

AMATEUR RADIO W5ANW

Amateur radio W5ANW, 3103 Kettering Drive., Houston 27, Texas. Wm. H. Carter, Jr., age: 52. Married, two children, boys age 21 and 17. Occupation, consultant in the field of electro mechanical and electronic instrumentation in the applications of medical research and geological exploration. Member of the Masonic bodies and Society of Motion Picture and Television Engineers, Institute of Radio Engineers (senior member and past chairman), Society of Exploration Geophysicists, American Institute of Physics, American Radio Relay League, and Houston Geological Society.

Have been an amateur and have held W5ANW since 1929. Operated A.M. mostly between 1929 and 1957 on 2Ø and 80. Went SSB in 1957 and RTTY in 1958. Now work all bands on RTTY and SSB, but mostly RTTY at 1434Ø and 714Ø, and SSB on 1429Ø and 72Ø5 (also Mars at 73Ø5).

Attached photos show rig as follows: Desk top rack.

Left:

- (a) Conalrad alarm panel and ten minute alarm ident.
- (b) Crystal monitor panel and RTTY scope monitor panel. (Monitors both transmitter signal and receiver signal).
- (c) 75A4 Receiver used mostly for SSB.

Center:

- (a) Speaker panel with speakers for each receiver.
- (b) Phone patch panel with switching for each receiver. (SWR meter also on this panel on the right side).

- (c) 75A4 Receiver modified for RTTY by diode shifter on the BFO to shift the band pass 25ØØ cycles so as to receive the 2975 and 2125 FSK tones thru the mechanical filter at the correct dial reading.

Right:

- (a) Hallicrafters SR34 2-6 Meter Transceiver.
- (b) Collins KWS-1 modified for FSK RTTY.

Floor Rack:

- (a) Monitor speaker.
- (b) W2JAV type converter and terminal panel with all interlock control relays for RTTY.
- (c) AFSK tone generator for use on 2-6 meter RTTY.
- (d) RCA Model CV 57/URR RF type converter.
- (e) Model 14 receiving only, typing re-perforator.
- (f) KWS-1 transmitter power supply.

RTTY Table:

Model 15 Page Printer.. (Switch to right controls all functions for receiving and transmitting).

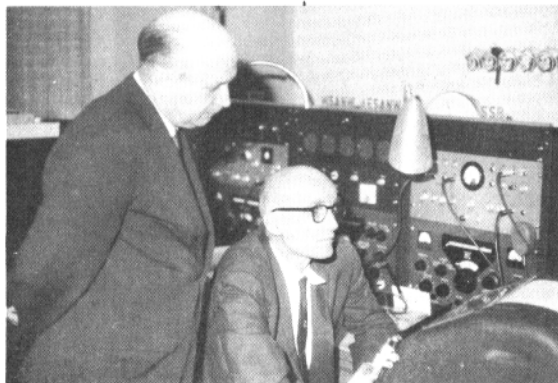
Model 14 TD unit and local Polar Relay control unit are below the Page Printer in the table.

Antennas.

Vertical 8Ø thru 1Ø, trap type.

And inverted V doublets for 1Ø, 2Ø, and 4Ø meters.

-0-



W4RWM

W5ANW

OUR HOUSTON VISIT

FRED DE MOTT, W4RWM

Houston, Texas is a gracious and wonderful city, but no yardstick can measure the hospitality and kindness of the three Houston RTTY amateurs who took your Secretary in tow while there for the U. S. Civil Defense Council meeting this past month.

These three fellows were tops . . . "Cap" Beckley, W5VHR . . . Brad Beard, W5ADZ and Bill Carter, W5ANW . . . and the evening spent with them is the real treasure of the trip.

Cap and Bill picked me up at the Shamrock Hilton Hotel about 7:00 p.m. and we were off on an adventure . . . we first visited Bill's QTH, where the arrangement of RTTY gear was new . . . it was all mounted in desk type racks, three in a row across the desk . . . with every control within easy reach . . . two Collins 75A4 receivers, a Collins transmitter, a fine terminal unit that really had a filter system along with a Model 15 made up the main part of this active RTTY station . . . the first thing Bill did upon arrival was hurry and get his MARS AF tape on the machine, which ran for 15 minutes . . . then we had a chance to swap stories . . . Bill has promised to send us a couple of technical articles on the scope monitor and audio generator he designed, so watch for these in upcoming Bulletins.

From Bill's we drove through a real big downpour (what in Texas though is not big) to Cap's W5VHR, and here again found Collins equipment for sending and receiving along with a beautiful refinished Model 15. Cap served us ice cream and cake and was snapping photos every few minutes . . . he surprised me earlier in the day by leaving some tape copy at the desk in the hotel, which brought greetings from our good friend, Earl, W4DGW, who is now RTTY maritime mobile, how do you like that . . . Earl comes from Gainesville and is well known among Florida amateurs.

Cap's shack was roomy and had lots of leg room and the walls were covered with photos, for he is a rabid shutter bug and fisherman as well . . . oh it was a great

visit . . . after saying goodnite or was it good morning to Cap . . . we jumped into Bill's car followed by Brad, W5ADZ and headed for Bill's laboratory, where he builds medical electronic equipment.

