



# KLEINSCHMIDT TELEPRINTER EQUIPMENT

## MODEL 120 Typing Reperforator— Tape Transmitter

A high speed typing reperforator and tape transmitter for sending and receiving information in the form of standard teleprinter signals. Typical applications of the Model 120 include general communications systems, telemetering, integrated data processing, and communications for production control.

This extremely versatile unit combines a tape transmitter, typing reperforator and keyboard transmitter. In addition to reception and transmission of messages in perforated tape form, the Model 120 permits tape reproduction, tape editing, tape preparation or manual keyboard transmission.

"Semi-Rev" operation reduces maintenance and increases effective life of the equipment. New-style selector magnet allows reception of neutral or polar signals without an additional line relay, and repeat keys allows repetition of any character or function without repeated operation of the key lever. Keyboard is equipped with character counter and visual end-of-line indicator.

Transmits and receives at pre-set speeds of 60, 66, 75 or 100 words per minute, depending upon the motor drive gear set used.

Operates on 20-60 ma. neutral or 10-60 ma. polar lines, using the standard 7.42 international communications code.

Prints and perforates tape  $\frac{7}{8}$  or  $\frac{11}{16}$  inches wide, 10 characters per inch. Accommodates tape roll of 20,000 word capacity.

Back space mechanism permits error correction.

Copy lights illuminate incoming tape messages.

Manual tape feed-out mechanism—automatically disabled upon reception of incoming message.

Tape transmitter, driven by reperforator motor, transmits from either  $\frac{7}{8}$  inch or  $\frac{11}{16}$  inch wide tape.

Equipped with start-stop switch and automatic stop which functions if tape runs out or becomes too taut.

- 0 -



## MODEL 150 Page Teleprinter

A high speed, page teleprinter for sending and receiving information in the form of standard teleprinter signals. Typical applications of the Model 150 include general communications systems, telemetering, integrated data processing, and communications for production control.

This unit is equipped with a built-in power supply for signal line current, and a light-weight type-basket, power driven in both directions. "Semi-Rev" operation reduces maintenance and increases effective life of the equipment. New-style selector magnet allows reception of neutral or polar signals without an additional line relay, and repeat key allows repetition of any character or function without repeated operation of the key lever. Platen permits sprocket or friction feed operation.

Built-in power supply for signal line current.

Transmits and receives at pre-set speeds of 60, 66, 75 or 100 words per minute, depending upon the motor drive gear set used.

Operates on 20-60 ma. neutral or 10-60 ma. polar lines, using the standard 7.42 international communications code.

Prints 72 characters per line, 6 lines per inch, on  $\frac{8}{16}$  inch wide single or multiple copy roll or fanfold paper.

Automatic carriage return and line feed at end of line without loss of any character.

Manual carriage return and letters shift without sending line signals.

Adjustable for single or double line feed. Copy lights illuminate printed message. Platen permits friction or sprocket feed operation.

Automatic motor stop on "figures H."

- 0 -



## KLEINSCHMIDT



W9 SGD

# LIMITER FOR T.U.'S

By HAROLD ECKES, W7KYO

409 E. Hawthorne, Bend, Oregon

Here is a little idea that works out very well for those RTTY boys who would like to have a means of regulating the output of their receivers so as to not overdrive their TU's.

It is a well known fact that too much input to most TU's with limiters will cause undesirable harmonics. It is also a well known fact that the output of most receivers is on the order of from 1 to 10 watts.

Here is an idea which limits the voltage of the TU without limiting action and at the same time maintains an almost constant level.

The receiver used in this experiment was a NC183. A 470 Ohm load resistor across the phone jack was removed dividing the output of the receiver between the speaker and the TU. This was done merely to increase the output and give a wider range of control, however it works very well without removing the resistor.

The controlling factor in this circuit is two GE 110-120 volt 7 watt bulbs connected in series. These bulbs are commonly used in night lights and are available at any dime store. One bulb varies in resistance from about 225 ohms when cold to around 1000 ohms with about 20 mils flowing through it.

