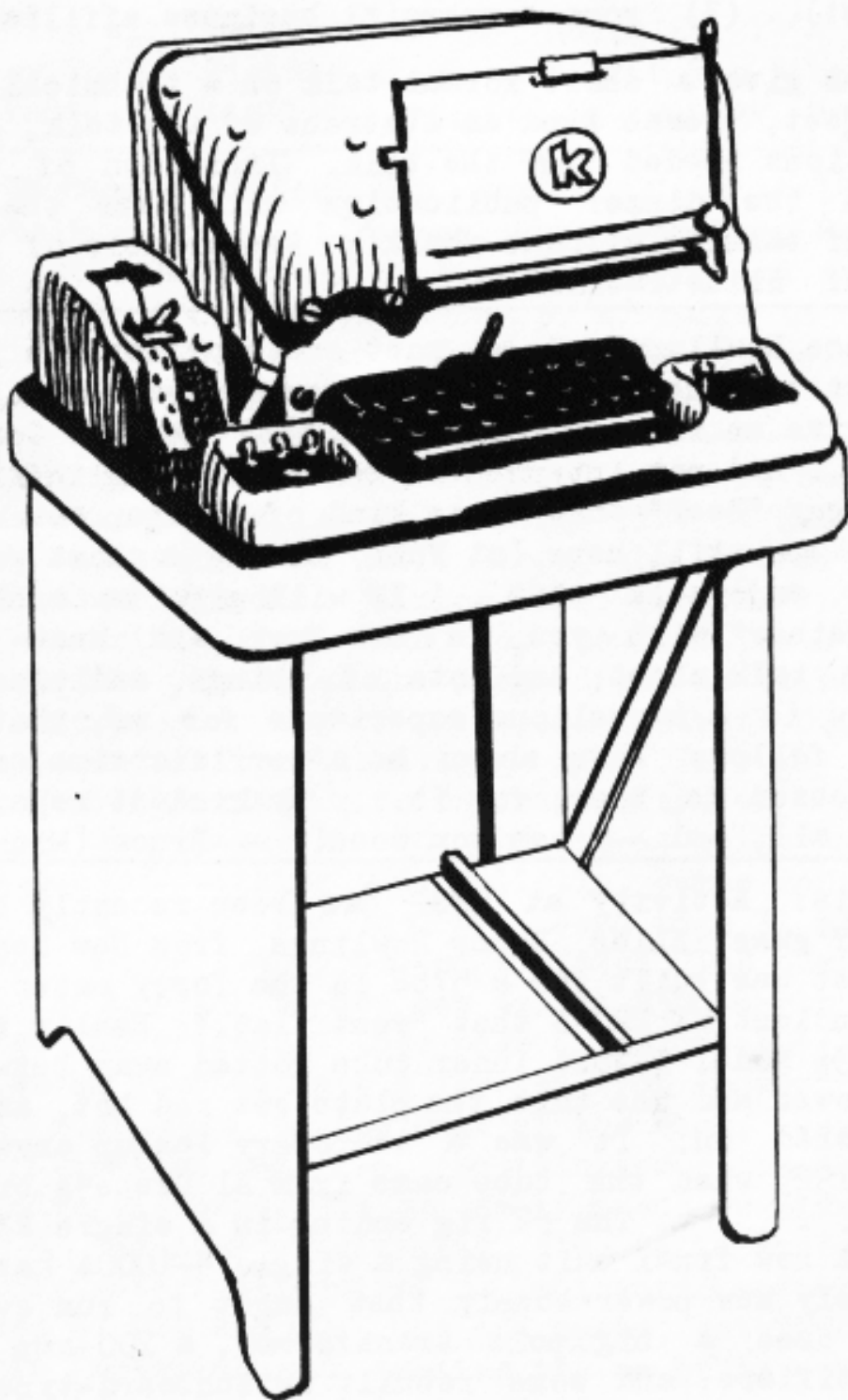


ARTS

49



FOURTH NEW YORK CITY ANNUAL AMATEUR RADIOTELETYPE DINNER

The Fourth Annual Amateur RTTY Dinner will be held in New York City on Monday, 24 March 1958. An attendance of 70 is expected.

"Notorious" RTTY hams expected include Bruce H. Rowlings, ZL1WB from New Zealand; Merrill Swan W6AEE from California; Boyd Phelps WoBP (BeeP) from Minneapolis; and John Williams W2BFD.

Reservations for the dinner must be made in advance (\$7). They may be obtained from Clay Cool, W2EBZ, 443 W 47 St, New York 36.

Upon reaching New York, please call Clay at JU6-1968 to find where the rest of the gang are bunking, and to register your own hotel for the information of those looking for you.

Those planning to attend are requested to supply Clay Cool by 28 February for the special dinner issue of the bulletin: (1) present and historical description of your RTTY station and activities, (2) a photo of yourself at your RTTY station (or elsewhere!), (3) your commercial business affiliation.

If you can give a short formal talk on a technical or operating RTTY subject, please send an abstract of the talk, and a copy of illustrations needed for the talk. Inclusion of the illustrations in the dinner publication will save the speakers the trouble of talking without chalk, or the trouble of furnishing 70 copies of illustrations.

ZL1WB Bruce Rowlings: I am most grateful for the invitation to be a guest at the NY-RTTY Dinner, scheduled during the I. R. E. It will give me immense pleasure to meet the East Coast RTTY'ers, too.I had not intended to remain so long in Minneapolis--- but this guy "BeeP" does those kind of things, you know... Well, simply, I am still here (at WoBP) having a most wonderful, and immensely enjoyable time... It will give me much pleasure to "get together" with you, in New York, and know we will find plenty to talk about; and lots of things, and places for me to see. This is a marvellous experience for me, that's for sure! All the fellows have shown me a terrific time, and I am very much indebted to them, for it... My kindest regards and best wishes to all, and --- see you soon! ---Bruce (Minneapolis)

Minneapolis: Activity at WoBP has been recently booming with the aid of guest ZL1WB, Bruce Rowlings, from New Zealand. An air flow socket was built for a 5762 in the forty meter rig in place of the ancient WE 220-B that "went flat." Really flat, for the old 30 x 3½ Model T Ford inner tube rotted away between the oil-burner blower and the tube, the plate got red hot, and the atmosphere pushed in. It was a temporary lashup anyway that only ran from 1925 when the tube came from Al Grebe's broadcast station WAHG. . . . The #2 rig ending in a single 833-A has been changed. A new final unit using a single 4-1000A has been built. A completely new power supply that ought to run everything all at once uses a big pole transformer, a 100-amp Variac, four 872-A rectifiers, and some rebuilt switchboard-type meters that came off the 500 cycle spark set. . . . On the receiving end,

75A4 has been operated on, some control relays added, and FSK has been put in a new Yonson "Navigator." A new AN/FGC-1 has been rebuilt a bit, including narrow shift filters, and installed. Dual diversity has been tried. . . Antenna wise, Bruce dug a hole to take 7'3" of mast section and two cubic yards of concrete. This supports two 20-ft self-supporting welded mast sections with a "five over five" two-meter antenna on top. The last feat was a three-band, three-elements each band, antenna lashed at the 80-ft level, mainly for 15 meter reception from the orient. With weather below zero, activity is indoors on narrow shift filters. ---Beep, WoBP

Western Union MITE printer, shown on the cover of ARTS 48, will be discussed in the next bulletin, with full specifications.

