E

DECEMBER, 1953

Model 26 Page Printer

The TELETYPE* Model 26 page printer is a synchronous motor driven mechanism used originally for TWX service by the Telephone Co. in private offices. It is a self contained printer and keyboard. The motor is mounted as a portion of the printer assembly while the base contains keyboard and terminal connections.

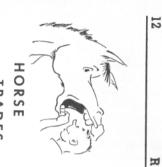
The keyboard is the standard unit which employs the five unit code. Terminals are provided at the rear of the base assembly to allow connections to be made to the motor, keyboard contact springs and provision for either series or parallel connections to the selector magnet. Changing these terminals permits either 20 or 60 mills operation.

The model 26 uses standard width paper, with the roll mounted to the rear and outside of the cover. A guide is provided for the paper which enters thru a slot in the rear of the cover. The paper and platten move from left to right as the characters are printed. This is similar to the model 12 in this respect, however the carriage-platten assembly is much lighter and as a result quieter in operation.

Most of the model 26's in amateur use at this time have the arrangment "B" of type palletts. In other words, fractions instead of the punctuation marks found in the "A" arrangement. Wayne Green's Bulletin of October, '53 reports that palletts could be purchased to convert to standard type. The palletts are quite easily installed. Each character is held in the type wheel by a spring, and type can be removed by use of a small pointed prick punch. Unlike the model 12, 14, 15, and 19, the 26 uses a circular wheel assembly to hold the type palletts. The selection functions are obtained thru the use of a so called single magnet selector. It is a mechnical type selector, which does not cause RF noise such as the model 12 which had five

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MODEL 26 PAGE PRINTER

(Continued from page 1)

selector magnets plus a sixth magnet to operate the print function. These magnets were operated by a motor driven distributor. Two types of selectors are to be found on the 26's. One type known as the "holding type" and the other "Pull type" selector. The "holding type" selector is most common, on the later production and are machanically returned to a marking condition by the selector magnet.

All of the normal stunts provided by the model 12 are to be found on the 26 plus additional ones, such as upper case H, motor stop, unshift on space which can be cut in or out at will. Printers with holding type selector assemblies do not have the motor stop feature.

One of the most attractive features of the model 26 is that it can be operated by placing the selector magnets in either the cathode or plate circuit of the terminal unit, thus avoiding the necessity of a DC power supply to operate the selector. Also since there is no polar relay required, no contact noise (RF) is generated, and thus copy from off the air is as quiet as if the printer was not running. Many articles have appeared in the past describing methods of filtering out the noise. Audible noise from the 26 is much lower than from any of the printers to be found in most amateur RTTY stations. Means for mounting Shock mounts similar to the "Lord" type shock mounts are provided. Some of the

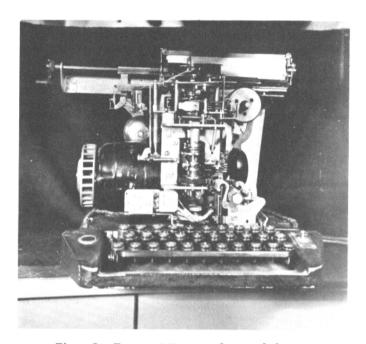


Fig. 2—Front View of Model 26

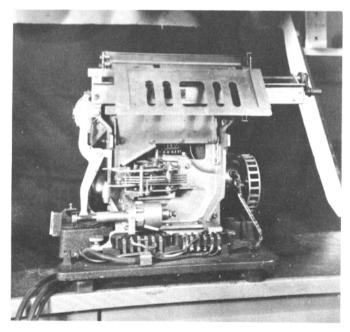


Fig. 3-Rear View of Model 26

machines which came complete with tables, already had these shock mounts on them.

The keyboard contact assembly can be modified to operate a model 1-A tape head quite easily. W6ZH has had his in operation for some time and finds it to be as satisfactory as a model 14 TD. All that is required is an hour or so work on the contact strip. Details have appeared in RTTY (page 3, March, 1953).

The photo on page two shows the printer with its cover. The upper photo on page three shows the same view of the printer without cover. The lower photo shows the connection block, the second and fifth from the left hand side are the selector magnet. A strap across three and four complete its circuit. Leads to the AC motor and to the keyboard can be seen on the right hand terminal strip. Thumb screws which hold the printer to the base can be seen, above and to the left of the terminal strip. One large metal plate covers the bottom of the printer which when removed gives access to the key levers, and key levers springs.