The two bulbs are connected in series with resistance R in a bridge circuit so that maximum bridge unbalance occurs with no signal applied approaching balance as more signal is applied and the bulbs increase in resistance. The value in this circuit turned out to be 2800 ohms. As this resistance depends upon the maximum power delivered to the transformer a little experimentation is necessary with resistance R. If you find a point where an increase of volume causes the output to go way down and come back up as you reduce the output level it means that the bulbs are balancing the resistance and the value is too low. On the other hand if the resistance is too high regulation is not so good.

The transformers are not too critical depending upon the desirable output. One bulb will work very nicely with a 600 ohm center tapped transformer.

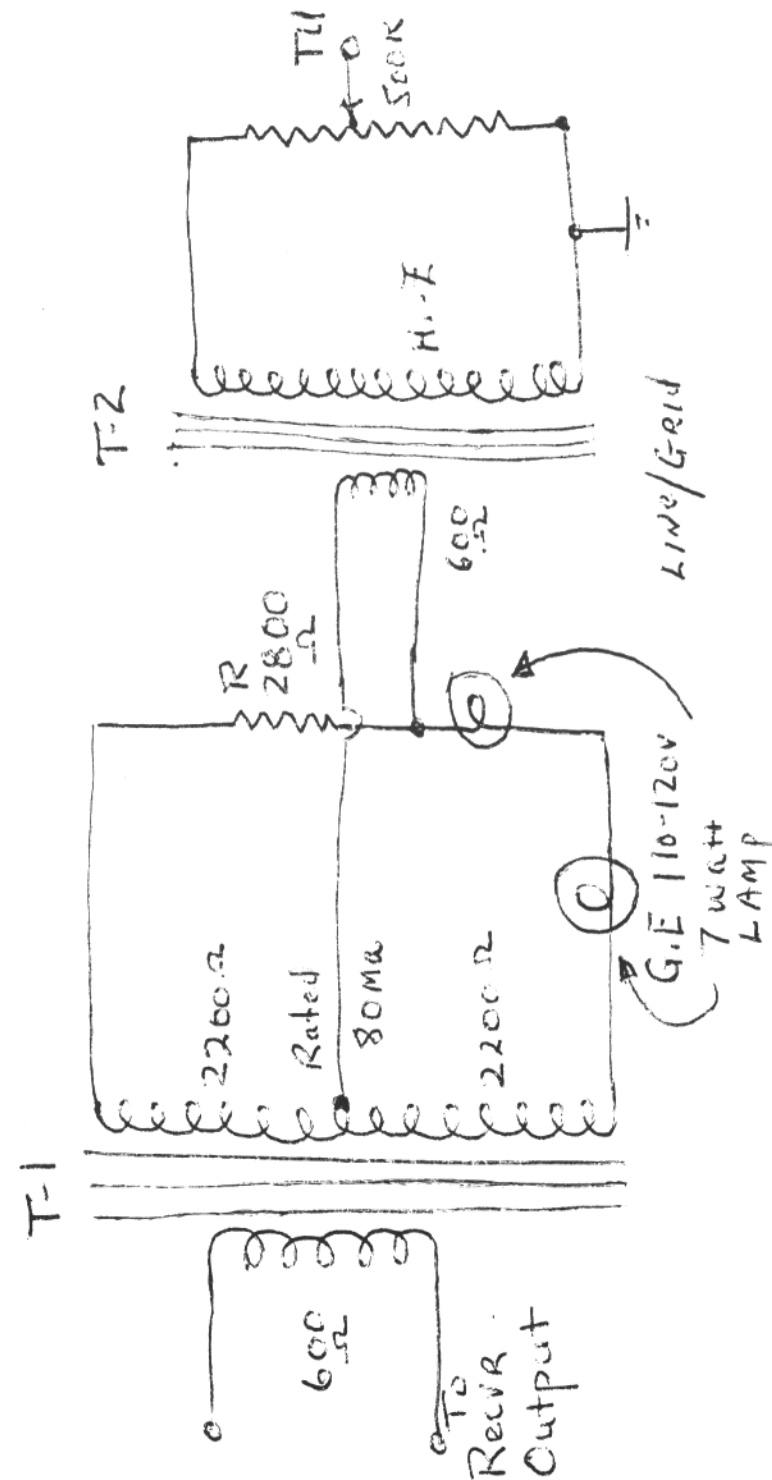
A vacuum tube voltmeter is very helpful for determining the right resistance.