As most hams do, Bill had a supply house of gear . . . all I could get away with was some small toriod coils and a base for a polar relay . . . Bill said so long at this point and we got into Brad's Thunderbird and again driving through the rain made his shack . . . again Collins had done a good job here but a Johnson kilowatt was the transmitter with a Model 15 machine.

Brad's shack was also roomy, like everywhere in Texas, including the wide open spaces . . . and his gun collection of early Colt weapons was indeed interesting . . . he plans new layout changes soon and then you will be printing this RTTY station from Houston.

I can not say enough about these fellows . . . their interest in RTTY certainly impressed me, but above all this was the warm, firm handclasp of real friends . . . it made me feel mighty proud to be a member of our wonderful fraternity . . . and gave me an evening that I will never forget. Thanks, Cap, Bill and Brad!

Phone Calls and Mail

A long distance phone call from Miami surprised me recently . . . it was from Jerry, W4PME, who is interested in RTTY . . . he is looking for equipment and help, so some of you fellows around Miami give him a hand . . . nice to have heard from you Jerry . . . In mail box was a card from Ches, K4KKZ, asking for dope on the Society . . . Ches is an active RTTY in Army MARS and runs a KW on all bands . . . will look for your applications fellows . . . it is nice to welcome you both.

Thanks

We want to thank the publication Florida SKIP for mentioning the Society in its October issue. We appreciate this as do all members of the RTTY gang.

A CRYSTAL SHIFTER FOR TELETYPE USE

I. PRIMARY CONSIDERATIONS

A low cost, easily built shifter for use with the Hallicrafters HT-32 was needed. The design of this unit was to incorporate the following features:

1. Crystal control.
2. Extremely stable.
3. Minimum number of parts.
4. Operate from the teletype machine keyboard with either forward or reverse shift.
5. Modern construction.
6. Low cost standard tubes.

II. DEVELOPMENT

Referring to Figure 1, the basic oscillator circuit is almost standard. This circuit is used by a number of manufacturers and is extremely reliable. The original oscillator started out on 2250 KC multiplied in the following stage to 4500 KC and again in the final stage to come out at 9.0 megacycles. Later a 9 megacycle crystal was used in the circuit shown and found to be satisfactory. It was followed by a single amplifier tube and still later, the 6C4-6AG5 combination were combined to a single 6U8 tube.

The basic frequency shifter is shown in Figure 2. This unit, when tied to the point shown by the arrows, shifted the crystal but upon reaching 900 cycle shift, the crystal became inactive. Also, the unsatisfactory condition shown in Figure 4 existed. For a short time pulse the frequency ended up at one spot, for a long time pulse the frequency ended up at another spot. You will notice this same effect if you unbalance the sideband generator in one of the present day sideband transmitters. When it is switched from one sideband to the other the crystal gradually "coasts" to its final resting frequency. To overcome this difficulty the shifter was combined as shown in Figure 3D. Referring back to Figure 3A, the basic shifter unit, you will notice that Figure 3B shows the equivalent circuit of the diodes in the non-conducting condition as CD1 and CD2. Also the back resistance of the diode, RD1 and RD2. The diode has to be chosen so that CD1-D2 has very low capacitance and RD1 is very high. This, then, means that the total change from the condition of 3B to 3C is drastic, since R-forward (RF1 and RF2) are very low

(Figure 3C) and C5 is effectively across the crystal circuit. This, as mentioned before, reduces the output of the crystal considerably. However, if an equivalent condenser to C2 (Figure 1) is placed across the grid cathode circuit the activity of the crystal does not change nearly as much. The circuit of Figure 3D was developed from that of 3A and the RF ground taken to the cathode of the oscillator tube. The DC input goes to the same point and is isolated by R4. The ground for the DC path is through L2, a 2.5 millihenry RF choke. This method of shifting the frequency of the oscillator proved very satisfactory for both the 2250 crystal and the 9 megacycle crystal. It was possible to shift the 2250 crystal at least 250 cycles without trouble, which gave a total of 1,000 cycle shift on the 9 megacycle frequency. Referring to Figures 9 and 10, you will see the power supply and the complete shifter unit. Figure 5 is an excitation control to add to the screen grid of the output tube as this unit will completely overdrive both a 20-A and an HT-32. You will notice that in the lower right corner of Figure 9 an inverter switch is used so that the teletype keyboard may be used directly in the shifter circuit. This then allows both an upside down and a right side up keying of the shifter without any relays. The total difference in shift is about ten cycles between the two conditions. This was not deemed to be out of tolerance as far as amateur practices are concerned. The resistance R6 can be used as a series dropping resistor for a polar relay to key the oscillator, in which case the current should be set for half of the line current. (This means a different value resistance).

III. OPERATION

Drift from dead cold to dead hot on the oscillator frequency was less than 100 cycles, keying shift from dead cold to dead hot was less than 5 cycles, and since the diodes were saturated, is almost independent of the 6 volt supply. Condenser C2 is used to "zero" the 9 megacycle crystal directly on frequency where necessary.