EA2CA Juanito Repizo, San Sebastian, Spain has KWS1 and 75A4, and a 4-element beam on 20. He also operates 40 and has become interested in radioteletype. More DX coming up?

ANNUAL SSB DINNER will be held Tuesday, March 25, 1958 at Hotel New Yorker, New York. Tickets \$7.50 each from The Single Sideband Amateur Radio Association, Inc, 267 Madison Av, New York 16

MARS TALKS: Eastern Technical Net, April 6, 1958 at 1400 EST will carry talk of Mr. Sal Barone, Pres, Northern Radio Corp, on subject of RADIOTELETYPE. Frequency is 7540kc and rebroadcast on 15,715kc and 143,460. Other Sunday p. m. talks of interest: Feb 9 and 16, Antenna Symposium; February 23, Telemetry; March 2, 9, 16, Airways Electronics Symposium.

MORE EDITORIAL DE W2EBZ: This bulletin issue is being widely circulated as sample copies to a large list of amateurs that have expressed an interest in RTTY. Hence, the several announcements in this issue regarding joining ARTS. For this wide distribution, the editorial from ARTS 36, the last issue edited by Wayne Green before leaving the unpaid job as editor of this Bulletin to accept the higher-paid position with CQ, is still most appropriate and is reprinted (page 18). To repay Wayne for his good work for the amateur radio fraternity, we are donating a free ad to him (page 4). Tho the job as editor of CQ pays more than the job of editing this bulletin, Wayne can still use more of your money. So read his ad. Read page 31 of February CQ to see who Wayne has promoted to Yatch Club Admiral. See page 74 of January CQ to see how to get \$300-worth (one-half page) of free advertising. See page 81 of October 1957 CQ to learn how to sneak your ad into a favored spot amongst the text, while others must take to the back of the book. See cover of December 1957 CQ, then page 115, to illustrate the "editorial" tie-in to an advertisement. In an early issue we plan to bring our readers a "do-it-yourself-kit" "The Radio Amateur's RTTY Handbook." Only material required is scissors, pastepot, and a few back issues of QST and CQ. Cut and paste, but BEWARE of reproducing this material and selling it, as it is protected by being legitimately copyrighted in the United States of America, under whose laws we (or most of us) are governed. 73 Clay

SUPER-SELECTIVE VIBRATING PENDULUM AUTO-START

RTTY oldtimers will notice that there has been a considerable recent interest in the so-called "Super-Selective" W2BFD auto-start system mentioned in ARTS Bulletin 85 (July 1948) and explained in detail in Bulletin 86 (1948). The system depended on the high "Q" of mechanically resonant vibrating elements. Among these mechanical selective elements were tuning forks and "pendulums" (or reeds) consisting of lengths of clockspring with weighting adjustable to "tune" them. The tuning-fork system yielded a 2-cycle bandwidth and nothing less stable than another tuning fork could be used to transmit the auto-start signal. The clockspring pendulum had a bandwidth of several cycles and a stable oscillator could be used. Any of our members interested in this system (and there are many if the letters received are any indication) may find it worthwhile to write to W. S. Deans Co, 8539 Albia St, Downey, Calif. This firm manufactures an inexpensive 8-reed unit for remote multi-channel control of model airplanes. Each reed has a contact which is closed when the reed reaches maximum amplitude of vibration. If the coil of the unit is driven from a signal of constant amplitude, the contact will only be closed by an exciting current within a few cycles of the pendulum reed's frequency of resonance. For model aircraft control the reed frequency is not manufactured to any precise value, but instead the tone of the incoming signal is adjusted to resonance with the reed. Obviously this method would have to be reversed for RTTY autostart if more than two stations are to be involved. The mechanically-resonant elements take a measurable interval of time to build up to maximum amplitude (because of the high Q) where the contact is closed. This delay gives added protection when using autostart on channels shared with CW signals and harried by noise. W2BFD's tuning-fork resonator required from 5 to 15 seconds of the correct received frequency (within plus-or-minus 1 cycle) before starting is accomplished. His clockspring pendulums require about the same length of time when tuned to 368 or 390 cycles per MINUTE but only a few seconds when resonant at 60 cycles.

----W2BFD

BULLETIN of the AMATEUR

RADIOTELETYPE SOCIETY

FEBRUARY - 1957

Published for all Radio Amateurs interested in Radioprinter, Radiophoto and Automatic Radiotelegraphy. Subscription rate: \$3.00 for 12 issues to U. S. address or to Amateur Radio Call Sign Foreign address.

EDITOR: Clay Cool W2EBZ

W2NSD

never say die

Patronize Ham Industry

RADIO BOOKSHOP

1379 East 15th Street

Brooklyn 30, New York

ELECTRONICS & RADIO ENGINEERING

by Terman\$12.50

This is the best known radio theory book available. It is written without the usual broadside of calculus too so that you won't have any trouble applying the theory. This book is a must for anyone who really wants to learn about radio. 1078 pages.

I Libertine by K2ORS.

35¢ best selling spool of ye olde England now available for only 50¢. Not too technical 50¢

One of the original reasons for the ARTS Bulletin was to spread news and techdope on amateur RTTY when the activity was too small to warrant space in other publications. (See guest editorial, page 2.) Sure, an occasional article appeared to cover the novelty. But magazines printing 100,000 copies could not carry articles of interest to only a dozen. Hence, the first mission of the bulletin was missionary work---to get enough hams into RTTY to make our voice heard. Now that RTTY is healthy, and its voice is audible in West Hartford and Washington, we still have some missionary work---that is to increase the circulation of the bulletin to increase its size to increase its effectiveness and usefulness.

As with any young, new, and growing endeavor, there has been some dissension in the ranks of RTTY. Most all of this discord has been traced down to an economic basis--a very small minority of the fraternal ranks of amateur radio have a greater love for money than for ethics. Unfortunately, a paid fifth-columnist in a national magazine (not QST) has been sowing discord in the ranks of the fraternity. The aim is to kill the amateur-organized and controlled distribution of TT equipment to amateurs, in order to throw the field wide open to those greedy few who see a chance to make a large profit as middle men, who wish to advertize loudly "PATRONIZE HAM INDUSTRY, BUB." The BUB is freely translated into American as "sucker." By trying to kill the goose that is laying the golden eggs, these greedy few can only bring about the pre-1948, pre-ARTS era of NO USED TT GEAR being released to amateurs. Do you want the used gear to again go under the sledgehammer, and start paying \$1200.00 (minimum) for a printer? For airing dirty linen before the public instead of through properly organized channels of this organization, this fifth-columnist has earned the dishonor of being the first to be expelled from the Society, for actions detrimental to the society.

