RTTY

NEWS OF AMATEUR RTTY

MARCH, 1957
25 Cents
Vol. 5, No. 3

SPECIAL MID WEST ISSUE

W ØBP

HORSE TRADES

This page of the Bulletin is for use of amateurs who have RTTY EQUIPMENT FOR SALE OR TRADE and those looking for equipment to buy or trade. It is a free service and may be the means of getting someone on the air.

WANTED—Model 14 perforator, or 14 keyboard perf ..... WØDNW

WANTED—Terminal unit, AF type. Any cmcl- or home made variety W2TAM

WANTED—1-A tape head W9LDH

WANTED—RTTY, Feb., Aug., Sept-, Nov., 1953 ..... W7JVN

FOR SALE—Parts and repairs for RTTY gear W9GRW

FOR SALE—Model 12 with extra non sync and vacuum tube keyer W8DXM

TRADE—Gonset 2 meter communicator for 26 with table W4BUZ

FOR SALE—Model 12 (AC) with stand W7FNA

WANTED—Tape equipment, tape perf or typing reperf W6NKP

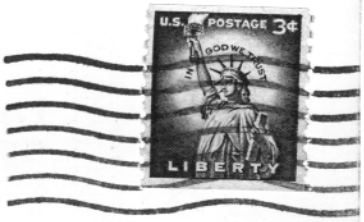
FOR SALE—Terminal Unit for RTTY K6KHS

WANTED—Keyboard for model 14 ..... W5JBW

FOR SALE—Type pallet Ø for model 26 $1.35 with keytop. Parts and repairs for RTTY gear W9GRW

RTTY, Inc.
372 WEST WARREN WAY
Arcadia, California

Return Postage Guaranteed



COVER PHOTO

Cover photograph is WØBP, Minneapolis, Minn.

Right side shows latest teletype Model 28 console printer, VFO is at rear. Relay rack to left of console contains - top to bottom - monitor speaker, panadapter on side with scope rotated 90 degrees, M/S transistor audio oscillator (Nov. '56 RTTY), WØHZR type high speed tuning indicator (Nov. '54 & Jan. '56 CQ) made from old 5" radar, 75A-4 receiver with mechanical filters for 800-1200-1300 cps band widths, key switches for control of transmitters seen thru sloping glass windows in next room, Terminal Unit (containing band pass filters, limiters, M/S Gates filters, diodes, DC amplifiers, and noise balanced polar relay), and at bottom is keyer unit with self-shorting jacks for plugging in various printers and tape gear. Middle machine is Model 15 at co-pilot seat. Left rack contains Conelrad receiver, 850/170 cycle shift converter (Dec. '55 CQ), BC-779 superpro, and more narrow shift and diversity gear. At far left is seen Model 26 printer and controls. In left foreground is table on casters and cable to Model 14 typing reperforator (with back space "erase") feeding Model 14 Transmitter-Distributor which also takes tape from the chad perf-reperf on lower shelf. Not shown is second transmitter VFO behind the 15, nor two meter gear or frequency measuring equipment occupying opposite side of room.

WØBP transmitter room contains many antiques. Pyrex bowl lead-out insulator is from Ed Johnson, Waseca, Minn., a college classmate of BeeP. Lighting switch is Wireless Specialty Co. pre-WW I vintage. BeeP himself signed "BP" in 1911 before there were

(Continued on page 12)

ARMED FORCES DAY PROGRAM

Radioteletypewriter
Receiving Competition

A radioteletypewriter (RATT) receiving competition will feature a special joint message from the Chief Signal Officer, U. S. Army; Director, Naval Communications; and the Director of Communications, U. S. Air Force A letter of acknowledgment will be sent to each amateur participant who submits a copy made from the radioteletypewriter transmission of this message. Transmission will be at 60 words per minute on the following schedule:

Time (18 May 1957)	*Call Sign*	*Frequency (KCS)*
190330Z (2230-EST)	WAR (Washington, D.C.)	3347
	NDC (Norfolk, Va.)	7375
	AIR (Washington, D.C.)	7915
190330Z (2130-CST)	NDS (Great Lakes, Ill.)	7375
	NDF (New Orleans, La.)	7375
	A5USA (Fort Sam Houston, Tex.)	5302.5
190330Z	NDW2 (Salt Lake City, Utah)	7375
190330Z (1930-PST)	NDW (Treasure Island, Calif.)	7375
	AF6AIR (Hamilton AFB, Calif.)	7832.5
	A6USA (Army Radio SanFran.,Cal.)	6997.5

(Continued on Page 15)

"RATS" of Twin Cities and Vicinity
Front Row, seated, left to right, 1957 Officers: Bruce WØHZR "Lazy Dog"; BeeP WØBP "Quick Brown Fox"; Harold WØLFI "R Y".
Standing, left to right: Josh WØSJL Hopkins, Minn.; Otis WØDFP Big Lake, Minn.; John WØQKA Mankato, Minn.; Bob WØSV St. Cloud, Minn.; Emil (W.U.) Minneapolis; Phil WØJHS Champlin, Minn.; Harry WØKKP Minneapolis; Bob WØAUS St. Paul, Minn.; Clete WØRWF Minneapolis; Bob WØRVO St. Cloud (Official Photographer).