This unit is extremely simple, consisting of only an oscillator, amplifier, keyer, and power supply. The single coil used in the plate circuit of the 6AG5 is a television IF

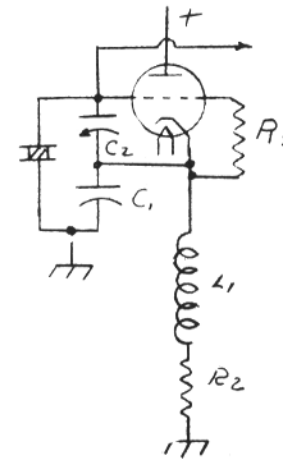


FIG 1. BASIC OSCILLATOR

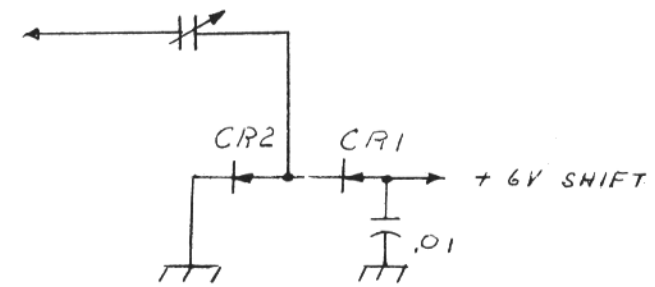
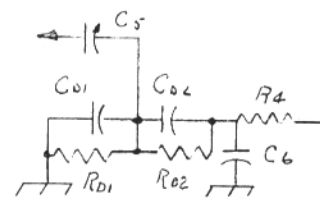
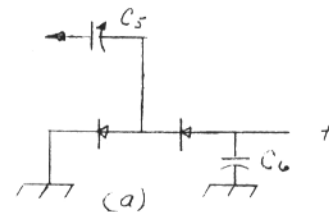
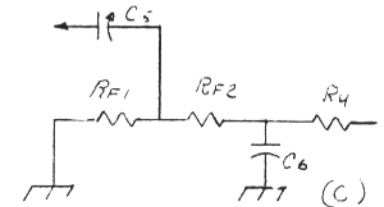


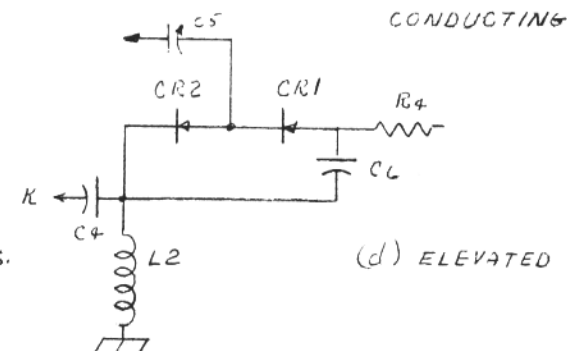
FIG 2 BASIC SHIFTER



(b) NON CONDUCTING.
FIG 3.



CONDUCTING



(d) ELEVATED

coil originally set for about 25 megacycles. A Cambridge thermionic form 1/4 inch in diameter wound full with No. 20 or No. 22 wire would do the same job. In this case it is peaked to 9 megacycles and has a 3 turn insulated pick-up coil that goes to a phonojack on the chassis itself.

In use with the HT-32, the exciter unit is not turned off. For some uses it may be advisable to stop the oscillator. In this case two things must be done, (1) open the circuit in the cathode of the 6J4 oscillator tube and (2) the cathode of the 6AG5 amplifier tube, at the points marked "X". The 6AG5 was used without bias to improve stability, therefore will need the above treatment.

Two pictures of the completed unit are shown, (1) the top of the unit with the two tubes combined in the single triode pentode and (2) a bottom view of the unit in its finished form.

After using this unit on the air for a few days, other applications began to appear. By using a 9.1 megacycle crystal the output can be fed directly into the 9.1 megacycle crystal jack of the KWM-1. Similarly the output of the 9 megacycle shifter can be mixed in a mixer and a VFO (which must be extremely stable) mixed with it to give a different output frequency. This output frequency is then variable and the shift is independent of frequency or band used. It is very similar in handling to the method in use in sideband transmitters and will give equivalent results. In addition, for transmitters such as the KWS-1, where odd frequency crystals are used, the 9 megacycle shifter may be fed into a mixer, a separate crystal may be mixed with this to give the 9 megacycles plus the mixing frequency or the 9 megacycles minus the mixing frequency in the output. In any condition the output of the mixer should have at least the one tuned stage to get rid of tweets.