DO NOT MISS THE NEXT SPECIAL ISSUE. The next issue will cover the Fourth Annual New York RTTY Dinner, with pictures of those attending and an amateur biography of each. The next issue will also contain dope on METEOR SCATTER RTTY, BASIC FM PRINCIPLES, and the index for ARTS bulletins 37 through 48. SUBSCRIBE

We acknowledge that some amateur-TT-dealers are ethical, perform a very useful service to the amateur for a reasonable return on their investment. These ethical dealers DO NOT knock ARTS, as they are satisfied with a reasonable profftt, therefor can co-exist with ARTS. These ethical dealers offer immediate delivery on equipment, and can guarantee the condition of the equipment. ARTS can offer a smaller cost, a few weeks wait for delivery, and can guarantee that the equipment is operable.

(continue on page 7)

Last year the editorial policy of QST was changed by the ARRL board of directors to include "more" information on RTTY. At

the 1957 board meeting, on the motion of John H. Brabb W8SPF (Great Lakes Director), the board unanimously VOTED

That the League publish in its official organ, QST, more articles on radioteletype and that technical information on radioteletype be included in the Handbook.

Bulletin #48 was my "anniversary" as editor of the ARTS Bulletin. Officially, I started as editor with #37, altho the preceding issues contained increasing amounts of my contributions. Despite "more" RTTY in QST, there is still a job for the ARTS Bulletin. Our "informal" approach permits reprinting of schematics that may have been published elsewhere but that are inaccessible for various reasons. And despite the "one chapter" coverage of RTTY in the ARRL handbook (1958), technical "handbooks" with fuller coverage will still be published by the RTTY fraternity.

Nominally, ARTS is formed as a society. When I accepted editorship of the bulletin with #37, it was only on the basis that it would not be a one-man activity. An able staff was formed: Art editor, William Auld W2DXD; Circulation manager, Andrew Stavros W2AKE; John Williams W2BFD kept himself off the official staff at the time because of his association with CQ as technical editor (since terminated), yet has been a good contributor to the bulletin. If any member gets tired of seeing "too" much of John's writings, it is that members fault for not sending in material himself for the bulletin.

Gradually the staff has disappeared, leaving Clay as editor and John as chief contributor. Bill W2DXD travels so much that we haven't heard from him very often; and Andy W2AKE has had to resign as circulation manager, after performing meritorious service beyond the call of duty, because of the pressure of other affairs.

SOFT BOUND COPIES OF ARTS BULLETINS 37 THROUGH 48, \$4.00 to ARTS members, \$8.00 to others. We are having the last 12 issues of the Bulletin soft bound with index. If you are interested, send no money now, but do send a postcard so we will know how many to have bound. The price will probably be higher for copies not reserved, as any we stock in addition are a gamble (We may have to give them away for door prizes!)

So the circulation department has been dropped on the editor. And RTTY boys must surely have the itch, as their QTH jumps keep ye editor busy sending out for new stencils. Each new subscriber, renewal, or change of address requires a "GI" checkoff list of EIGHT items. When you jump, please send in new QTH. If we have to wait for the PO form 3547, it costs us \$0.05, and you have lost a bulletin destroyed by the PO department.

So, to take the load off the editor, can anyone volunteer for some editorial work that we can farm out? True, some many-paged national magazines (not QST) are operated with a full-time paid staff of two. But please, this being bulletin editor is supposed

to be a part-time hobby. As an active RTTYer, I am spending up to 20 hours a week on the RTTY hobby---but without some forthcoming volunteers, my RTTY activity will remain via surface- and air-physical (paper) communications instead of Herzian waves. So if you have time for some monotonous, no-pay dog work, step forward (hep, two,) and volunteer.

IS YOUR PRESENT FILE OF BULLETINS DOGEARED? Manhandled by the postoffice in transit? Full of solderburns from the work bench? Clumsily bound "looseleaf," with bolts, with wire, and unable to read the schematics in the inside margin? Reserve your bound copy now. They open flat so you see all of the schematic! The last twelve bulletins are available separately and cost (to members) would be \$3.00. Reserve yours ready-bound now for \$4. This is 170 pages of useful and historical RTTY information. To non-members, cost will be \$8.00. (Bound volume is indexed.)

(continued from page 5)

The unethical dealers are knocking ARTS, as they cannot co-exist (charge enormous profits) with the at-cost basis of ARTS-distributed equipment.

We must stress again: Equipment is available on waiver to amateurs for amateur use at cost. For commercial use, printers must be bought NEW from the manufacturers at \$1200-plus. If any equipment is bootlegged by amateurs into commercial channels, which can pay the profit margin desired by greedy would-be dealers, such equipment is subject to confiscation, the seller subject to prosecution, and the whole amateur fraternity will suffer---if we cannot police our own ranks through our Society, the commercial companies will not be bothered with any headache. They will just again amortize the equipment to \$0.00, and again take up the sledgehammer. To date we have been fortunate. Only most minor infractions of the waiver rules have occurred. But we must be eternally vigilant, less so many shall have to suffer so much for the greed of so few.

SECOND NARROW SHIFT PARTY MARCH 14 - 15 - 16, 1958

Make plans now for the "Narrow Shift Party" to be held over the air the weekend of March 14-15-16, 1958, when everyone is expected to use 170 cycle frequency shift keying. This is not a high pressure steam roller contest but a leisurely gathering of "tinkers." Last year with no printed publicity, eight of us got together and used it with good results. Its worth trying, especially between those B C stations on 7135-40-45-50 kc. More on this subject and preliminary tests will follow from WoBP over the RTTY nets.

---BeeP, WoBP, Minneapolis

DO YOU RECEIVE THE ARTS BULLETIN REGULARLY? IF NOT, JOIN NOW

Do not miss the special bulletins in the making. Special issues will cover such subjects as WEATHER FACSIMILE CD
MARS AUTOMATIC MORSE

**TELEPRINTER EQUIPMENT FOR IMMEDIATE DELIVERY
FOR SALE TO AMATEURS FOR AMATEUR USE ONLY**

Waiver required for printers and perforators. All equipment is tested. Prices include packing charges. Money promptly refunded for items out of stock.

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215A xclnt condx . . . \$4.75
 228A 3.25
 255A xclnt condx . . . 5.75
 209FB xclnt condx . . 5.75
 D91711 xclnt condx . . 5.75
 Socket for 215/255, new 1.00

MODEL 14

Typing reperforator (price depends on condition)
 Typing unit, sync motor 50.00
 Keyboard 35.00
 Printer cover 20.00
 Motor, 115 vac
 sync w/base 25.00
 Motor, ac governed, used 5.00

MODEL 12 typing unit,
 115vac sync motor . . 20.00

MODEL 15

Complete, w/sync motor 245.00
 Typing unit, w/base
 xclnt condx. 162.00
 Keyboard 37.00
 Base, w/sync motor . . 65.00
 Printer cover 31.00
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 w/ base 25.00
 Motor, ac governed,
 w/lamp & switch, new 10.00

MULTIPLEX auto-control
 1-A w/jack base . . . 5.00

PAPER TAPE

For 14 and 19 reperforator, oiled, 10 rolls \$2.50
 For 14 and 400 printers, 10 rolls 2.50
TRANSMITTER-DISTRIBUTOR, w/ sync motor, xclnt codx . . . 150.00

TABLE for 15 or 26 . . \$10.00

MODEL 19

Complete, w/sync motor
 and table 600.00
 Keyboard perforator. . 125.00

MODEL 24A or 24B tape
 transmitter 20.00

MODEL 26

Complete, w/sync motor
 and table (NYC deliv-
 ery only) 75.00

Keyboard 35.00

Typing unit, w/sync
 motor 40.00

Printer cover 10.00

Motor, 115vac sync . . 22.00

MODEL 400 tape printer,
 w/ sync motor 35.00

TAPE PERFORATOR, 5-unit
 code, complete w/ tape
 cover, end-of-line indi-
 cator, paper holder,
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PARTS, good used, 50% discount.

