQ.

\*\*\*\*\*

W6SCQ, Lewis Rogerson, has set the Model 12 aside and is now operating a Model 15. Swell Louie, that is great news, the grapevine tells us that your son-in-law W6CYR is, also fixing up a Model 15. Good luck to you too, Jim.

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.... speaking of machines, W6CND is back in town after a hitch in the navy and he too is interested in getting some TTY gear together. Not a great deal to report and with the tape coming out it is a bit difficult to remember just who is next. So you take it Ed, W6CLW and the gang de W6QQM.

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.... How are thngs on 40? And wonder what the DX record is to date? W6EV de W6NWM.

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.... As for me, I have a 12 and 15, both receive only, and our GROUP have the above mentioned transmitter on the air now. Right now I'm looking for a keyboard—FOUR of us are sharing ONE at present.... VE3AKO.