Details of the various mechanical adjustments will be printed in an early issue of RTTY. Details such as selector adjustments, carriage adjustments, along with other points which have proved to need attention from time to time. Oiling instructions will be given in order to "keep 'em printing."

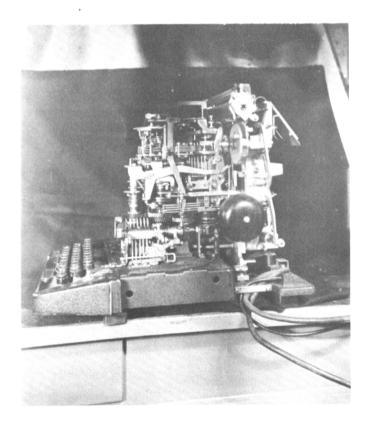


Fig. 4—Right Side View of Model 26

MODIFICATION OF "AP" AND "WU" DUPLEX DIS-TRIBUTORS FOR USE WITH 1800 R. P. M. SYNC. **MOTORS**

W8AV-Columbus, Ohio

This distributor as received by the "ham" is driven by a shunt governed DC motor turning at 2100 R.P.M., which may be considered as a complication requiring some sort of large DC supply. The most satisfactory solution is to convert to 1800 R.P.M. sync. motor drive, which assures constant speed, as well as freedom from noise generated by centrifugal governors.

The worm box, carrying the dual distributor heads requires an input shaft speed of 797.3 R.P.M. to turn the transmitting distributor arm the usual 368 R.P.M.

 $\frac{1800}{797.3}$ equals $\frac{2.255}{1}$ which translated

to gears would require 36 teeth on the worm input shaft, driven by a 16 tooth pinion on the motor shaft. A very suitable pair of gears may be purchased from stock at your "Boston" gear distributor.

> NA - 16 B - 16 tooth, 20 Pitch NA - 36 - 36 tooth, 20 Pitch

These are stocked with 36" bore in the hubs, which in the usual size of motor shaft if a Model 15 sync motor is used.

The input shaft of the worm housing is usually 5/16" dia. which will necessitate having this large gear bored out to approximately 1/2-inch and is rebushed to fit the 5/16" shaft. If you do not have a lathe, some of your friends probably do and can complete this simple job.

First remove the old DC motor, gears and the bracket carrying the two brushes for the governor. Tape up the two wires that go to these brushes. Mount the new gears on both worm housing and new

motor, first be sure that your motor turns in the proper direction of rotation. If it does not this can usually be taken care of by turning the motor end for end, and remounting the fan.

Clean off the base plate and blue it. line up the motor for proper gear mesh and mark centers for drilling the base for motor hold down bolts. These holes should be drilled slightly over size to permit shifting the motor for quiet gear operation. After bolting down with proper mesh the gears may be lapped in by running for a short time with a mixture of "Old Dutch Cleanser" and oil, or other mild abrasive. When all burs are off. wash clean and lubricate with a good gear oil.

The 110 volt input leads for the motor may be connected to a spare pair on the terminal board.

This conversion is giving excellent results at W8AV.

If commercial motor is purchased, a Bodine type NYC-13 1/40 hp., 1800 R.P.M. may be used.

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:

W6CLW-Ed Simmons W6AEE-Merrill Swan W6SCQ-Lewis Rogerson

For Traffic Net Information: W6FLW W6IZJ

For "RTTY" Information: W6CL W6CLW W6DEO W6AEE

Society Meeting

The regular meeting of the RTTY Society of Southern California was held at the Research Laboratories of the United Geophysical Company (KA-3094) on Saturday evening, November 14th, in Pasadena.

Although rain was pentiful, a large number of the members were present. The technical portion of the meeting was held in the library room. W6AEE acted as chairman of this meeting.

A report on the matter of the clubs name was reported to the members by Merrill Swan. Also discussion on various matters was taken up prior to the talk and demonstration.

Stan Mahurin W6UPY (ex W7LUK of make and break days) presented his lateest in Terminal Unit construction. This unit contains many features not normally found in most amateur TU's. Among these were DC clamping circuits, automatic relaying facilities, auto start for the printer magnet, and a new type of oscilloscope display. This type of pattern can be calibrated to give indication of the shift of either the station being copied or the local shift. The circuit and description will appear in a future issue of RTTY.