New, 30% discount from list.

Parts for Models 1-A, 1-B,
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 19, 20, 24, 24-A, 26, TD,
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MUCH EQUIPMENT not listed.

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R T T Y T O O K I N A W A

Dec. 29, 1957: For the past few weeks "Cas" KR6AK in Okinawa and BeeP WoBP Minneapolis have been knocking themselves out with RTTY schedules and buklding. Forty meters met with some success about sunrise USA and several California stations have made contact at 0200Z lately. Fifteen meters, high in the CW portion but just below the novices, seems best, specifically 21,095 kc from late afternoon thru mid-evening. "Cas" fires up during his noon hour which is 0300-0345Z. Sigs were mostly in the noise level until Bruce ZLlWB lashed a 3-element beam up 80 ft at WoBP, tied on 300 ft of coax, and pointed the beam toward Alaska-Japan-Okinawa. Then sigs came up 3 S-units above the noise.

"Cas" at KR6AK is looking for more contacts. Last night he said, "How about the east coast gang? I have not heard any of them try to break thru our schedules. Would like to hear from some of them for a change... Not that I am getting tired of our testing but I thought that they might want to get a report before I go home." ---BeeP, WoBP, Minneapolis

ADVERTISING RATES

This publication reaches a large percentage of the active amateurs interested in radioteletype, facsimile, and automatic telegraphy in the United States and Canada. If your products are of interest, and the prices are right, our advertisements are quite effective: Recent advertisements show an advertising cost of 1% of the resultant sales! Advertising rates on request.

Bulletin of the Amateur Radioteletype Society
443 West 47 Street, New York 36, N Y

R T T Y I N A R K A N S A S

K5KIB, Jim, Hope, Ark: ...I study Electrical Engineering at the University of Arkansas. I have done a lot of corresponding with Merrill over the past 3 years. I got interested in amateur TTY in the summer or spring of 1954; that's the first time I had ever heard there was any such thing. I didn't have my license at the time, in fact I received my call K5KIB in the spring of 1957, altho I have been fascinated by airplanes and complicated electronic equipment for a number of years and had been planning to get a ham ticket all along, but just couldn't seem to find time to study the code. I finally made it with the aid of a code machine at Fayetteville. (We operate a club station at the University, W5YM.) Back in 54 I obtained an old 21A from Paul Lemon, W5DOU. I built an electronic distributor for the thing, a la Cecil Crafts, but as yet I have never made the silly thing work, although if I ever find enough time to make the necessary adjustments to both apparatuses (apparati?) I still feel confident it will eventually work..maybe.

The 21A migrated to Fayetteville with me and was sporadically worked on by wads and wads of engineers with no apparent success

until last spring when it really paid off. You may have heard that Teletype Corporation is putting in a new plant in Little Rock. Some of their engineers toured our place a few months back to see what the prospects were of capturing a sizable part of the engineering graduating classes, and it just happened we had the old thing sitting out working on it when they came thru. They recognized the beast, but did not offer to fix it; however as they were leaving they dropped a catalog in the office and told us to write our own ticket, which we did. I just recently talked to Walt, W5VKE, who is my boss professor and trustee of the club, and he tells me that a shipment of about \$5000 worth has come in, containing Model 28, tape gear, everything.

The reason for all this preamble is to get the RTTY history of this state, as I know it, on the record, and to set the stage for what is to follow. It seems that so far I haven't been able to sell anybody in our club on TTY, but I think all this fine equipment will turn the trick. I seem to be the only one who thinks he knows what he is doing around the machinery, so it looks like I will be all up to my work in ears to get it put on the air and working properly, which will probably mean screams for help to both you and the West Coast group, maybe even the BoBeePs. So far as I know there has been little or no RTTY activity in Arkansas, but the new plant in Little Rock together with the fine gear at the head shed on the hill should, if I can do enough pushing, make this state a new RTTY center. That's not a promise, just a hope, but we will try. Maybe have a convention at the TTY Corp plant sometime.

I've been working for Klipsch and Associates, the loudspeaker outfit, which is located here in my home town (Hope). I received the 435c fork and sounded it to John Eargle, our musician, and he voiced the opinion that it was a little flat. Telling the difference between 435 and 440 cycles early in the morning is almost 1% accuracy, so I guess he is pretty good.

The gear at Fayetteville (W5YM) is a Model 28 with keyboard, a Model 14 typing reperf with keyboard and table, and a perforator and transmitter-distributor on another table.

INDEX OF ARTS BULLETINS 37 THROUGH 48 will appear in the next issue of the Bulletin. Subscribe now to be sure of receiving this special issue, which will cover the 1958 Annual New York RTTY Dinner, meteor scatter RTTY, basic FM principles. This special issue will cost non-members \$1.50. SUBSCRIBE now to insure getting your copy and following copies of the Bulletin.

W9IEE IS IN THE MARKET for a good converter (not junk, not \$500) to operate his Model 15. Hugh Morris W9IEE, 1727 N. Meridian St, Indianapolis 8, Ind.

ANYONE INTERESTED IN A MODEL 12 with 300 ma selenium supply (includes 50 watt isolation xmfr) single space gear, ribbon oscillator, etc (converter not included). Norman Krohne, W9SKF, 1341 S. 88th St, West Allis 14, Wis.



F E E L T H E N E E D L E ?

A S YOU READ THIS you will find your self becoming wide awake. Your eyes are opening, your head is clear . . . clear . . . clear . . . you can no longer stay asleep. Your left eye wants to stay closed, but you can't keep it closed even tho you are tired. No matter how hard you try you can't remain asleep. Just stretch and exercise. You have been intending to send for a subscription to ARTS for a long . . . long . . . long time. In a few minutes you will feel completely refreshed, alive, and eager to get the thing done. You will have a controllable desire to send in a subscription to ARTS. This won't be more important than anything else to you. You will surely remember reading this paragraph, with strong distaste. You will reach for your check book, send in your subscription, and remain awake. PS: Make it for \$3 (12 issues) or \$6 (for 24) payable to ARTS.

W1TU, Edgar, Penacook, N H: Wonder if you would advise me if it is possible to obtain any of the older issues of the bulletins and if so, how and what the cost would be for same.

(Back issues are available from #34. Cost is 25¢ each to ARTS members, 75¢ to others. Members do not need to send money, we will just subtract any back issues you need from the end of your subscription, and you will just receive a renewal notice sooner.)