The xtal shifter has a number of advantages. It is completely unnecessary to open any parts of the HT-32 to connect it. It is

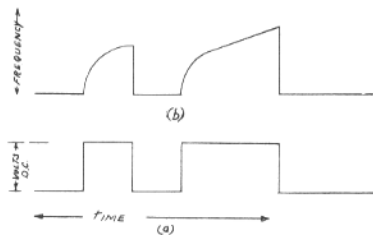


FIG 4

only necessary to connect a coaxial cable between the sideband input socket and the output of the frequency shift keyer, then use the HT-32 in the CW position. The same thing is true of the output of the mixer circuit; it may be fed directly into the KWM-1, the KWS-1, the KWM-2 if the appropriate crystals are used. In no case is it necessary to upset any adjustments in any of the transmitters to work with this unit. The one point alone justifies the construction of an additional piece of equipment. When you want to go back to sideband all you do is pull out the exciter plug and reconnect either the sideband exciter or replace the crystal.

TVI. In the HT-32 it was found necessary to ground the input cable at the point that it left the chassis. A piece of RG-59 was used for the cable, the shield was bared at the point that it left the chassis, a piece of copper strap wrapped around the cable, soldered and grounded to one of the case screws at the point that it left the case. This was the only TVI precaution found necessary.

The input of this unit may be fed directly into the 9 megacycle crystal socket on the 20-A. The 20-A then will deliver in the neighborhood of 10-20 watts of frequency shift keying on almost any band when used with the accompanying VFO or crystal oscillator. In this respect you will find that the stability of the teletype signal must be better than that of the average sideband transmitter in order to maintain good operating ability.

The unit may be applied to the HT-37 in the same manner as to the HT-32.

IV. CONCLUSION

The crystal shifter described here is an easy to construct shifter, extremely stable, with a wide range of uses and is well worth the time spent in the construction.

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Director Midwestern Engr. Div.
TELECHROME MFG. CORP.

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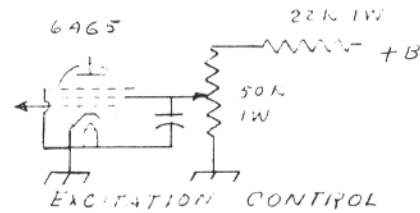


FIG. 5

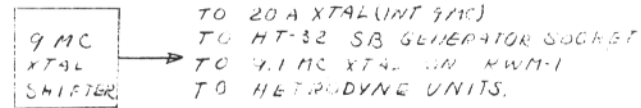
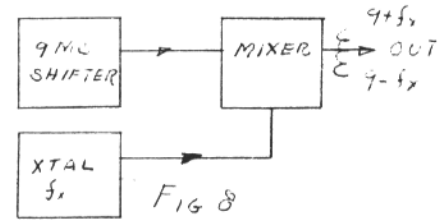
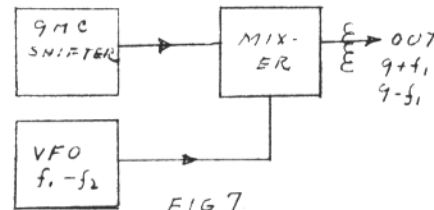


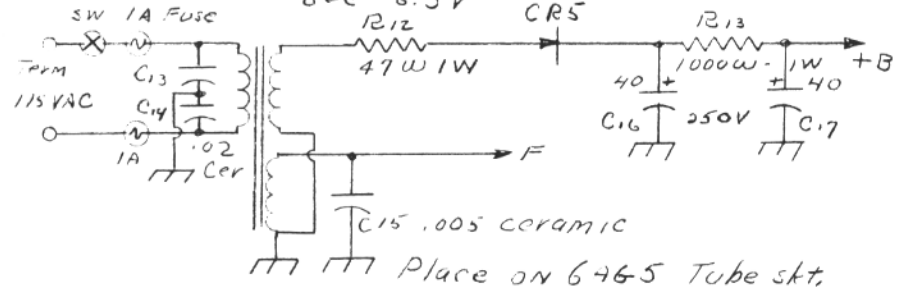
FIG. 6.



Stancore PA 8421

Pri-117V Sec 125V 30 MA DC

Sec 6.3V



- CR1 Hoffman } 1N215
- CR2 " }
- CR3 CR/4 - 9.000 MC
- CR4 T1-2069
- CR5 T1-2069

FIG. 10.