Tests showed that without the bulbs the voltage at the output of T2 rose from 10 volts AC to 170 volts over 75% of rotation of the audio volume control. Properly adjusted the output of T2 varied from 30 to 39 AC volts over the same range of volume. At maximum output from the receiver, voltage was 35 rising gradually to 39 as volume control was moved from maximum toward minimum in a little less than 50% rotation then gradually falling off and reading 30 volts through 75% reduction.

Due to the heating of the bulbs the regulator will not respond to rapid changes in output level but still fast enough to take care of fairly fast fading conditions.

With this regulator you can sit back and relax knowing that you are not creating undesirable harmonics in your TU by driving the limiters positive.

At this time I am working on the idea of operating a polar relay direct from this regulator by adding torroids, a couple of diodes and a sensitive polar relay.



## WOIBZ



The equipment in use here at WOIBZ is as follows:

The receiver is a National NC-300 with a W2JAV terminal unit.

The transmitter is a Viking one that has been modified to a Viking two by changing the output tubes to parallel 6146's and complete TVI proofing.

The VFO is a Viking FSK'D by a 6AL5 diode that is keyed by a polar relay.

The antenna is a dipole fed with RG-8-U on forty meters.

The teletype machine is a Model 26 that is keyed by another polar relay and a local loop built into the T U.

The tape gear consists of a Model 14 T-D and pre-punched tapes.

Under construction at the present is a one kilowatt amplifier using an HK-454-H triode, a 3000 volt 650 MA. Power supply, a WOHzR tuning scope with modifications to permit monitoring of SSB-AM or RTTY signals, and sundry other small projects.

Other equipment acquired since this tape was punched is a Mosley vertical for 40-20-15-10 meters and a tape perforator on order from W2ZKV. I am also building a panadaptor into the above mentioned scope panel.

The occupation is chief engineer at W L, a five kilowatt broadcast station here in St. Louis. I have been at ham radio since about 1952 and won the CQ DX contest for 14 MC. C-W in 1953. Also have WAC and RCC and ARRL.

Main interest here is in building equipment and had given up ham radio for a couple of years until I got interested in RTTY.

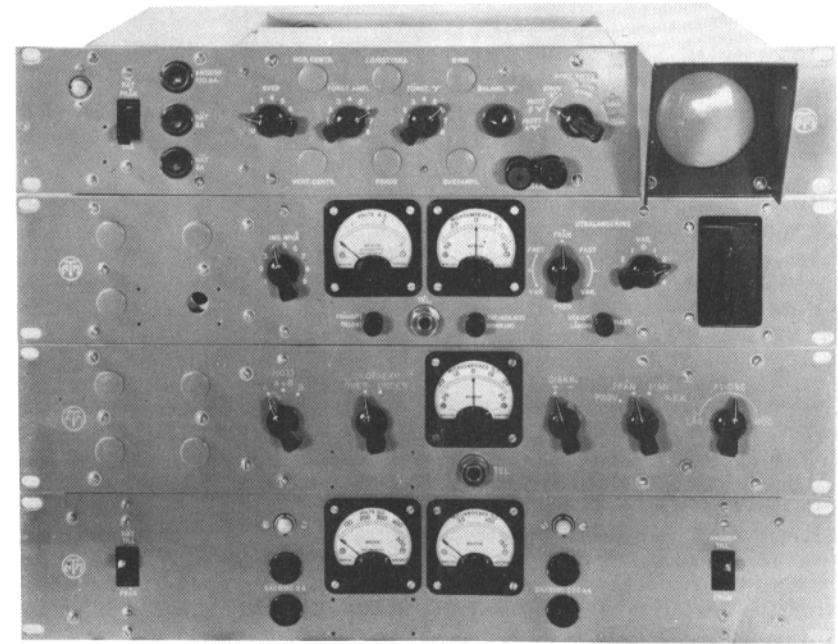
Just thought you might be able to use the above info and enclosed pix for the Bulletin. I have been a RTTY'er since about the first of the year and the first contact was with the old master WOBP . . . Hi.