Ed Simmons W6CLW demonstrated a Gonset Communicator, which performed remarkable well inside the building (shielded).

After the technical portion of the meeting, the group adjourned to the Cafeteria for coffee and doughnuts and eats. This was followed by a tour thru the research labs, and the manufacturing portion of the United Geophysical Co.

The following members and guests were present:

W6AEE	W6CNM
W6BWQ	W6DEO
W6CLW	W6DMK

W6EV	W6NYF
W6FLW	W6UDY
W6ICS	W6WYH
W6IIV	W6ZBV
W6IZJ	KN6CHU
W6LDG	W6CL
W6KNI	W6SCQ
W6NSS	W6SCK
W6KGS	

Traffic Net News

The RTTY Society of Southern California Net operates every Tuesday evening at 8:00 p.m. on 147.85 mc.

Activity for the Month of November, 1953

Nov. 3—W6FLW, N. C.—Check 6
W6EV W6IZJ
W6FLW W6NAT
W6ICS W6NWM

Nov. 10—W6FLW, N. C.—Check 8

W6AEE W6NWM

W6CYR W6SCQ

W6FLW W6NAT

W6IZJ W9TCJ (7150)

Nov. 17—W6FLW, N. C.—Check 14
W6AEE W6FLW

 W6CAP
 W6IZJ

 W6CL
 W6NAT

 W6DEO
 W6PNW

 W6EV
 W6ZBV

 Nov. 24—W6IZJ, N. C.—Check 12

 W6IZJ
 W6FLW

 W6AEE
 W6KNI

 W6BWQ
 W6NAT

 W6CAP
 W6SCQ

 W6DEO
 W6ZBV

 W6EV
 W6CL

Membership List

RTTY SOCIETY OF SO. CALIF.

K6AC-RUDOLPH N. OSTRONIC W6AEE-MERRILL SWAN W6BAE-RED HANNAH W6BWQ-BUD KUHLEMEIR W6CL—BERT F. AYERS W6CAP—R. B. THOMPSON KN6CHU-L. E. MORFORD W6CLW-ED SIMMONS W6CMQ-TED SWIFT W6CNM-LEO DANEK W6CYR-JIM PERKINS W6DEO—FLETCH HANTKE W6DMK-JACK RASOR W6DRL-AL CASEBEER Jr. W6EV—LESTER HAMMOND W6EKO-LEONARD CASSOU W6EZP—DON GOOD W6FGS-VIRGIL G. WILEY W6FLW—EMILE DUVAL W6FRB-D. C. BAUM W6GFI—ROY MEADOWS W6GUE-PAT BURNS W6ICS—JOHN PEOPLES W6IIV—GEORGE LOWE W6ILW-R. B. STEVENS W6IZJ-ED PHILLIPS W6KGS-L. E. MOESCHLER W6JAU-BOB SPICER W6KNI—CLIFFORD SCHWANDER W6KYV—DAVE KENNEDY W6LGO—WARD HANNAWALT W6LSG-LARRY MUELLER W6MSG—ROBERT L. HORTON W6MRO—R. O. BRAZELON W6MYC—JOHNNY ROTHROCK W6NAT—BILL DRIML W6NSS—AL BROWDY W6NWM—JOHNNY GROSS W6NYF-ROY LaVIOLETTE W60QB—RALPH POORE W6OXS—BOB GOLDMAN W60ZE-CHAS. "PAT" PATRICK W6PNW—RAY REYNOLDS W6RL—SHORTY GRIGGS W6SCK-PERRY H. GOODWIN Sr. W6SCQ-LEWIS RODGERSON W6TD—JEAN H. CLARK W6TRX—WALTER HENDRICKSON W6UPY—STAN MAHURIN

W6VHR—GEORGE E. MARSHALL
W6WYT—T. F. WILSON
W6YGC—H. E. NEWCOMER
W6ZH—HERB HOOVER Jr.
W6ZBV—CECIL A. CRAFTS
W6ZGC—H. R. MEEKE
ART ADDAWAY
JIM CHILDRESS
R. A. HOWARD

THE FOLLOWING STATIONS HAVE MODEL 26'S IN ADDITION TO SOME OF THE REGULAR MEMBERS (Supplied through the Society)