"RATS"

The Radio Amateur Teletypists Society of the Twin Cities area is pleased to contribute some copy and photos. Much of this is random selection of material discussed and demonstrated at our monthly meetings.

In the interest of possible formation of similar groups elsewhere, a few words about the RATS may be of interest. For three years we were just a handful of hams that got together at intervals and discussed RTTY problems, new gear, publications, and it was more like a study group. Before that, Bruce WØHZR corresponded with John W2BFD. Then the unpleasentness in Korea called Bruce and he sold his Model 12 to BeeP WØBP, who made the first local contact using make-and-break on Nov. 20, 1950 with George WØHFU who had returned from the west with a liberated 15. (First words were not the historic Morse classic "What Hath God Wrought", but "HOWNELL DO YOU GET ME GEORGE".) After Bruce won the Korean conflict (in Calif.), BeeP left the area to build a new hamshack and BC station for himself, W9BP/WRRR for a couple years. RTTY has printed accounts of the RATS in issues dated June, July 1953, April 1954 and Feb. 1956 so we are not entire strangers.

RATS went high hat and drew up a one page Constitution and By-Laws in 1955;—copies of this novel document furnished on request. The presiding officer is known only as "Quick Brown Fox", his assistant who does nothing except in his absence is "Lazy Dog", and the nominal secretary is "RY". Meetings are usually the second Mon-

day of the month at WØBP where early comers paw over the gear and alleged improvements before start of festivities in the basement "RATT Hole". Minutes are simple, then any OLD business, then ANY old business, then under new business stories run rampant but the chair may declare them as old business if he has heard them before tho worthy of a reperf. Eventually members climb back up into their chairs and the room is aired out.

On the serious side, a pair of technical papers or demonstrations on diverse subjects are usually presented for each meeting. Comparing the picture this year with the one on the front cover of Feb. 1956 RTTY might indicate a 40% turnover in active membership but we believe the earlier curiosity members have been replaced by serious tinkerers, specialists, engineers and active amateurs. We are fortunate in having unofficial representatives of several highly scientific organizations, and their training in microsecond pulses could give most of us a BAUD time. Others sure know filters and circuitry. Comparison of personalities is dangerous but we can not resist memtion of old Emil Wold who is not a ham and does not own a machine. But he heads the maintenance of over two million dollars worth of machines at the W.U. automatic message distribution center in Minneapolis and has helped many of us in machine adjustments for improved range. Programs to satisfy the soul of the neophyte and not insult the intelligence of the scholar are not easy to plan. Membership is gaining steadily, some traveling many miles regularly to meetings, and the officers are gratified to be re-elected tho they feel others are capable. Perhaps the success formula contains fellowship, frivolity and facts.

One "gimmick" we have works like this: RTTY ham A brings neighboring ham B to a meeting for more dope. Members C-D-E-etc answer his questions, fire B with enthusiasm and the utter simplicity of it all (Oh what Liars!), and he leaves the meetings with two pockets full of diagrams and his car loaded with BeeP's spare 26 if not already out on loan. B builds his terminal unit with help mostly from A, orders a machine for himself and has it on the air the day it arrives. Then history repeats itself like a chain letter and the gimmick spreads like measles. Buck W6VPC says the RATS at least keep an aisle open thru his basement. Thanks Buck.

Subscription Rate $2.50 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:

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

For Traffic Net Information:
W6FLW W6IZJ

For "RTTY" Information:
W6CL W6DEO W6AEE

AUTOMATION CARRIAGE RETURN AND LINE FEED FOR THE MODEL 26

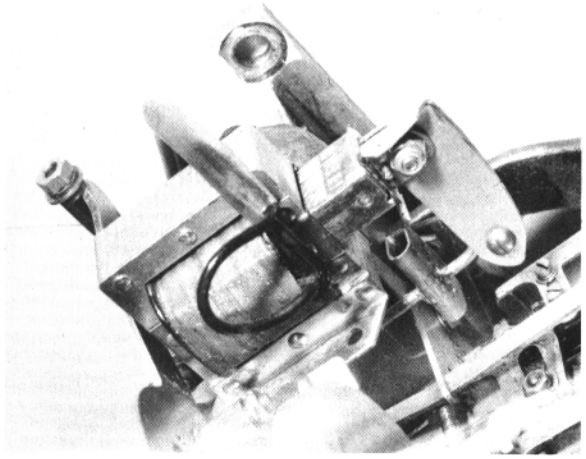
Bruce Meyer, WØHZR

Do you see black spots before your eyes ? - - - on the end of each line of copy, for instance ? Well, here is a one-day project, easily accomplished by anyone, which will provide a great deal of satisfaction by removing said black spots forever. It involves no special skills and no hard-to-get materials.