Thanks again for the previous issues of the Bulletin and will see you on forty again Merrill.

—Mel Hart WOIBZ

## MODEL FSY Frequency-Shift Terminal

By HANS GOLDSCHMIDT, SM5KI  
38 Odengatan 38, Stockholm Va.



The other day I happened to see your address in the wonderful little book on RTTY by W2NSD and W2JTP and could not help myself writing you this letter. Why? Well, dear Merrill it is like this:

Am the happy owner of some excellent gear that I would like to sell or swap for good amateur gear in order to put me on the air, and, if the government is willing to give me a permission, give you guys over there a chance to work Sweden on RTTY. First some words about the gear.

*Frequency-shift terminals model FSY.* These units are in original boxes and were originally made for a Swedish company for a certain project that was dropped before equipment came into use. They are of late design and at present used in great numbers all over the world. They are new and provided with instruction booklets and plugs. The fact that the text on the panels is in Swedish does in no way restrict the use of

the FSY by U. S. hams. The price when new f.o.b. factory was roughly \$14.000 for the gear now in my hands.

*Teletype printers model 14* Motors are for 220 VDC. Were regularly checked by former owner and taken out of service because all printers were changed over to modern models. Can be supplied in great numbers only. The price will therefore be very low. Transportation costs will be much lower for quantities. Minimum order will be 5.

All other details will be supplied on request.

At the moment I am very much interested in getting in touch with those interested. I therefore wonder if you could mention this in your magazine. Also it would be very kind of you if you could send me a copy of RTTY Callbook. It will be of course be paid by me.

I hope to hear soon from you and sign  
—Hans





I thought I would drop you a line and let you know how RTTY is progressing so far over here. You will, no doubt, have heard from Jim Hepburn, VE7KX, and probably from G3CQE, of our efforts to get some RTTY going over here in G land. Thanks to Jim, I am now receiving your very nice little magazine RTTY each month, and I can assure you I find it most interesting and instructive, as any gen on RTTY is very hard to come by in this country. Jim sent G3CQE a copy of your RTTY Handbook too, and I have borrowed this and have just finished reading it. That too proved most valuable.

Through my original letter in the RSCG Bulletin and through a connection I have with another radio magazine called the "Radio Constructor" in which we have just published some of Jim's articles, I have contacted several amateurs in this country who are keen to have a go at RTTY. We have written to the Post Office Licensing Authorities and confirmed that RTTY is permissible in this country on all bands for which FITxing is permitted—which are much the same bands as in your country. So we are all ok on that score. Our great trouble is to find a source of teleprinters. The current one in this country is the Creed No. 7 which is a page printer, rather large in size and very expensive, even on the Surplus Market. Prices asked range from 70 pounds to 120 pounds! This of course puts it right outside the pockets of all amateurs over here. There is an obsolete model known as the G.P.O. Type 3/X which is also available. Its price varies from 15 pounds to 25 pounds according to condition, but as its motor is for 110 V. D.C. a power supply converting from 230 V. A.C. to the D.C. volts must also be purchased. This costs 10 pounds. This printer is a tape, not a page, printer and the inking arrangement is by a system of small inked rollers. These I am told give lots of trouble and are not renewable nowadays, so that printer is not likely to be very good. On this subject of

printers, I feel that as RTTY is so well established in the U.S.A. now and as presumably all the other countries in the world who use amateur RTTY use American machines, we in this country really ought to start with American type printers, presumably the Type 26. Otherwise we shall be using different standards from you chaps and from everyone elsewhere. So I think, our best course is to find out just whether or not we can buy some Type 26 printers in either Canada or USA and get them over here. I would much appreciate your views on this. Would you tell me what price—in dollars—your members pay for Type 26 machines? Also their weight and dimensions? I will then make some inquiries over here from the Board of Trade and see if anything can be done. I have in mind that we might get them in as scientific instruments from one society—your RTTY Society—to another—our Teletype Group. Anyway, please send me all the gen you can on this subject. It is possible to import any scientific equipment into this country if it cannot be obtained here. So Merrill O.M. what do you think on this subject.