W6AFX-RICHARD B. MORTIMER K6ALR—CHARLES M. LEE W6BGM—CHARLES WELLS W6BJR-EDGAR T. HOWES W6BPZ—WINSTON S. PETERSON W6CGN-DON L. KLIENENDORST W6CKS—JOEL BALTZAR W6CND-EDWARD M. HITCHCOCK W6ERR—CHARLES E. PECK W6GJ—CARL A. SCHWENDEN W6HIX—CHARLES L. WORTHLEY W6IES-HOWARD M. ESKO W6IEV— KENNETH O. CONE W6III—LOREN A. WALTERS W6IRF—DANIEL T. WIGHT W6JFZ—HAROLD E. SACHSE W6MLH—EDWARD C. BERNASCONI W6NUK-DAVID W. FENDER W6OGG—CREIGHTON B. DENNIS W6OLC-BART W. SORGE W6ORV—DONALD J. STARKEY W6PFF—FRANK C. CHAMPLIN W6RCM—GEORGE C. JACKSON W6RUX—NEWTON E. LINDSAY W6STN—ROBERT C. BENAFEL W6SZO—BRUCE B. BISHOP W6TCO—RODGER L. MONSON W6TZA-GENE E. PERRY W6UZO—DONALD W. PECK W6WHX—ROBERT A. MOSER W6YRG—HARRY APPLETON W6Z0H—FLOYD L. WORTH W6ZSH—EDMOND H. COLLIAU W7KWB—JOSEPH D. CONNER W7NAP—JAMES T. EMMETT



.... Tell him to hang a diode keyer on that gadget of his Hi! To Bob in Detroit CUL perhaps this evening DE W3PYW Goodmorning BreakfastClubbers.

. . . . Time is Five-ten . . South Jersey Report is Five-an- Nine . . . So what say? Boy! the QRM is really rough . . W3PYW de W2JAV

* * * *

.... W3PYW de K3WBE, you are five by five here, lots of QRM * * * *

.... W3PYW de W3LMC - - - go to it fellows hope you win and I think you will W3PYW de W3LMC

* * * *

.... W4FJ de W3PYW - - Sure good to hear you, please repeat check Ted. your shift is a bit low.

.... W3PYW de W9GRW Have been off the air for a few hours but am back on for a while, Frank.

.... W6AEE with W6IZJ on two meters de W3PYW with W9TCJ listening out.

* * * *

. . . . W3PYW de W8GRL, Detroit.

.... Msg. No. 1, W1TWP, ck. 5, New Hampshire, 1 November, 40 meters - - -So here she comes to you old man, W3-PYW de W1TWP.

. . . . W3PKF W3PKF W3PKF This is W4JCV calling. Eddie I have a message for Frank.

. . . . W3PYW de VE2ATC, Montreal rite back, sorry I got snagged up in QRM.

. . . . Roger Chuck, and many thanks. Sure glad to meet you, was talking to Ed Handy about you and now that I have met you am real pleased. W1AW de W3PYW.

. . . . Here is Message No. 4 to W5-QAN/5 check 359, California, November 1, 1953 de W6PNW.

.... CQ CQ CQ CQ de W5QAN/5 near Carrizozo, New Mexico. * * * *

.... W3PYW / W2PAU / W6AEE de W9TCJ.

. . . . W6OWP de W3PYW, How did you make out Bart?

.... W7LU de W6AEE, Roger you'r NR 1 Wally and many thanks, sure glad to hear and see your copy, been a long time.

.... W7LU de W6OWP RYRYRYRY Roger and good morning to you Hal. I'd say you did mighty fine for your first attempt at punching one of these on an amateur RTTY circuit.

> * * * * (Continued on page 11)

Comments from Readers

"Having a darned lot of fun with a distoration control on the transmitting tape distribitor. I call it a range disdistortion control on the transmitting range finder on any single-magnet printer. By the way, I am preparing an article on the electronic transmitting distributor which (the paper) I shall send to you as material for possible publication in RTTY. Returning to this range distortion control, this idea belongs to W3-PYW, he tried it out on me first. And I liked the idea, and have jury rigged device on the elex dist. I am going to make it a permanent part of the distributor and describe it (the distributor), in a subsequent article. How does that sound to you, Merrill?"