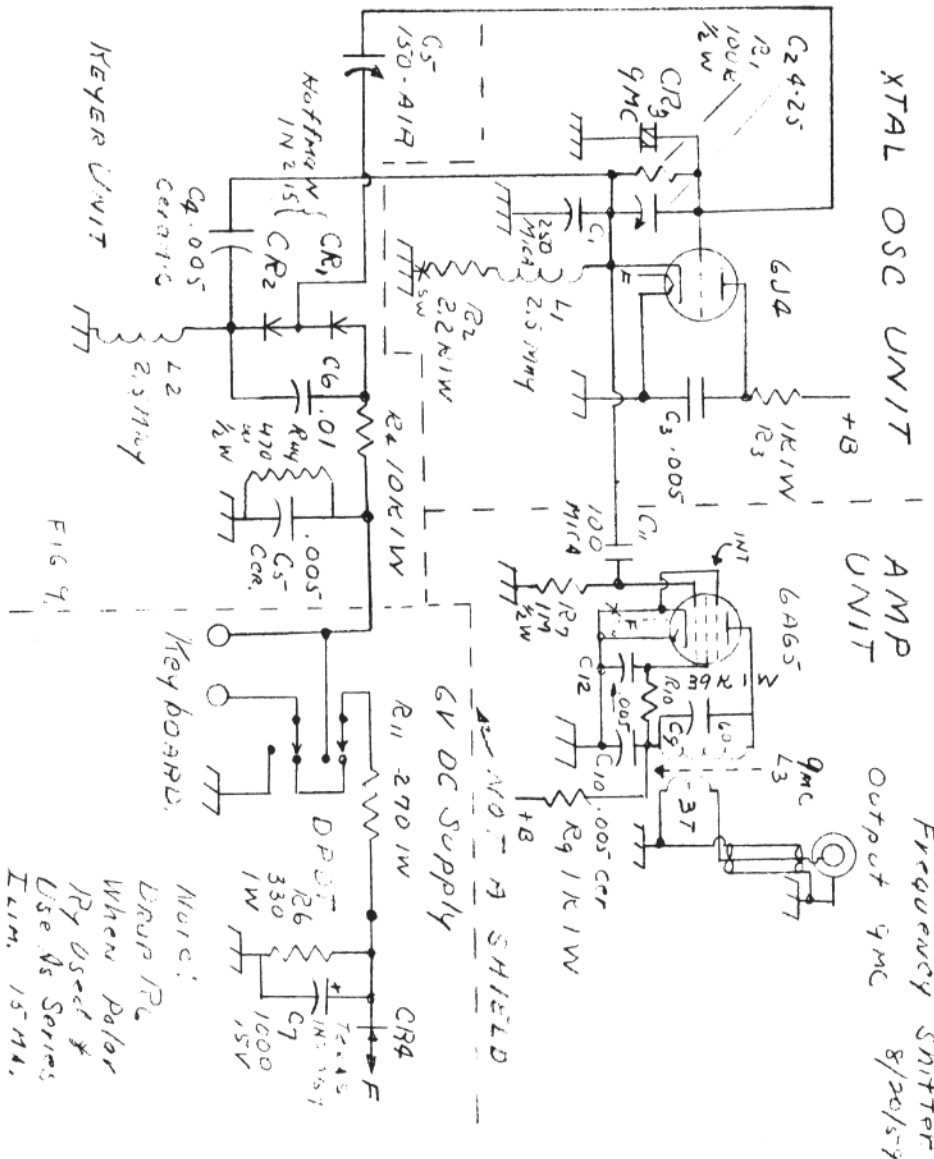
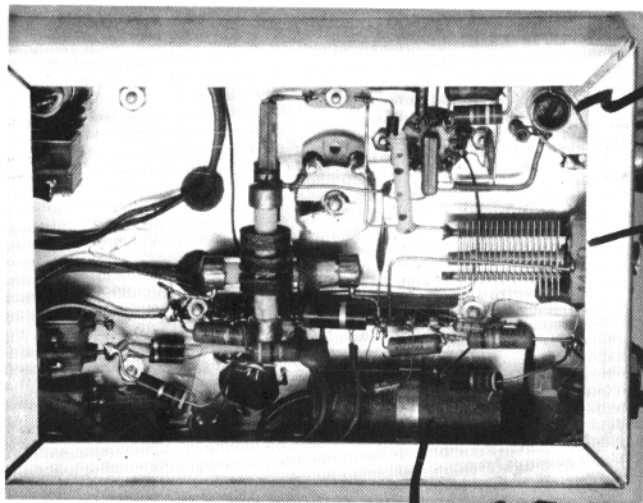
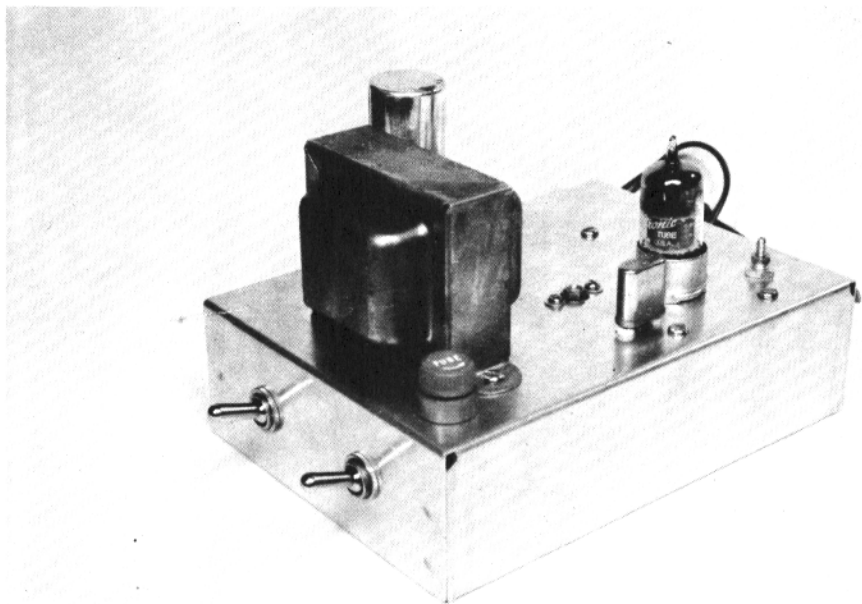