I have nearly completed the W6AEE FSK Converted described in the RTTY Handbook. Have only the wiring to do now. The "Difficult" part has been finding some chokes here for L1 and L2. However, we have found some similar TV chokes here though they have no cores, but we may manage to pad them up with capacitors. I also have some of those little toroids—88 mh—Jim sent them over and I am going to build up a FSK converter using them, but I am anxious to find British equivalents so that chaps can reproduce the circuits over here. Anyway, several of us are experimenting and I guess we'll iron out the snags in time. I have a very nice morse code tape recorder—undulator—in my shack and I propose using my FSK converters with it as there is plenty of high speed FSK morse transmissions on the air, and until

we can get some teleprinters this will be a very good way of getting some experience of FSK technique. Fortunately G3CQE and I live only some 30 miles from each other, so we are able to cooperate nicely. He is a great DX man and thinks nothing of regular skeds on CW with VE7KX. My DX record is nowhere so distinguished I'm afraid, but I have always been more interested in experimenting and if I can get a teletype net started in this country on say 3.5 Mcs I shall indeed be satisfied!

We are going to issue a periodical News Letter around the chaps who are interested to keep everyone together and I have been detailed to produce it—hi! Will send you a copy as it appears. I will also send you copies by surface mail of the issues of the Radio Constructor in which VE7KX's articles appeared. I am a Director of the Publishing Company which owns it, so can use my influence a little to get special articles into it.

Yours sincerely,  
DR. ARTHUR C. GEE—G2UK  
— 0 —

—Animal of The Week—  
THE PIPES OF PAN

Old Bo Beep, out calling his sheep,  
Heard a faint bleat—"Hush, not a peep!"  
The hair stood up on the back of his neck.  
"This one I've got to get, by heck!"

His eyes lighted up, sweat dripped from his brow,  
"That's a sweet little EWE, not an old cow."  
"Come here little sheepie, come closer dear,"  
The old ogre crooned, suppressing a leer.

They closed the gap—the sheep raised its head,  
Beep took one look—then shouted, "drop dead!"

For there on the knoll, just as I feared,  
Stood an old billy goat with horns and a beard!  
—DE W6NKP

— 0 —

Surplus Teletype Paper—four sheets with carbon between, sample roll \$1.00. One Case (12 rolls) \$3.00, Ten cases (120 rolls), \$3.00 per case. Teletype tape 3/8" width, sample roll 35c. Minimum order of 50 rolls at 10c a roll. Teletype tape 1/2" width 35c sample roll, minimum order of 50 rolls at .04 a roll. Copied from ad of "Contractors Surplus Co., Williamstown, Mass.

BEHIND THE GREEN KEYS

By DON WIGGINS, W4EHU  
PRINTERS AVAILABLE—

Any of you adventurous-type hams who are tired of battling the QRM on the phone bands and the stereotyped QSO's on CW, try radioteletype! You can get on the air for less than the cost of a good beam.

During the last few months, the RTTY Society of Southern California have procured from the Southwest Bell Telephone Co., a large number of Model 15 printers, complete with table.

Merrill, W6AEE advises us that RTTY has placed all of these machines now.

The availability of the Model 15's has created a sort of "chain reaction" around the country and many of the earlier Model 26's are available from individuals who have purchased the 15's. So a little scouting around may produce 26's at real bargain prices.