-de Bob W9TCJ

"Have ordered a model 12 from W6EV. Also purchased a keyboard tape perforator and have a wild scheme to convert it so it will punch from an incoming signal. Will send more on that later if any thing developes."

-Dave W5WUW

"Here is a hint that may be of use to some of the boys, I'm probably not the first to try it, but I have not heard of anyone else doing it. I borrowed a Presto disc recorder from school and have succeded in cutting a disc of TTY signals, which when played back on any standard phono, thru my TU affords an excellent test signal to operate my printer. The same would apply to wire or tape recorders and would provide a good test -ignal for those who do not own TTY tape equipment. If done precisely, this gives good test signals for adjusting printer or TU."

—73's Bill W4NZY

"The RTTY is fine Merrill, and the only comment I have is that I wish you had more space available so that you could go into more detail on various articles such as Bob's converter."

-73's J. Murray Powell W1QIS

"I have listened on and off all evenings and I am beginning to wonder if there is not some deliberate QRM going on. I learned a trick that I am sure is pienty old to you fellows, and that's when your TU has a reverse switch as the one which you sent up here, it is possible to tune on the other side of the carrier and using the R E V key, print OK in spite of a QRMING CW station. I think that between the three repeats which you sent on your after-noon QSO that I made enough copy to learn that you fellows only received 80 26's at this time but would probably get another 80 after the first of the year."

-Hot Rod Charlie W7HRC

"Well suppose better knock it off now and get back to wiring up my terminal unit. I am building one shown in Jan. QST as I want a simple one to use while building urs with the scope so that I won't be inclined to hurry the good one that is one of my weakness, too impatient at times, start out to do a serious job ond end up hurring."

-73's Don Newman W7CO

"Thanks for running the ad in the "Horse Trade" column in RTTY I am very happy to report that I have made a trade and now am a proud possessor of of all the tape gear that I need."

-73's Rod W8BYB

This is what the Horse Trade column is for gang. It works, so let us help you. Ed

"I'd like to tell you how much I enjoy the RTTY bulletin. The information is excellent, and the article 'tops in clarity and reader interest. Wouldn't trade my subscription for money! This will also make clear to you the transmitter is only a BC-459 running at 50 watts, and the receiver a BC-312-M. (Living as I do in a hotel on the main drag of Newark) Despite of the handicaps of location, noise and poor antenna, have had remarkable results. My warmest to all the gang."

-73's Stu W4ZC/2

"We had another meeting this is week in which we organized "The Puget Sound Amateur RTTY Society", we had representative from Tacoma on hand. At this time we have in our hands five checks from Tacoma for a share in the ten machines now available. We appointed a committee to distribute them fairly. The Tacoma gang are hotter'n the proverbial "fox in a forest fire", and they are tecnically well qualified as they are all engineers at KTNT-TV and they are the nucleus of the Tacoma Club and especially the CD gang. There are several more there who don't have the dough now until after Christmas, but they'll be in on the next lot."

-73's Don Newman, W7COZ

"At last Rocky Mountain Divison of ARRL convention held June 20, 21 of this year in Estes Park, Colorado, we used an adapter utilizing this circuit with a Navy BC-348-R converted for 110V. To run a field teletpye unit. It worked quite well, with one exception. WØCYT had a phone rig set up about 30ft from the RT-TY installation and when his 32-V3 was on, it "blocked-out" the converter. It is believed a little shielding and an line filter would rectify this difficulty, but we didn't have the time, nor our junk box, so we just run teletype when "CYT" was busy listening."

—Lt. Richard Ferree WØOYS

"I want to let you know how much I like your RTTY. I've passed them around the office and every one who has seem them thinks you're doing a good job. The enclosed article from our Teletype monthly paper may be of interest to you since I saw W9GRW in your last issue also."