FIG 91



L3

C2 SHIFT

BOTTOM

C7

RTTY DX

BUD SCHULTZ W6CG

Hi Gang: Thanks a million to all who sent in news, DX info, Reports, Gripes, Rumors etc. The "mail pull" was much improved this month which makes this weary old typer very happy. Much of the following scoop comes by way of my contributing editors, namely Bill-G3CQE, Bruce-ZLIWB, Jim-VE7KX, Cas WØNMH/4-EX KR6AK. Central and South American activity showed a big up-swing this month with several new ones showing up on the RTTY Channels with big fat "solid copy" signals. Among the new comers were Bob, TG9AD followed quickly by Pete Smith, TG9PS. Both are running KWS-1 rigs so no one should have to strain their tubes to make good solid copy. Bob and Pete usually hang out around 14,340 and have been logged most frequently between 0300 and 0600 GMT. Incidentally, as an added incentive; they both QSL-pronto! Speaking of QSL's- While this DX editor was in QSO with Bob (TG9AD) Pete (TG9PS) broke in for his first try at RTTY. After finishing my usual prayer for a QSL card Bob came back at Pete as follows; "That goes for me also, Pete, you are my second country on RTTY"!

Several stations have been logged calling OA5G on 14,340 but so far no info here as to whether George has cracked the ice yet or not. Anybody have any definite dope on OA5G? CE3WZ was heard putting in a nice fat RTTY signal on 21,090 about 0200 GMT. This should answer the questions about whether Dave is still active on FSK. Those still needing cards from Dave when he operated CE3AGI can find his QTH in the December column. W7FEN reports a contact with Erosa, XE1UNM, on twenty so evidently Erosa has his new Model 15 in operation.

From the Pacific comes word from Bruce, ZLIWB, that he is back in business thanks to a new PTO unit for his receiver received via WØAJL. Bruce reports that the lack of activity was due partly to receiver trouble and partly to a change in employment. By the time this goes in the mail he should be active on all bands once again. It takes a good SS contest to really smoke ole Bruce out! Scuttlebutt has it that Bill

Scarboro, ZK1BS, on Tonga has his Model 26 in operation and has made his initial contacts with the West Coast but my agents have been unable to confirm this one. Will make every effort to get more definite dope on this one and have it for you next month. ZK1BS is still considered as "exotic DX" on CW by many so he will be particularly juicy meat for the FSK gang. Eric, VK3KF, still keeping CW skeds with G3CQE but at this time is still without any TTY gear, but hopes to have a Siemens printer on loan soon.

From Europe comes word via Bill Brennan, G3CQE, that RTTY is looking up. Bill reports that the DARC has now permission for FSK operation and shortly some DL stations should put in an appearance. Bill also says the UA stations are answering his RTTY CQ's on CW and are getting quite curious about it. Begins to look like we are beginning to get behind the "curtain". Bill promises more dope on this latter situation. He also says that the RTTY gang over there can now get Creed 7-B Page printers for ten pounds (\$28.50) Bill says that the Creed 7-B's run much to fast to work into a model 15 but he has worked out a very simple adjustment to correct this problem. At this rate it would seem that activity from the G stations should be increasing rapidly in the near future.

Several reports were received this month telling of two ZS stations operating near 21,085 Kcs with good FSK signals but no one bothered to mention the calls. Suspect these signals might be from ZS1FD and ZS6KD but have been unable to confirm it. Any further info on this would sure be appreciated. Bill Brennan reported that ZS1FD has already acquired a 7-B printer and should be active by now.

A long letter from Cas, KR6AK-WØNMH, confirms our prediction that he couldn't stay under wraps much longer. Cas reports he has "policed" up a tower and is building a big G4ZU beam and ends it by saying "Watch my smoke". As far as the DX'ers are concerned it can't happen too soon, Cas. Please come back-all is forgiven. hi.

AXIS RESTORER FOR RTTY

Enclosed is the circuit of the axis restorer that I was telling you about. This circuit is used in the frequency shift converter that is manufactured for the U. S. Navy by the Hoffman Radio Corporation of Los Angeles. The following is a description of the circuit operation.

Axis restorer and lock up circuit. . . .

The axis restorer circuit is included to produce the optimum signal output when the received signal is weighted heavily on one side or the other, either mark or space, and to maintain the optimum axis, or bias for keying the weakest portion of a fading signal. The weighting of the signal may be due to the relative mark and space in each character, to selective fading conditions, or to mistuning of the receiver. The axis restorer also contains a system which "locks-up" the teletype circuit (closing the loop circuit) whenever there is a prolonged mark, space, or no signal condition. V1Ø4A and B and V1Ø5A and B are the tubes in this circuit.