This modification to the Model 26 page printer wil permit the line-feed and carriage return functions to operate simultaneously whenever a line of typing aproaches the end of the page. This mode of operation in no way interferes with normal operation of the printer and functions admirably to prevent those dense black end-of-line characters which inform us that we have missed a carriage-return signal and an undetermined amount of information.

Materials

By way of preparation go out and beg or buy yourself an a-c linear solenoid of the type used in automatic washing machines. These generally pull not less than 3 pounds at a distance of ½ inch from closure and will hold nearly 25 lbs. with the plunger seated. A typical such solenoid has a laminated box core 2x2 inches by ¾ inches thick. The plunger is ¾ x ½ inches aproximately. An intermittent duty rating is sufficient. Also required are a 115 v a-c, 3 amp push-button switch, a foot of ⅛ inch diameter bronze brazing rod, a sheet of brass about a foot square and 1/32 to 1/16 inch thick, an 8-32 spark plug nut, and an assortment of 8-32 screws, nuts, and lockwashers. The use of bronze and brass is not essential, but it is desirable to be able to soldier these things together.



Right side view of the automatic carriage return and line feed solenoid and part of the mechanical linkage on the WØHZR Model 26 machine. Of course you might order a new Model 28 for about two kilo-dollars and get this fine feature but you would be money ahead to buy an automatic washer and just use the solenoid with the home made attachments Bruce describes.

Tools

Arm yourself with pliers, screwdriver, soldering iron, file, metal shears, tap-wrench, 8-32 tap, and a vise.

Orientation

Remove the cover from the Model 26 and examine the functions of the line-feed and carriage-return as you operate the machine from the keyboard with the power on. Note also that on the back of the machine adjacent to the hole in the cover is a lever called the carriage-return lever which may be tripped manually to return a stuck carriage (See Fig. 1). We intend to trip this same lever with the solenoid action.

Note also the line-feed bail (Fig 2) which can be rocked outward at the bottom to advance the line-feed. This also is to be actuated by the solenoid. On the frame casting on the right side of the machine, just above the braket which holds the signal bell, there is a hole in the casting. A rod pushed in this hole will operate the line-feed bail. We will make such a rod and attach it to the solenoid.

Procedure

1. Remove the two screws which hold the signal-bell mounting bracket on the frame casting. Save the screws.
2. Place the solenoid against the frame casting in the former location of the bell, aligning it with the plunger horizontal and facing the front of the printer. The rear edge of the solenoid should be flush with the rear edge of the frame casting. Locate the solenoid at the same height above the base as the push-rod hole and mark the location of two holes A & B to bolt the solenoid foot or flange to the side of the frame casting. Drill tap holes and tap 8-32.
3. Attach the solenoid to the frame using two steel 8-32 x ¼ inch round head cachine screws with shakeproof lockwashers. Do not strip the casting threads.
4. Remove the printer unit from the base. Rest it upside down on the working surface and loosten the electrical connector at the right, rear, by removing its two screws.
5. Locate and drill a screwdriver clearance hole C about ⅜ in. dia. in the location shown in Fig. 3. WARNING: Catch all metal chips in this and other operations to keep them out of the mechanism.
6. With a tap drill, reach through hole C and drill hole D of Fig. 3. Tap this hole 8-32. The screw which goes in this hole is the pivot for a crank arm.
7. Cut out the flat crank arm of Fig. 4. Round all sharp edges and drill holes E, F, and G carefully.
8. Solder or swage a thick brass nut above hole E so that an 8-32 screw may be inserted from below. This nut is the pivot bearing for the crank arm.
9. Install the crank arm by slipping it from the front through the slot between the frame casting and the steel mechanism. Before installing the pivot screw, thread a nut and lockwasher on it and run them up to the head. Insert the screw into hole D via hole C, at the same time pressing the crank arm against the frame so that there is a minimum clearance between the arm and the frame. (Fig. 7) Tighten the nut to lock the screw. The arm should pivot freely on the threads. A drop of oil will reduce friction.