It is a shame that Florida hams have to pay shipping from California for printers when our own (?) commercial companies have consistently refused to sell (SELL not give) their obsolete machines to the amateur but will smash them up and receive only pennies for scrap metal! Companies in practically every other section of the country have been happy to assist the radio amateur in his continuing attempts to experiment and perhaps improve techniques in radio communication. If any of you fellows can help convince the "powers-that-be" that we don't intend to compete with their services but are only pursuing a hobby, maybe things will improve!

FLORIDA ACTIVITY—Had a nice letter from Jim, K4QKA in Melbourne. Jim was active on RTTY as a W9 before seeing the light and coming to Florida. He has obtained a Model 26 and is about to split the air with marks and spaces with a BC 457 FSK exciter driving a TBS 50-C. Jim is using a W2PAT converter.

W4EAS found a Model 14 typing reperforator at a junk yard and has it in operation! Talk about luck! Those things are scarce. Jack, K4YBY in Gainesville has a Model 15 on the way from California so I will have some competition here pretty soon! Our friend Nat, W4AYV has been quite active lately. You can usually find Nat, myself and Allen, W4IYP on 7140 kcs, Sundays around 1:30 p.m.

To better acquaint our visitors with the operation of amateur radio, the Los Angeles Area Council of Amateur Radio Clubs has established an Amateur Radio Station which will be open for your inspection throughout the 9th Plenary Session of CCIR. This station is located on the 11th floor of the Biltmore Hotel in Room 11326.

The Call Letters "K6USA" have been assigned this Special Events Amateur Radio Station by the Federal Communications Commission. Our operators will be furnished by the various Radio Clubs located within Southern California, and Arizona, which comprises the Southwest Division of the American Radio Relay League.

During operation of "K6USA" our operators plan to work other Amateurs throughout the world using telegraph, telephone and teletype modes of operation using all the available Amateur frequencies. Facilities will include some of the latest type Single Side-band equipment which, due to its high degree of performance, may soon replace amplitude modulation techniques in most of our present day communication services.

CCIR delegates are invited to notify Amateurs back home to listen for, and attempt to contact "K6USA" during the Plenary Session. Where International rules and agreements permit, you will be permitted to send greeting type messages of the type normally handled by Amateurs, and when conditions permit, you may have the opportunity to use voice communications and actually talk to your own Country.

We, in the United States, feel that Amateur Radio is a most important item in the American way of life. In addition to serving as a vital communications link in times of emergency, such as floods, earthquakes, tornadoes, tidal waves, etc., we consider this a hobby for both the old, or young; the handicapped, or normal, healthy person; the experimenter, or professional engineer.

Many of the engineering techniques in daily use in this modern push-button electronics age are the direct result of Amateur radio experimentation. It was the Amateur who explored, and first utilized the many high frequencies in use today. We have learned that the Amateur, with his technical and operating ability, has provided the only means of communications for our local and regional areas when an unforeseen emergency arises.

Amateur Radio has created a new concept of International understanding between thousands of people in all parts of the world. Municipal and Federal agencies from the smallest Hamlets to our largest Cities have encouraged our Citizens to participate in the operation of Amateur radio as a hobby. At the same time, we have rigid requirements to insure that each participant is qualified, and understands both our Federal, and the International regulations with respect to the operation of this method of communication. This is a most important item to preclude any possible interference with other radio services operating within the spectrum as allocated by International allocation.

During your stay in Los Angeles, we invite you to visit our Amateur Station "K6USA" and to meet our operators. We hope such a visit will give you an opportunity to learn more about this International hobby that knows no language barrier. We hope that you will have the opportunity to personally meet many of our Amateurs. We particularly would like you to meet and become acquainted with the gentlemen who comprise our Amateur Committee and suggest that you ask one of your hosts to introduce you to them. These gentlemen are:

Mr. Herbert Hoover, Jr./W6ZH

Honorary Chairman

Mr. Merrill Swan/W6AEE

Vice-Chairman

Mr. Ray Meyers/W6MLZ

Chairman & Trustee "K6USA"

Mr. Howard Shepherd, Jr./W6QJW

Vice-Chairman

- 0 -

SALE—Model 15. Account increased school requirements, forced to sell M-15 with sync motor, \$85. George Hutchison, 1781 3rd Ave., Walnut Creek, Yellowstone 4-3911.