-73's Bob Reek

"Last night was a big night-after months of work. I finally got things going good and got on the air under favorable band conditions and got in a go around with W3PYW, W9TCJ, and W1BGW, with excellent results all around. Frank, W3PYW, relayed my signals on 7MC to a station in Cuba, and also VE3GL who also reported good copy on me. He then sent in back tape of my own transmission which was welcome proof of good signal from here. It was a lot of fun and worth all the trouble and more too. Was using an ART-13 transmitter with FSK diode modulator as per W2JAV in RTTY." -Bob W8AV

" The September RTTY was worth waiting for! I thought the editorial comments and the Model 28 article outstanding." -73's Bart W60WP

The Model 28 information was through the courtesy of the Bell Laboratories Record. Many of our group do not have the opportunity to see this type of material, and the Bell Laboratories have been most generous in permitting RTTY to reprint this material. Ed-

" Had a call from W1AW (Murray Powell) after the contest. He was a bit disappointed with the lack of activity. I think the thing to do would put out announcement RIGHT NOW and we start bulletinizing the deal. Say for Early February. There are at least a dozen stations that are quite active that I believe would have been on if they knew what was brewing. I think the idea of offering extra points for working additional bands is a good incentive, let's keep that up."

-73's Frank W3PYW

"Stations in Jacksonville who have model 26's are: W4RTJ, W4JDG, W4GXL. W4GVR, and W4WMN. Stations in Gainesville Fla. who have model 26's are: W4EAS and W4SND."

-73's Bill Alexander

"Since I last wrote you I have acquired a Model 12 printer with keyboard and I have it printing to itself now, also I installed a single space gear which I secured from Doc, W9UAU, works swell!"

-73's Paul W3NNV

"I sure get a boot out of the names the fellows tack on the CW ORM morons. "Joy Boys!" It's surprising how deliberate some of this QRM crops up. I've listened often, and when a RTTY signal comes on then some CW signal pounces directly zero-beat on top of him. When we work in roundtable fashion on one frequency the tendency to deliberate QRM seems to be defeated. There is one thing in our favor, and that is we can report the fact that CW QRM is present and the "Joy Boys" doesn't know it. If we always remember to refrain from QRM comments on CW the curiosity is rapidly lost and "Joy Boys" looks for other amusements."

-73's Paul W6DOU

"I have tried for many hours before my 21-A and my 25-A, just to try and understand the difference between them. Now, I know....it is a very dirty trick, but it takes too much time to tell you here the story, better not buy a 25-A. Even the Devil, who is generally a clever guy, doesnt' know why W. U. wanted a 25-A as is. Beware of brand new machines, but my 21-A is nearto falling apart. Are the 26's with or without keyboards? And which keyboard, because now I am afraid of special "keyboards."

-73's Rudy Couppez ON-W2 (The 26's Rudy refers to are those which are available to RTTY members and have tables. They have fraction keyboard. Price is \$55.00 plus crating and shipping charges from Pasadena, Calif. Ed)

"Received the September RTTY today and find it very interesting, especially the article on the Model 28. I wonder if the "W. Bauer" on page 13 is supposed to be me (if so there is a mistake somewhere, as I have no Model 12) or if there is another poor guy by the same name interested in this business?"

-73's Bill W4NZY

This is not the first time this happened to RTTY, W8IJV is also W. Bauer, and there have been several RTTY operators who have similiar names. -Ed

TAPE OFF THE FLOOR

11

(Continued from page 8)

... WØNME dee W6AEE Hya Ike. Can not stay on as I am licking stamps. * * * *

.... W6IZJ de W6FLW Whittier calling are you there Ed? .. Am about ready to leave for your place 6:15 P.M. W6IZJ de W6FLW Whittier.

* * * *

* * * *

.... Auto start stuff Hi.

.... QRA QRA QRA de W4VFE/KR4 Roosevelt Roads, Puerto Rico.

* * * *

.... W6AEE and W6GFI de WØNME Roger Merrilll and good night will see you again 73's, and its always good to talk to you... Roy are you ready for the hay, its 11:20 here and I should't stay much longer so what say Roy should we call it a day?

* * * *

.... Well I have net coming up shortly so I just wanted tomakesure this stuff really works and I found that it does a FB job. I'll look for you fellows agin soon and hope to have many nice QSO's with RTTY. So best 73. W6AEE from K5FOM. * * * *

. . . . W6SCQ de W6FLW, Whittier What say Louie.

. . . . This is your Message No 4 from W8HP, Detroit Michigan, Time 1945, Frequency 3620 Kc's.

Another first for RTTY—Emile Duval. W6FLW received a green slip from the FCC for improper adjustment of frequency shift. (The Slip reads 525 cycles) and he hurridly corrected same. The moral to this story is-We are being monitored and it is of utmost importance that we abide by the regulations-let's do it fellows. No more Green Slips.