(Continued on Page 14)

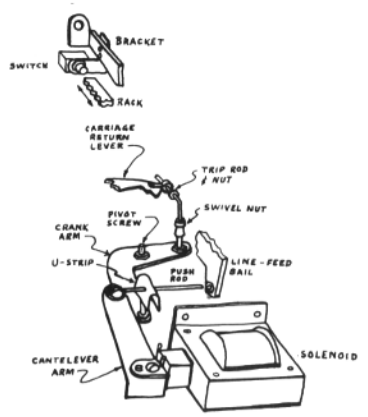


Fig. 1 LINKAGE PICTORIAL

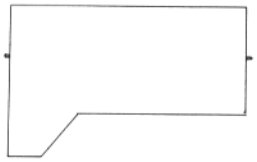


Fig. 2 LINE FEED BAIL

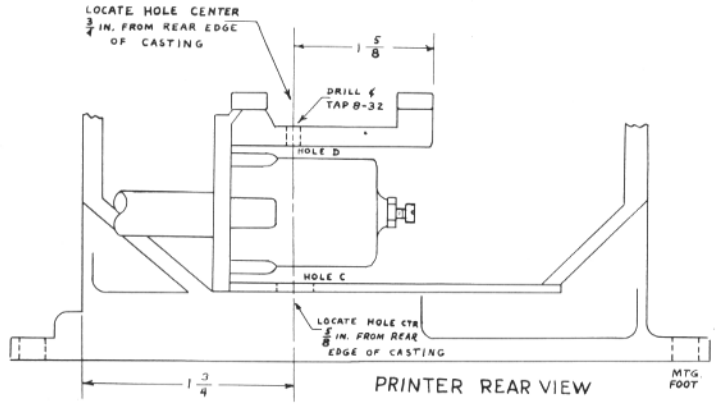


Fig. 3

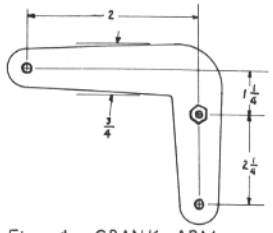


Fig. 4. CRANK ARM

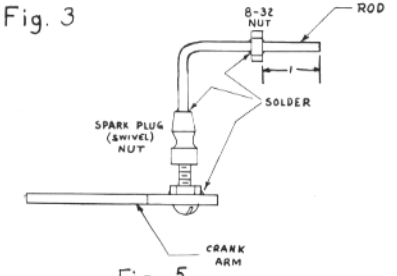


Fig. 5

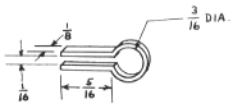
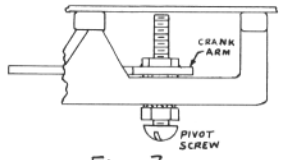