When no signal is received by the converter, either mark or space, the circuits of V1Ø4A and B and V1Ø5A and B come to rest with a small positive voltage at the output of the circuit, the outer end of R12Ø, which is applied through the inter sub unit wiring and S2Ø2 to the grid of V2Ø1B. This positive voltage produces a mark signal output from the keyer and output circuits. The level of this voltage is adjusted by the threshold control R122 by adjusting the plate supply voltage to the axis-restorer's DC amplifier. V1Ø5 A and BZ.

The two triodes of V1Ø5 are in parallel acting as one triode. There is also a positive voltage at one plate and one cathode, pins 1 and 2, of V1Ø4A and B which due to the conductivity of the V1Ø4B diode in this direction charges C1Ø6A to this voltage. Later, through R116 and R118, C1Ø6B is also charged to the same level. This positive voltage is applied to the grids of V1Ø5A and B and with the cathode bias voltage developed by R123, forms its at rest bias. The bias, in turn determines the positive voltage in the circuits just discussed by controlling the plate current of V1Ø5A and B and establi-

shing the drop in its plate resistor R121.

When a symmetrical, evenly weighted signal comes through C1Ø5 from the discriminator filter circuit the diode of V1Ø4B rectifies the positive pulses, and V1Ø4A rectifies the negative pulses. The charges on C1Ø6A and C1Ø6B are thus equally displaced in opposite directions. Due to the difference or unbalance between R116 and R118 there is a small shift to more positive on V1Ø5A and B grids which in return reduces the positive lock-up voltage delivered to the keyer.

The proper setting of the threshold control R122 for a low level symmetrical signal will produce a bias or operating axis at V2Ø1B grid which gives the optimum keying, it is the purpose of the axis restorer to maintain this optimum axis for non-symmetrical signals.

At the grid of V2Ø1B a positive voltage of approximately one volt or more is required to swing the flip-flop keyer to key a mark signal. It will remain on mark until a negative voltage of approximately one volt or greater is applied, whereupon it flips over to key a space signal. It will, in turn, remain on space until flopped back to mark by positive voltage. The optimum keying axis will depend upon signal strength, noise conditions, etc. on strong noise free signals, the axis setting is not critical but on weak signals or on the weak portion of fading signals a careful setting is important under noisy conditions the axis must be set enough positive that negative peaks of noise signal will not key.

The signal pulses from the discriminator pass through R115 and R12Ø to reach V2Ø1B. The grid of V2Ø1B is prevented from being driven excessively positive by the drop in R12Ø when the grid circuit conducts.

When the non-symmetrical signal which has more and/or higher positive pulses (mark) than negative, passes through the system, the tendency would be for the bias axis to average in a positive direction away from the optimum value if it were not for the action of the axis restorer. The excess positive is rectified by V1Ø4B, charging C1Ø6A relatively more positive. This change is reflected through

the resistor network to V105A and B which counteracts the change in the axis and due to the amplification of the tube essentially restores the bias to that occurring with a symmetrical signal.

A signal that is largely space characters would tend to move the axis negative but the axis restorer holds the axis practically at the symmetrical signal condition. Since only the AC component of the signal reaches the axis restorer circuit from the discriminator a prolonged marked signal, a prolonged space signal and a no signal condition appear the same to the axis restorer, except for the abrupt change at the beginning of the mark or space signal. A mark signal keys the output into a mark condition and so a prolonged mark signal will leave the circuit in the mark or no signal lock-up condition. A space signal keys a space OJ output and so a prolonged space signal will start as a space output and then shift over momentarily to the normal no-signal lock-up condition.

The time for the lock-up action varies with the setting of the threshold control R122 and with the operating conditions. It will range from instantaneous lock-up to a possible condition where two or three seconds are required to lock-up from a strong continuous space signal. The time constant for any one condition is determined by all the components in the axis

restorers circuit.

Well there you have it and perhaps it will be of interest to some of the fellows, perhaps some of the real sharp ones may even improve on it. So just read the above description and consult the circuit diagram.

The arrow at the bottom of the diagram showing -40 volts can go to a source of negative voltage controlled by a pot. The manual shows that value to be fixed as taken from the voltage charts. Tube 991 is some kind of Neon bulb, C106A and C106B should be good quality condensers of the high leakage resistance type such as a bathtub type or similar. S202 is used to put the printer in a locked up condition when tuning the rcvr. According to the ex-Navy Chief who gave me the manual on this unit this is a pretty hot converter and is in use by the Navy. It is actually a dula converter used for diversity reception and also has a "comparator" circuit that is identical to this one and is used to compare the two incoming signal and pick the best one. Then the axis restorer maintains optimum bias for a symmetrical signal. In other words each converter has an axis restorer circuit in it which feeds into the comparator circuit.

Seventy Threes,
GORDON, W10UG
-0-

**RYYRYRYRYRYRYR
THE TELETYPE**

Heres to you, you cute litte thing
With all your thousands gadgets, a mil-
lion springs
Oh! You've given me lots of pains
With your function levers and all six
vanes.
You've started, stopped, and sometimes
stalled
All because of an escapement pawl
You've made me pull my hair, pray,
and curse
Just to get your ribbons to reverse
You've made me feel like an awful ham
Trying to adjust your selector cam
You're the cause of all my pet peeves
Oh! you and your spacing stop sleeves
And if this course that I should fail
It'll be because of your printing bail
Now these instructors say its a cinch
To get you gauged to the thousandth
of an inch
But when I'm through will I deplore
I'd like to slam you on the floor
Now I'd like to heave you over the
brink
And from me watch you slowly sink.