Model 15 Bases and Sync. Motors—see K6-KFF, Bob, 11 Kensington Ct., Kensington (Berkeley), Calif.

RDJ Analyzer to trade for early QST's; Roland Zehr, 4126 Midvale Ave., Oakland, Calif., KE. 3-2253.

RDJ Pulse Analyzer \$25.00, see W6VPC.

SALE: Model 26's, Harold Wade, 3457 37th Ave. West, Seattle, Washington.

- 0 -

**BOSTON AMATEUR TELEPRINTER  
SOCIETY FIRST DINNER AND  
MEETING, MARCH 21st**

With the increasing interest and activity in Amateur Radioteletype the time has come when we should meet the chap at the "other keyboard" and so it has been planned to have this meeting.

W6AEE, Merrill Swan, the Editor of RTTY is expected to be present and will tell us about the availability of #15 Teletype machines, and what the RTTYers are doing on the West Coast. Merrill is THE authority on RTTY having been an active RTTYer for about 10 years. This is your chance to meet him. Don't miss it.

Other authorities who will be present are Jack Berman, W1BGW, known to all as the East Coast Net Control expert for radioteletype. Al Hughes, W1FGL, who was the first to suggest the use of dual tuning eye tubes in converters, and who is now conducting experiments with toroid inductors. Larry Stein, W1BIY, engineer for Sigma Instruments, manufacturers of the Polar Relay used in Teletwriter Converters. He knows just about everything there is to know about polar relays.

- 0 -

**Subscription Rate \$2.75 Per Year**  
**RTTY is the Official Publication**  
**of the**  
**RTTY Society**  
**of Southern California**

**and is published for the benefit of all  
RTTY Amateurs and Experimenters**

Permission to copy is granted  
provided credit is given.

For Information Regarding the  
Society Contact the Following:

W6AEE — Merrill Swan

W6SCQ — Lewis Rogerson

For Traffic Net Information:

W6FLW                      W6IZJ

For "RTTY" Information:

W6DEO                      W6AEE

**NCARTS "Operator of the Week"**  
**BILL, W5LGS**

William Obrist, 808 San Pedro Drive S.E. Albuquerque, N. M., XYL, Alberta, daughter Jerry married and with a 6 year old boy.

Bill was first issued the call 9BEZ, later W9BEZ in Wichita, Kansas back in 1923. Also held W9MPL there which was held for use of the Naval Reserve unit in Wichita.

During the thirties Bill and the family were transferred to Pueblo, Colorado where our mutual interest of ham radio brought us together until World War II came along and Bill was transferred to Albuquerque and we came to California.

After WW II Bill was issued call W5-LGS which he now holds. He is operating 400 watts on the home rig, phone and cu, no RTTY yet. Has mobile running 50 watts. Has DXCC with 210 countries and holds WAZ. Member of ARRL for many years and active in local ham activities. Can be found on 20 meter fone between 7 a.m. and 9 a.m. on Saturday and Sunday mornings.

Bill just completed 33 years with the post-office department last October and has been post-office inspector for many years, the position he now holds.

(knew Bill in 1922—ED. Ex-5AEE)

- 0 -

I would like to see some circuits and information on "Automatic Frequency Control of the Receiver B.F.O. —W5FEM

SALE: by W9GRW, Ray Morrison, Skokie, Illinois

Model 14 Tape Distributor, \$150

Keyboard Perforators with end of line ind., \$50-60

Model 14 Typing Reperf. Rec. only, \$150

Model 14 Typing Reperf w keyboard \$175

Model 15 w table, \$100

ASR Model 28, no cabinet \$450

Model 28 no cabinet or cover, \$250

Non-Typing Reperf, \$150

SALE: Keyboard Perforator, E.O.L., \$150, W6VPC

Printer paper: Single 50c, Carbon 40c per roll

88 mh Toroids, 5 per can for \$1.00

—W6VPC 1067 Mandana Blvd., Oakland 10, Calif.