W2CXY Walt Morrison, Chatham NJ is playing with Morse tape gear.

W2GHH/K3BYA, Kern Bowyer has finished college and is eith E. I. du Pont de Nemours Co in Wilmington, Del. Kern still operates 2M RTTY in New York on most weekends. His gear is at the Bronxville Amateur Radio Society in Bronxville, N Y and is on auto-start every hour 24 hours a day on 147.96 Mc.

W4ORB, Don, Orlando, Fla: Please renew my subscription... Sure do appreciate your "tech" articles and equipment lists.

K4KKZ: Do you have any manuals available on Receiver Adaptors FS-#C1 ZA/CAN 9367 AM REF 110D/1167 made by RCA Victor Co Ltd? Ches Watkins, PO Box 268, Fort Pierce, Fla. (Who can help?. Ed)

W4TLA, Rocky Mount, N C has his eye on either a 15 or a 26.

W8IJV Warren Bauer, Columbus 2, Ohio is interested in automatic Morse and facsimile.

W8MGQ, George, Detroit has a 26 and is converting FRA converter.

W9SKF, Norman Krohne, West Allis, Wis: Activity for me has been extremely nil. No excuses tho. Have managed to put lights in the 26, build up a 14 typing reperf from a basic 14 printer, get two fellows on RTTY locally, another one started, adapt the W2BFD converter for use with the 26, lay sod in front and back yards, buy a used 55 Nash Rambler, install mobile gear in same, help a fellow in theory and code so's he could go for his general, see W9TCJ three times, write the usual newspaper blurbs for the radio club, get myself transferred to new job, answer numerous technical questions by landline, and now---maybe I will get to work finishing the exciter I started two years ago. Plan to save enuff sheckles to purchase a keyboard base for the 14 typing reperf, after the Christmas depletion. Worked out a fairly cheap substitute for the latching relay used in the break on bell system. W9TCJ has it installed (the system) and gave us a demonstration on one of our visits to him. Certainly is impressive as well as extremely useful. Anyone passing this mode of operation is missing half the fun. Of course, it cannot be used successfully on round tables.

WANTED TO BUY: TM11-680 TT Fundamentals. We sold several 100 for \$1, now want to buy some back at \$2 to pass along to those who need them. Can you pass yours along? (Indicate if you will take \$2 subscription credit to save handling small checks.)
***Editor, ARTS Bulletin, 443 W 47 St, New York 36, N Y

AFoDEL/WoDEL, Wilbur Goll, Shawnee, Kans: ...enclosed check to cover the next 12 issues... As I have all the bulletins going back to the middle of 1951, I would not like to miss a single issue.

WoEZK, Newton, Kans: Would like to have any recent news releases on equipment available, especially would like to know if there is possibility of any Model 14 Reperforators showing up? I have been very well satisfied with the equipment that you have handled for me and have been using it actively, in CD and other activities. (14 Reperfs are scarce as hens teeth. Most of them in amateur hands have been rebuilt from 14 tape printers. Write W9GRW Ray Morrison, who has been rebuilding some.)

WoSCT: Has anyone thought of RTTY Braille printers for those fellows who are blind? Les. (Heard rumors, no dope yet. Ed.)

WoVPY Doc, Atchison, Kans: ...enter my subscription for ARTS and send back issues starting with #34. Thanks for your nice letter and getting the information on equipment to me. ...am planning to purchase equipment thru your society.

\$ MODEL 15 TYPING UNITS!

ARTS members on the Society's long waiting list for those elusive Model 15 Teletype machines will be bowled over by this one! From one of the still-uncontracted companies, furnishing equipment on verbal agreement only, has come a sudden release of the precious gear. The first lot contained only the tables, covers, keyboards and bases for 78 Model 15 printers. While we, here at RTTY headquarters, were recovering from the shock a collection of 15-style typing units were offered to us on open bid. There were 51 pieces in the lot offered so, apparently, 27 of the units were either destroyed or fell into commercial hands. Now get set for the BIG news! Through your Society's company "contacts" we received a tip-off on what they would consider a suitable bid. RTTY headquarters offered the fantastic sum of \$ each for these completely overhauled typing units and sat back breathlessly to wait. Six days later we had their letter saying "let's have your check, then come and get them". What with the trucking and expense of temporary storage a couple of dollars has been added to the cost. The first 51 names on our waiting list will have a \$26 refund credited to them on the typing units. The tables, covers, bases and keyboards were obtained at the standard figure. The remaining 27 members will not receive typing units until the next release. We shall bid the same \$ figure on future lots from this source but we have no assurance, of course, that we will always get them at this price. Those that prefer a cash refund of the \$26 to a credit should write RTTY head offices at Woodside, N. Y.

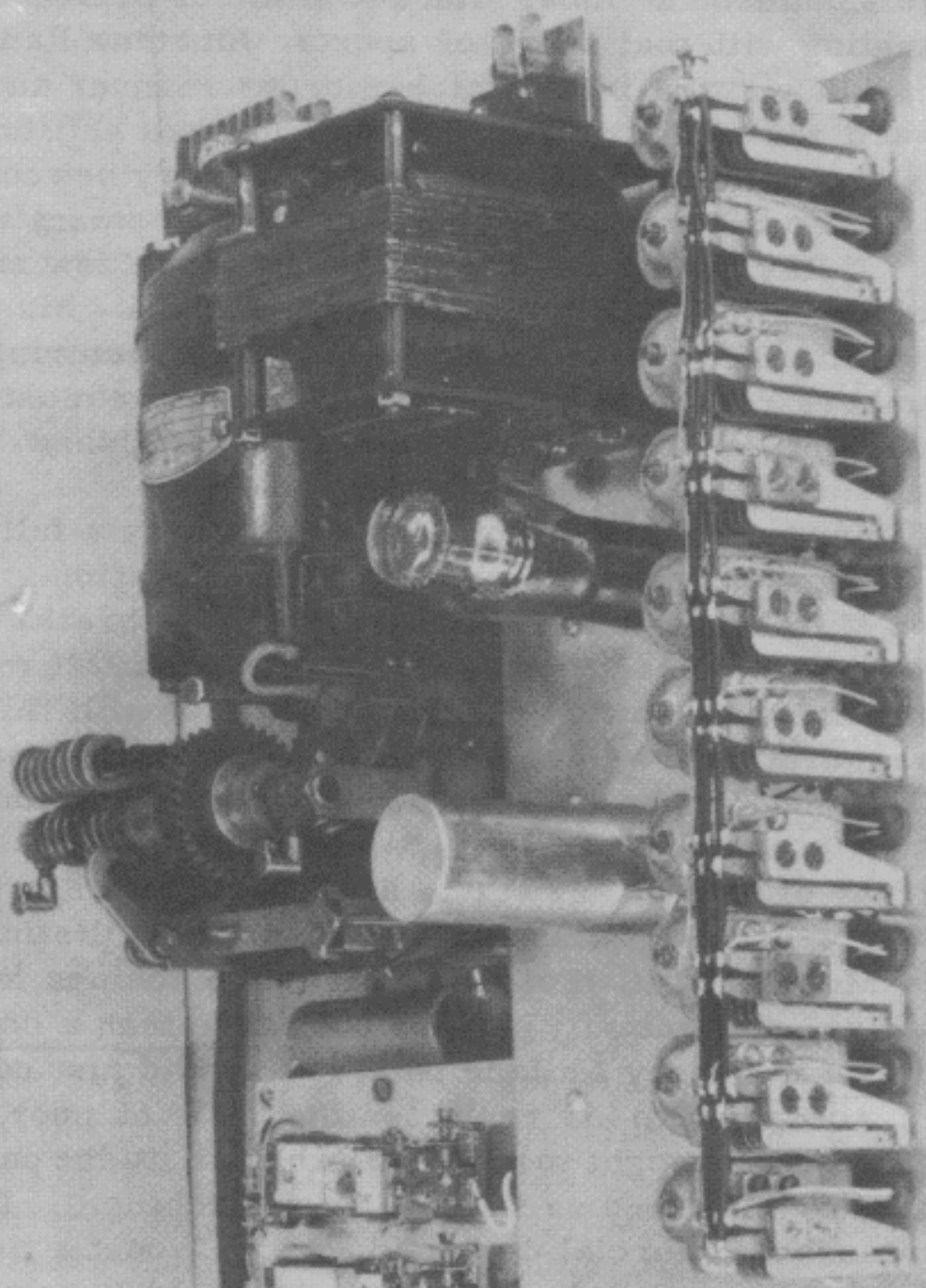
While on the subject of writing we would like to get the following off our chests:- Please do not send ARTS Bulletin subscriptions or renewals to ARTS headquarters unless they are being included with other mail. Subscriptions and renewals should be sent to our Bulletin editorial office at the West 47th Street QTH. Likewise, to prevent confusion, need for re-mailing, delay to you and an additional burden on the overworked Bulletin staff, all correspondence relating to the procurement of equipment at cost should go directly to the Society's National Headquarters at 38-06 61st Street, Woodside 77, New York.