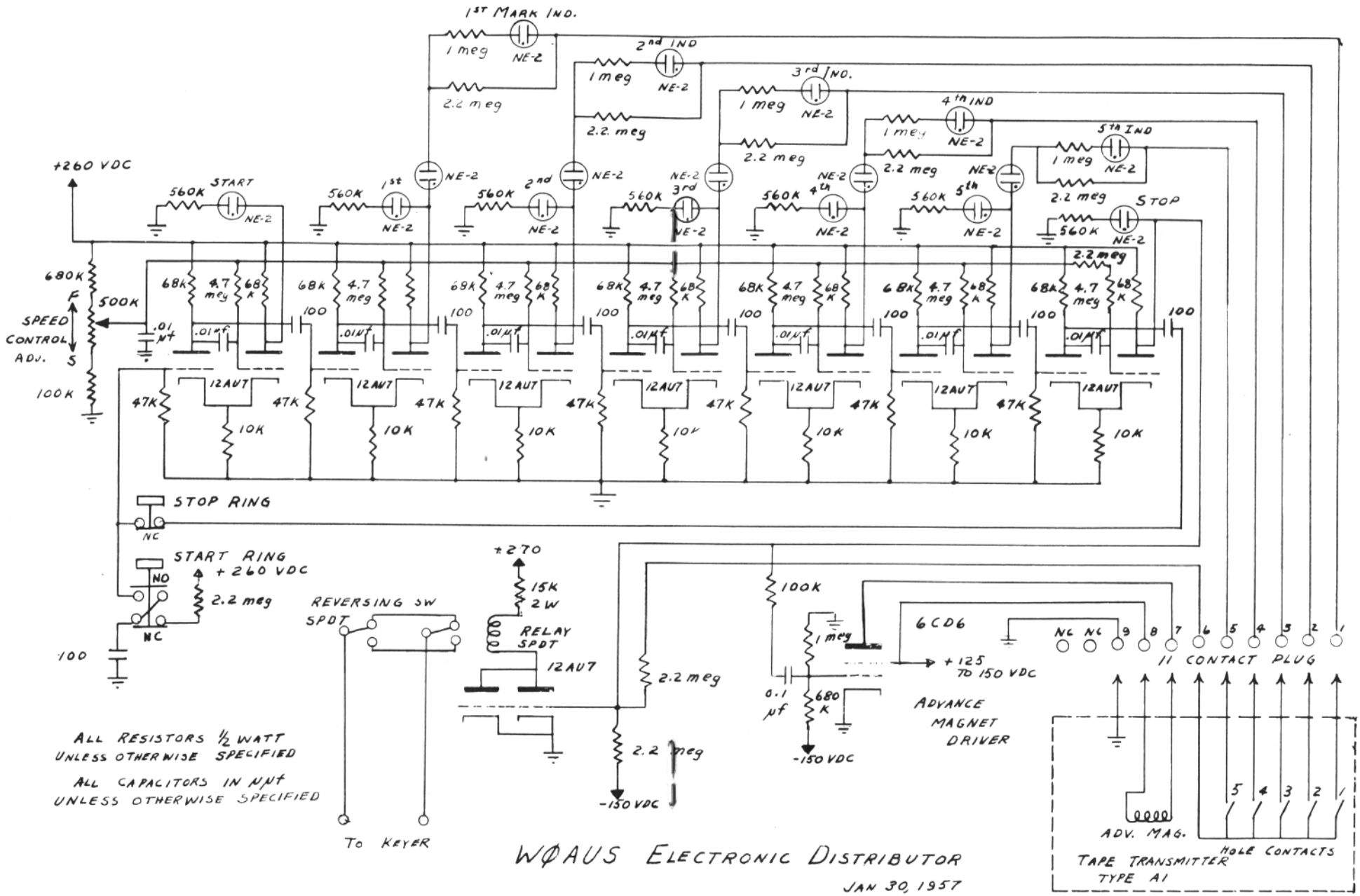
Fig. 6



REAR VIEW

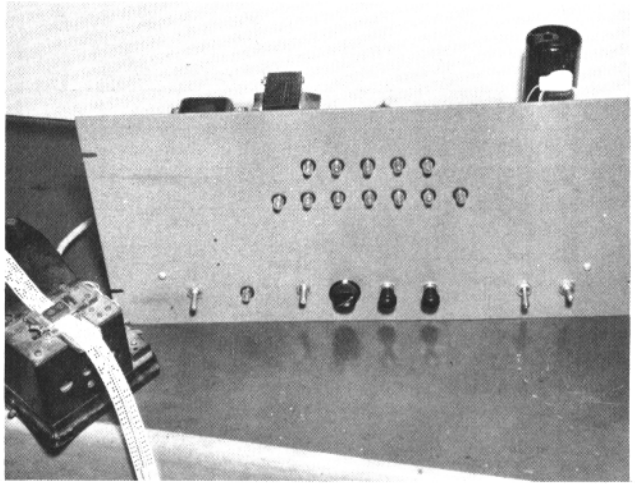
Fig. 7

RTTY



WØAUS ELECTRONIC DISTRIBUTOR

JAN 30, 1957



Electronic Distributor designed and built by Bob Wesslund, WØAUS. Top row of small neon lamps flash the five individual intelligence pulses and the next row show all pulses including the start and stop pulses at each end. W.U. type 1-A head, fairly common on surplus, is the transmitter or tape reader. Bottom row has the controls for speed, stop, and start.

AN ELECTRONIC DISTRIBUTOR

Bob Wesslund WØAUS

Having recently acquired a 1A tape transmitter, and realizing the many advantages of having a tape system for calling CQ, testing, and certain schedules, I decided to explore the posibilities inherent in an electronic distributor. I knew that electronic distributors were being used on the air so it was just a matter of deciding what form the electronic distributor would take. Several possibilities were explored. A flip-flop type, similar to that described by Bob Weitbrecht, W9TCJ in RTTY, as well as synchronized and unsynchronized multivibrators were tudied. The distributor finally decided upon because of its simplicity utilized the timing properties of one-shot multivibrators, each triggering the next in a seven-pulse ring corresponding to the seven pulse required for each Baudot character.

Each one-shot is identical to its neighbor except for the seventh or stop pulse one-shot which provides a pulse half again as long as each of the others.

As each one-shot multivibrator is triggered in turn, the plate voltage on its right-hand triode rises from a low value insufficient to light the neon lamps in its plate circuit about 220 volts, enough to cause the lamps to glow brightly. The lamps from plates to ground via 560K resistors will glow in turn to show that the chain is counting (triggering) to generate the basic timing pulses. The other which couple only those one-shots which carry intelligence pulses to the tape transmitter contacts can glow only when the corresponding conacts are closed and when their respective one-shot triodes are cut off. Since only one multivibrator at a time is turned on, only the lamp or lamps associated with its output will light at any instant. If the distributor is not running, all the lamps will remain dark.