27 perforated tape Transmitter-Distributor units have been released and are available to members on a first-come-first-served basis. If you need tape equipment this is your opportunity. They are all Model 14 instruments (A, B and C versions, representing insignificant variations) and are furnished with AC synchronous motors. The wire company provides these units at \$58 each, which includes packing for shipment. The Model 14 Transmitter-Distributor combines, on a single base, a tape transmitter for 5-hole standard 11/16" wide tape and a start-stop motor-driven distributor. A "tight-tape" control is built in and some have a "blank-tape" auto-stop feature.

UNCONVENTIONAL USES OF TELEPRINTER GEAR

Even though our principal interest is radioteletype communication between amateurs so many thought-provoking ideas have been advanced and tried where printing telegraph apparatus has found usefulness in other fields. Surely there must be few among our members who are unaware of the use that is being made of teletype perforated-tape equipment to feed information into electronic "brains". On some computers information is typed in on teleprinter keyboards and "read" out to teletypewriters. A more recent innovation is to locate massive, terribly complex and enormously expensive computers in convenient locations and "pipe" the information to be processed to these computers over telegraph or telephone wires, again making use of perforated tape for maximizing speed of transmission. By the use of such computer "centrals" a large number of organizations may share in the services of a single "brain". Only printer and tape equipment is required at the remote locations. It is our intention to bring you, from time to time, news of such "off the beaten track" applications of mechanized telegraph instruments.

A definitely "offbeat" but worthwhile adaptation of RTTY gear has just been completed by W2BFD, our Secretary. The "old maestro" was approached by Dr. S. Steven Brodie, of the Department of Radiation Therapy of New York City's Bellevue Hospital, to aid in the development of special equipment to be used in the calculation of the dosage in the treatment of cancer by irradiation. Because the same rays which destroy cancerous tissue will also damage healthy cells if a certain critical dosage is exceeded, a special technique is involved in the treatment of each patient. A "dummy" of the portion of the human body which is to receive the treatment is constructed in a tank and is "explored" or scanned by a probe containing a miniature ionization chamber. The "dummy" is constructed of materials having the same absorption of radiation as the actual body organs involved. While the "dummy" is irradiated a servomechanism causes a chart board to follow the motions of the exploring probe as it "reads" the radiation intensity layer by layer. The curves drawn on the chart give a three-dimensional picture of the probe's travels. The minute signal, proportional to radiation intensity, at the output of the ionization chamber in the probe is amplified to a high level by means of a technique developed by Dr. Brodie. A system of relays "translates" the varying output signal from the amplifier into a coded teletype character which is printed on the chart at the proper point by the typewheel of a modified tape printer. Thus the chart indicates the position in three dimensions and the intensity at that point. Formerly an attendant was required to enter this information on the graph paper chart. The photograph shows the coding-relay assembly and its associated teletypewriter automatic pulse-transmitting distributor.



one - GM Ray had plenty of headaches. For the sake of brevity in the magazine article he did not complete the picture of his

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Raymond De Vos, W2TAM, has written an extremely interesting article starting on page 38 of November "CQ" magazine. This article should be a "must" for any amateur seriously considering tangling with that sport-of-sports, **Amateur Radioteletype**. Although written in a semi-humorous manner and often leaning toward the melodramatic, the author has skillfully led his readers to see the pitfalls awaiting the unwary newcomer in attempting to secure "bargain" teletypewriter equipment and accessories. If Ray has succeeded in sparing just a few amateur heartbreaks - and just a few hard-earned dollars - his labors are not in vain. RTTY Headquarters has been lecturing prospective members regarding these same dangers for most of the 10-1/2 years since W2BFD, our Secretary, established RTTY.

W2TAM joined Amateur Radioteletype Society as a full member by the filing of a notarized membership application - waiver document on March 13th last. What a lot of heartbreaks to jam into the short span of seven months! To substantiate member De Vos's statements - so that none of you fellows will think him guilty of exaggeration - we dug out the headquarters dossier on W2TAM. We found ample corroboration in his correspondence.

By the irony of fate, in answer to Ray's first letter to the Society, he was sent ARTS Bulletin-Letter #466-A, listing a lot of complete Model 26 AC-motored Teletype machines for \$42, including tables, conveniently stored not more than a couple of miles from him in nearby Philadelphia. Ray had just committed himself, according to his reply, on the basis of poor advice from an RTTYer who ought to have known better, to the purchase of what his letter informed us was his first machine. It came from an amateur-commercial dealer in _____, cost a tidy sum to ship and came to over twice the price he would have paid for the machine in adjacent Philadelphia. But W2TAM's grief was just beginning to pile up! Amateur Radioteletype Society never had the opportunity of securing teleprinter equipment for him. Our Trenton, N. J. friend was bedazzled by a bulletin-advertisement, - this time from an amateur-commercial dealer operating from _____ offering him a military surplus FSK converter. Ray wrote the Society for the full "low-down" on this unit. It was obvious that W2TAM was expecting too much from this war-weary device, and RTTY headquarters advised him of this in our reply. The poor chap was obviously mesmerized - as the CQ article tells you, he decided to buy it anyhow! Talk about looking for trouble - when his printer finally showed up - we are talking about the second one - OM Ray had plenty of headaches. For the sake of brevity in the magazine article he did not complete the picture of his

nightmare. Reams of correspondence were exchanged between ARTS headquarters and our unhappy friend before he could get his unfortunate purchase straightened out. There cannot be the slightest doubt that the commercial advertisements had him bug-eyed - our letter of April 13th advised him against using a polar relay yet, according to the recounting of his woe in "CQ", he succumbed to the lure. Yes, amigos! W2TAM bought the relays.