The individual one-shot multivibrators connect through neon disconnects and resistors to the contacts of the 1A tape transmitter where the marking pulse outputs from the one-shots are sampled or not sampled according to the hole pattern in the tape for each character. As each marking pulse gets through the tape transmitter it is applied to the grid of a keyer tube which drives an output polar relay. The start pulse is never marking so its one-shot is not connected to the keyer tube. The stop pulse is always marking so its one-shot is connected to the keyer tube grid in parellel with the tape transmitter contacts.

A one-shot multivibrator is a monostable device; that is, it has one stable state in which one triode is conducting heavily enough to develop a cathode voltage large enough to keep the companion triode cut off until a positive grid pulse comes along and overcomes the bias, turning the resting tube on and the other off just long enough for a coupling capacitor (.01 mfd) to discharge through a grid resistor (4.7 megs) until the off triode becomes conducting again, restoring the original condition of stability until another triggering pulse comes along. The principal factors affecting the pulse period of the one-shot are the time constant (product) of the R and C used to couple the triodes within the multivibrator, and the potential to which the grid resistor is returned. The greater the RC product, the longer the time; the higher the voltage, the shorter the time. A convenient way to control all the multivibrators together then is to vary the voltage which suplies their grid resistors. This is the SPEED control which should be adjusted for 60 wpm operation. It should be noted that the grid resistor for the stop-pulse one-shot consists of a 4.7 meg in series with a 2.2 meg. These combined with the same .01 mfd coupling capacitor used in the other six stages provide about a 31 millisecond pulse period when the grid return voltage is set for 60 wpm, whereas the other multivibrators each produce 22 millisecond pulses.

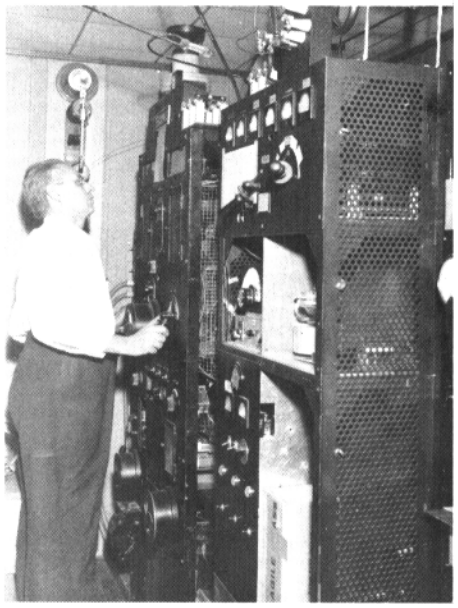
To start and stop the one-shot multivibrator ring it is necessary to break into the chain momentarily. To start, a button is depressed which permits a positively charged capacitor to discharge into the start-pulse multivibratorbrator grid. When the START button is released, the capacitor is removed from the ring and allowed to charge up again. To stop the ring, the feedback pulse following the stop-pulse period is frusterated by opening the circuit to the start-pulse one-shot grid momentarily with another push-button switch, the STOP switch.

The tape advance magnet in the 1A transmitter requires approximately 300 milliamperes for satisfactory operation. The pulse duration may be as short as 10 milliseconds, however. If the full 31 milliseconds were used, the mechanism probably would not recover by the end of the following start-pulse. Therefore the stop-pulse leading edge is differentiated and applied to the advance magnet driver tube grid as a positive pulse of about 10 ms duration. A television horizontal drive tube, the 6CD6 is adequate to handle the high current used by the tape advance magnet.

Other desirable features which were incorporated were a signal sense reversing switch, (DPDT toggle) connect to the polar relay contacts, and a loop-closing switch across the output leads to hold the line loop closed when the tape transmitter is not in use.

(Continued on Page 12)

(WØBP Cont.)



radio laws or licenses. His standard answer to novices about having a two letter call is that his name, Boyd Phelps, has no middle name or initial, so FCC obviously had no other choice. Additional antiques in the picture are three large meters from 500 cycle spark rigs, wavelength change switches, and 860 type tubes with holes in the plates to watch the electrons transit. Formerly a W.E. 220-B water cooled tube with a KW filament was used with air blown thru a Ford Model T inner tube which eventually rotted away allowing the tube to capsize after 31 years of quite active service at 2EB, W2BP, W9BP and WØBP. Both main transmitters use a single 833-A, in the final. For 80 and 40 meters just a wire is used to an old 85' windmill tower on the west end of a fifty foot city lot against an elaborate ground system. For 20 meters a vertical fan is used which is a very much cut down version of the one BeeP described on pages 46-47 of KST for November 1920. (Look it up, hi.)

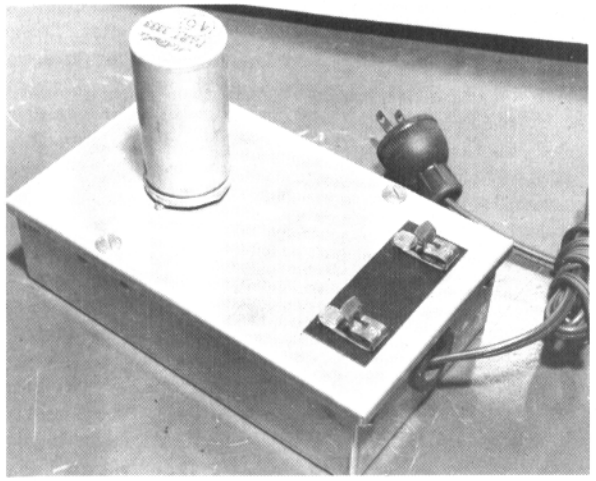
Both the transmitter and operating rooms are shielded with/screen in the walls, floor and ceiling and the wall between the two rooms is mostly large sloping glass windows so meters and flash overs in the rigs can be observed from the operating positions. WØBP has been the initial RTTY contact for many newcomers and two-way RTTY contacts have been had with 253 stations in 40 states and five countries as well as first FSK (with W6OQB), first narrow shift (with VE3BAD) and first trans-oceanic ham RTTY (with ZL1WB). In the RTTY Sweepstakes few stations are within 700 miles, mid-continent sections are large, and CW OQM comes from all sides but WØBP works hard to get in the top half dozen of high scorers consistently.

(DISTRIBUTOR Cont.)

No special precautions are required in the construction of this unit although very short leads are desirable between multivibrators. The 4.7 meg resistors and the .01 mfd capacitors should be matched within five per cent if possible to insure uniformity of pulse widths within each character.

The power supply is not especially critical as to output voltage as long as the positive and negative voltages vary at about the same rate in opposite directions, but the positive voltage supply should be heavily filtered. The advance magnet driver tube plate voltage supply need not have good regulation but here again a large filter capacitor is needed to hold the voltage up during the advance pulse.

SYNC PULSE GENERATOR



When John Gratner, WØQKA in Mankato, Minn., 90 miles from the closest RTTY ham, started out by himself he got reports of good signals but all kinds of excuses as to why the other fellows couldn't print him. Finally he suspected his keying system but needed some method to produce square wave pulses that would give a good clean trace on the scope. Hand keying was out of the question and likewise the space bar of the machine was uneven and slow. Two better answers came up, the first was a selenium rectifier connected to 6 volts and an old relay adjusted to close on most of the positive half cycles. The second method is pictured above and is nothing but a six volt AC source to a car radio vibrator, the internal connections being slightly changed so two base pins connect to the winding and separate pins to the contacts which may have to be burnished if old. This gadget gives clean square wave pulses at an even 60 or 120 cycle rate which do not flicker on the scope which of course has the same power line synchronized sweep. It is a handy tool for adjusting keying filters or checking FSK and AFSK oscillators, the scope trace being watched while various condenser and resistor combinations are tried. After the transmitter is reproducing the square wave pulses faithfully every 8 milliseconds the receiver is tuned to the signal (final off) and all kinds of tests run on receiver tuning, and terminal unit parts such as limiting, clipping, transients, harmonies, distortion, ringing, pulse shaping, etc., under controllable conditions free from the vagarities of DX radio reception any time day or night. Known amounts of mark or space bias distortion may be produced. Even if tape gear were available the headache of trying to synchronize the scope pattern to uneven 22 and 31 ms pulses can only be compared with the headache of eyestrain watching a flickering 6 cycle sweep for whole letter display. This gimmick solves both these problems and gives 60 cycle 8 ms pulses which if they go thru the transmitter and come out the receiver terminal unit without distortion, much of the guesswork in overall performance has been eliminated.