Now we have been rambling along, fascinated by W2TAM's problems, but there is obviously a moral in all this. We have no way of dividing the responsibility for this member's troubles; what part was due to his own impetuosity and disregard of the ARTS technical counseling and what part due to receiving inaccurate "outside" advice. According to Raymond's letters, most of this outside advice came from the RTTY columnist of a prominent amateur radio magazine. Tsk! Tsk! (NOT QST Ed.)

Prospective RTTYers are indebted to Wayne Green, W2NSD, Editor of "CQ" magazine and, by the way, past Editor of this ARTS Bulletin you are reading, for his publication of this type of article. As Wayne has often said when he was the bulletin editor - If you need technical advice on RTTY or wish to procure teletypewriter equipment on a non-commercial basis WRITE to Amateur Radioteletype Society. Our headquarters office for equipment and problems is 38-06 61st St., Woodside 77, N. Y.

ANNOUNCEMENT

In answer to questions by our members and to eliminate the confusion apparently existing, Amateur Radioteletype Society - VHF Teletype Society and its official organ, "ARTS BULLETIN" wish to make it known that the commercial paid advertisements of Felix Esteban, W2ZKV, which have appeared recently in the pages of this bulletin do not constitute an endorsement, either by the Society or the Bulletin, of this advertiser or the equipment offered for sale. We disclaim all responsibility for the accuracy of statements made by these commercial advertisers.

Equipment obtained through the Society by W2ZKV in the past was made available to him at cost on the same non-profit basis to which all our members have access by writing directly to the Society's headquarters at 38-06 61st Street, Woodside 77, N. Y. These items, when resold, require the same "Waivers of Commercial Intent" demanded by most of the originating companies. Please be advised that there is no "business" connection between Mr. Felix Esteban and our RTTY Society or the ARTS Bulletin.

Guest Editorial: NEVER SAY DIE

Some slight introduction is probably in order since this issue of the ARTS Bulletin will be pretty widely read and may well wander into the hands of someone newly interested in our branch of the strange amateur radio hobby.

This radioteletype thing started soon after the last war with the experiments of John Williams, W2BFD. In order for him to get the two or three Teletype printers he wanted to play with locally he had to set up the Society. His doings on two meters raised considerable interest from other local amateurs and before long he was in the business (non-profit) of procuring machines for quite a few locals. Publicity and the article in the November 1946 CQ spread the word. To date I believe that John has procured something over 2500 printers for fellows all over the country. For the latest list of equipment available drop a line to the VHF Teletype Society, 38-06 61 Street, Woodside 77, N. Y. I recently bought two more printers from him so I know there are some available.

In 1948 I heard the strange doings on the high end of two meters and asked around about it. A few weeks later I was on the air and having a fine time working the local gang.

In 1951 I took a TV directing job in Cleveland and found to my surprise a fine Mimeograph machine sitting there. Since I had been of the opinion for some time that the one thing that TT needed to make it grow was some sort of communication medium I set right out and put

the first issue of the Bulletin together. The first issue went out to the sixty fellows that I knew were interested. By the next month my mailing list had grown to over 400! The Bulletin came out every month regularly until January 1954, when business began to interfere with pleasure.

The Bulletin has, I believe, been serving its purpose. Interest in TT is now at an all time high. We have managed to get FCC approval for low frequency operation (and narrow shift). There are about 2000 subscribers to the Bulletin. Today we have considerable activity on most amateur bands. Probably almost half of the active TT stations are on two meters. Around New York the two meter nets have worked so well that few have had an incentive to fight the QRM, TVI, etc., that goes with low frequency operation. A reasonable estimate of the number of active stations is over 400.

In December 1951 I started a bi-monthly column in CQ in order to explain and sell amateur Teletype. This column I continued until I ran out of the time necessary to write it. The editorship of CQ I accepted in January 1955 just about removed the last spare time that I had been squandering on such things as this Bulletin, ham radio, horseback riding, girls.

RTTY is a very complex subject. So, if you are to hold your head up high in the company of friends you will have to be plenty hep. We have it fixed so the only way you can be hep on TT is to subscribe to this Bulletin. Send \$3.00 now for the next years worth of ARTS.

---Wayne Green, W2NSD

SUBJECT:- NEW STANDARD RTTY FREQUENCY AND TEST MESSAGE RECORDINGS

SINCE THE FOUNDING OF THE SOCIETY IN 1946, PHONOGRAPH DISC RECORDINGS HAVE BEEN AVAILABLE TO OUR MEMBERS CONTAINING STANDARD AMATEUR RADIO-TELETYPE FREQUENCIES ON ONE SIDE AND AFSK PRINTER TEST SIGNALS ON THE OTHER (USING THE METHOD DEvised BY OUR FOUNDER, W2BFD)

WITH THE ADVENT OF WIRE RECORDING OF SOUND YOUR SOCIETY BEGAN, IN 1948, TO SUPPLY WEBSTER SPOOLS CONTAINING THE SAME SIGNALS. IN 1950 SOUND TAPE RECORDINGS WERE ADDED. THESE LATTER ARE AVAILABLE IN 3-3/4 AND 7-1/2 INCHES-PER-SECOND TAPE SPEEDS.

MOST OF OUR MEMBERS ARE FAMILIAR WITH THE W2BFD SYSTEM, WHICH IS TO RECORD AT A LEVEL SUFFICIENTLY HIGH TO SATURATE THE TAPE OR WIRE. BY SATURATION THE SIGNAL AMPLITUDE VARIATIONS IN PLAYBACK ARE MINIMIZED. UPON PLAYBACK THE AUDIO LEVEL FED INTO THE CONVERTER OR TERMINAL UNIT IS MADE FROM TEN TO ONE HUNDRED TIMES THAT WHICH IS JUST ABLE TO PRINT CORRECTLY. THESE RECORDED SIGNALS ARE EXCELLENT FOR CHECKING THE EFFECTIVENESS OF "LIMITING" IN THE FSK-AFSK ELECTRONIC EQUIPMENT.

STANDARD FREQUENCIES RECORDED ARE AS FOLLOWS:- 2125 (MARK), 2975 (SPACE), AND 440 CYCLES PER SECOND. RTTY HEADQUARTERS IN WOODSIDE, N.Y. MAINTAINS A VERY ACCURATE SET OF ELECTRONIC TUNING FORK SIGNAL GENERATORS. THESE DELIVER A FREQUENCY OF 425 CYCLES, PLUS OR MINUS 1/10 CYCLE OR BETTER. 425 CYCLES IS 1/5 THE MARKING FREQUENCY AND 1/7 THE SPACING FREQUENCY. IT IS ALSO PRECISELY 2-1/2 TIMES THE STANDARD 170-CYCLE NARROW-SHIFT FREQUENCY. THE 440-CYCLE RECORDING IS MADE FROM RADIO SIGNALS PICKED UP FROM BUREAU OF STANDARDS STATION "WWV". IN PLAYING BACK THE RECORDING THE ACCURACY OF THE PLAYBACK SPEED CAN BE CHECKED BY AUDIBLY COMPARING THE 440 TONE ON THE RECORDING WITH 440 CYCLES PICKED UP ON A RADIO RECEIVER. IF THE "WOW" OR BEAT THAT IS HEARD IS WITHIN A CYCLE OR TWO THE PLAYBACK PITCH SHOULD BE SUFFICIENTLY ACCURATE FOR ALIGNMENT OF FILTERS AND AFSK OSCILLATORS.

IN ALL HIS EARLY LECTURE TOURS AND EXHIBITS, BY MEANS OF WHICH HE PROMOTED THE GROWING INTEREST IN RTTY, W2BFD USED RECORDINGS TO DEMONSTRATE THE HIGH-SPEED OPERATION OF PRINTERS. HOURS OF RECORDED MATERIAL WERE PREPARED FOR THE FIRST RTTY EXHIBITS AT AN ARRL NATIONAL CONVENTION (NEW YORK 1949). THE SOCIETY HAS FURNISHED RECORDINGS FOR DEMONSTRATION OF PRINTER OPERATION AT RADIO CLUBS, HOBBY SHOWS AND NATIONAL CONVENTIONS SINCE THEN.

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A NEW SERIES OF RECORDINGS ARE NOW AVAILABLE, PREPARED WITH GREAT CARE FROM THE SOCIETY'S FREQUENCY STANDARDS. THEY CAN BE HAD BY ANY MEMBERS TO PERFORM THE JOBS OF CALIBRATION AND DEMONSTRATION. NEARLY TWO HOURS OF RECORDINGS ARE AVAILABLE IN TWO FORMS FOR \$5.00 FROM THE SOCIETY; (1) WEBSTER WIRE RECORDINGS (TWO SPOOLS) OR (2) 1200-FOOT TWIN-TRACK TAPE RECORDINGS AT 3-3/4 I.P.S. (7-1/2 I.P.S. ALSO AVAILABLE AT SAME COST UPON REQUEST).

THE FIRST SOUND TRACK (OR FIRST WIRE SPOOL) CONTAINS 65 WORD-PER-MINUTE AFSK RECORDS OF NEWS, PRESS RELEASES AND BULLETINS. THE RECORDINGS BEGIN WITH THE STANDARDIZED AUTO-START SIGNAL AND TERMINATE WITH THE AUTO-STOP SIGNAL. DEMONSTRATION OF THE AUTOMATIC STARTING, PRINTING AND STOPPING OF MACHINES IS VERY IMPRESSIVE AND HAS MADE MANY CONVERTS TO RTTY IN THE PAST TEN YEARS. THE "NEWS" RECORDING IS ALSO EXCELLENT DURING ALIGNMENT OF TERMINAL UNITS AND ADJUSTMENT OF PRINTERS.

THE SECOND SOUND TRACK (OR SPOOL) ALSO CONTAINS THE AUTO-START AND STOP AND RECORDINGS OF THE 2125 AND 2975 STANDARD FREQUENCIES. THESE ARE MADE LONG ENOUGH TO USE DIRECTLY IN ALIGNMENT, INSTEAD OF THE ORIGINAL METHOD OF CALIBRATING AN OSCILLATOR FROM THE TAPE, WITH WHICH TO PERFORM THE ACTUAL CALIBRATION. BY THE ELIMINATION OF THE INTERMEDIATE STEP THE CALIBRATION ACCURACY IS BETTER. FOLLOWING THE STANDARD FREQUENCIES IS A SERIES OF RYRYRYRYRY TRANSMISSIONS FOR CHECKING BIAS AND DISTORTION IN THE TELEPRINTER AND CONVERTER. IN ADDITION THERE ARE MANY LINES OF "THE QUICK BROWN FOX" FOR CHECKING PRINTER ACCURACY. SIGNALS ARE INCLUDED FOR ESTABLISHING THE CORRECTNESS OF PRINTER SPEED. IF THE RECORDING IS INTENDED FOR PRINTER DEMONSTRATION ONLY THE SOCIETY CAN SUPPLY SPOOLS CONTAINING NEWS AND PRESS RELEASES ON THE SECOND HOUR ALSO.

Amateur Radio - Teletype Society

4 4 3 WEST 4 7 STREET
NEW YORK 36, N Y

FORM 3547 REQUESTED



W5YM
U of Ark
Radio Club
Room 309 Engg Bldg
Fayetteville
Ark.

IF YOU PLAN ANY FORM OF PUBLIC DEMONSTRATION, CLUB LECTURE, OR HOBBY SHOW EXHIBIT OF RADIOTELETYPE IT IS HIGHLY ADVISEABLE TO EMPLOY ONE OF THESE RECORDINGS AS A SOURCE OF SIGNALS. PAYMENT SHOULD BE MADE, BY CHECK OR MONEY ORDER, (PAYABLE TO:- AMATEUR RADIOTELETYPE SOCIETY) MAILED TO THE SOCIETY'S NATIONAL HEADQUARTERS AT 38-06 61ST STREET, WOODSIDE 77, N.Y.

ONE-HOUR RECORDINGS IN PERFORATED OILED-PAPER TAPE OF THE NEWS AND BULLETIN MATERIAL USED IN THE ABOVE-MENTIONED SOUND TAPES, ARE AVAILABLE FOR \$1.50.

DATA PACKAGE ARTT-6091 IS NOW AVAILABLE FOR \$3, DEALING WITH THE CONSTRUCTION AND CALIBRATION OF MECHANICAL OSCILLATORS AS STANDARD RTTY FREQUENCY GENERATORS.

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COPIES OF THE PIONEER BULLETINS, PUBLISHED BY THE SOCIETY BETWEEN 1946 AND 1951, COLLECTED UNDER A SINGLE COVER AND REDUCED IN THE PRINTING PROCESS TO THE SAME SIZE AS OUR PRESENT-DAY NATIONAL "A.R.T.S. BULLETIN", ARE AVAILABLE FOR \$2 FROM WOODSIDE HEADQUARTERS. THIS IS THE FIRST OF THE FOUR SERIES OF BULLETINS PUBLISHED BY YOUR SOCIETY. THE "PIONEER BULLETIN MANUAL" (REQUEST "ARTT-6078" IN ORDERING) IS A "MUST" FOR MEMBERS WHO ENTERED RTTY AFTER 1948, SINCE THE WORKING OUT OF THE VARIOUS STANDARDS OF OPERATION, DETAILS ON THE CONVERTERS AND CONSTRUCTION OF THE FILTERS ETC., PLUS "SCADS" OF OTHER INTERESTING AND PERTINENT DATA ARE CONTAINED IN THIS VOLUME. BETTER GET YOUR COPY BEFORE OUR SUPPLY IS EXHAUSTED.

ARTS 49-20