10. Prepare a cantelever arm for coupling the solenoid plunger to the push rod. The length will depend upon the solenoid you use. Attach the arm to the plunger at right angles so that it cannot pivot. (Fig. 1)
11. Prepare a push rod from the bronze rod. The eye in the end is used to attach the rod to the end of the cantelever arm using one screw, nut, and washer. Then length of the push rod will depend upon the solenoid used. The rod should just touch the line-feed bail when the solenoid plunger is withdrawn ½ inch.
12. Bend up a U-shaped piece of brass one inch square after bending with a 3/16 inch U-gap. Drill a snug clearance hole near the bend through both sides of the U and centered between the edges. Slip this U piece over the push-rod and solder in place with the U inverted and centered 1-⅛ inch from the frame casting.
13. Insert an 8-32 x ¾ inch machine screw from below hole F in the crank arm so that it enters the U slot. Secure the screw with a nut and lockwasher.
14. Insert an 8-32 x ⅝ inch screw from below hole G in the crank arm. Secure it with a nut and lockwasher.
15. Prepare one end of the spark plug nut (or a piece of threaded tubing) to receive a piece of brazing rod and insert the rod about ⅛ inch. Solder in place. Make a right angle bend in the rod about ⅜ inch above the nut. Use a minimum radius but do not break the rod while bending. The end of the rod should extend horizontally about 1-⅜ inches beyond the vertical nut axis, to pass next to the tip of the carriage-return lever when the spark plug nut is threaded on the screw in hole G. The nut shuld not be drawn on tightly. It must pivot. Refer to Fig. 5.
16. Slip a brass nut over the horizontal portion of the rod and soldier 1 inch from the end. This nut will trip the carriage-return lever.
17. Prepare a sheet metal loop. (Fig. 6). Slip the eye over the end of the rod and soldier the inside flat sides to the end of the carriage-return lever. Use a soldering iron, not a torch. Excessive heat will damage the lever.
18. Prepare a bracket to attach the switch you are using to the platen handle bracket on the left side of the machine above the motor. Attach the bracket with two screws after drilling clearance holes. The switch should be positioned so that it is actuated by the end of the carriage rack when the rack is about 1-½ inches from the extreme end of the platen handle bracket.
19. Attach the connector block to the bottom right side of the machine in its original location, if you have not already done so.
20. Operate the solenoid by hand to see that it performs both the carriage-return trip-off function and the line-feed function. The plunger should start ½ inch approximately from the seated position, and should seat fully after the line-feed. If operation is marginal, relocate the U-strip on the push rod and/or the nut on the latch trip rod by resoldering. When operation appears satisfactory, connect the solenoid and the switch in series to 115 v a-c and try the printer in actual operation.

The signal bell removed from the machine cannot be fitted in its original location, but a smaller one pilfered from a toy telephone or a doorbell may be installed below the solenoid location if you will make a bracket to adapt it. The original bell bracket screws may be used to hold the new bracket.

(ARMED FORCES Cont.)

Each transmission will commence with a period of ten minutes of test and station identification to permit amateurs to adjust their equipment. At the end of the test period, the messages will be transmitted. It is not necessary to copy more than one station, and no extra credit will be given for so doing. The message should be submitted "as received." No attempt should be made to correct possible transmission errors. Copies should be mailed to Armed Forces Day contest, Room BE1000, The Pentagon, Washington, 25, D.C. Time, frequency and call sign of the station should be indicated as well as the name, call sign and address of the amateur or individual concerned.

Military to Amateur Test

Military station, NSS, will be on the air from 181800Z to 190500Z on 18 May 1957 to contact and test with Amateur radio stations. Amateur contacts will be discontinued from 190245Z to 190400Z to allow Armed Forces Day CW and RATT broadcast competitions. NSS will operate on a spot fraquency outside the amateur band of 6970 (RATT).

*NSS will first tune the 7 meg. amateur ratt band and then will tune 80 and 20 meter ratt fraquencies.

Military stations will listen for calls from amateurs within the appropriate amateur bands. Contacts will consist of a brief exchange of location and signal report. No traffic handling or message exchange will be permitted. An acknowledgment (QSL) card will be sent to each amateur station worked. Each of the military stations will acknowledge separately.

---

18 May 1957

CW RECEIVING COMPETITION

A CW receiving competition will feature a message from the Secretary of Defense. All individuals, amateur operators and others are eligible to participate. A certificate of merit will be issued to each participant who makes perfect copy. Transmissions will be 25 words per minute on the following schedules:

Time (18 May 1957)	*Call Sign*	*Frequencies (KCS)*
190300Z (2200-EST)	WAR/AIR (Army & Air Force Radio, Washington, D. C.)	3347, 14405, 20994
190300Z (2200-EST)	NSS (Navy Radio Washington, D. C.)	3319, 4010, 7375, 14480
190300Z (1900-EST)	A6USA (Army Radio, San Francisco, California.)	6997.5
	NPG (Navy Radio, San Francisco, California.)	3319, 7595, 14927.5
	AF6AIR (Hamilton AFB, California)	7832.5
(1100-GCT)-(2000-INDIA)	NDT (Navy Radio Yokosuka)	2287.5, 4545, 9427.5 13471.5, 16445, 23010

Each transmission will commence with a five minute CQ call. It is not necessary to copy more than one station, and no extra credit will be given for so doing. Transcriptions should be submitted "as received." No attempt should be made to correct possible transmission errors. Copies should be mailed to Armed Forces Day Contest, Room BE-1000, The Pentagon, Washington 25, D.C. Time, frequency, and call sign of the station copied should be indicated as well as the name, call sign and address of the amateur or individual concerned.