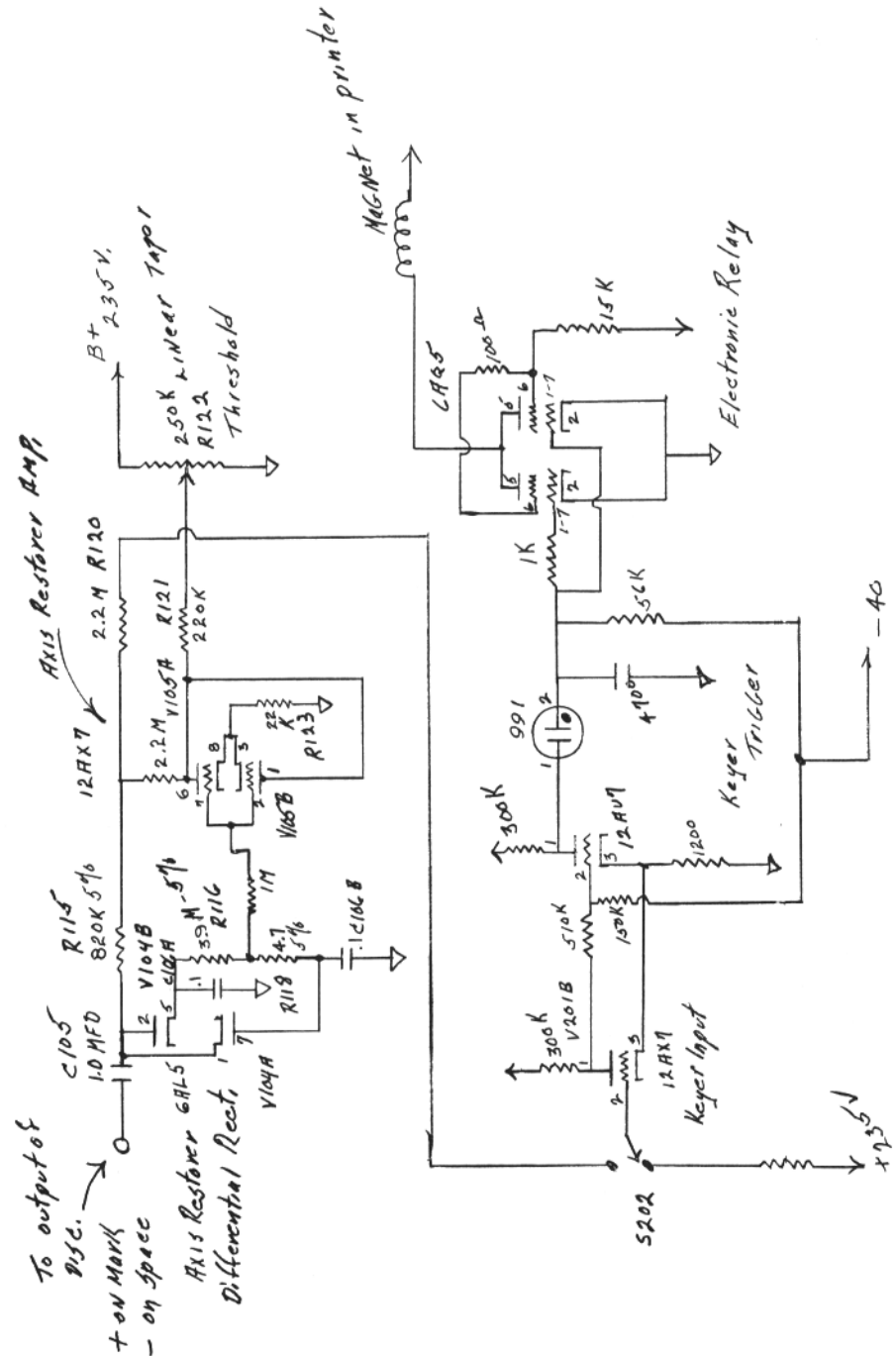
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SIXTH ANNUAL NATIONAL RTTY DINNER

NEW YORK CITY, MONDAY 21 MARCH 1960
DURING THE IRE SHOW

With cocktails at 7:30 p.m. and dinner scheduled for 8:00 p.m., the group will meet at the Baccara Restaurant, 203 East 45th Street, New York City, (just east of Third Avenue on 45th). A complete Roast Beef Dinner for \$5.50 per person will be provided.

The speaker of the evening will be Captain Kurt Carlsen, W2ZXM, famous Skipper of the "Flying Enterprise II," who will tell us about RTTY in the remote corners of the world. Come and meet in an "eye ball" QSO those "finger talking" friends of long standing!



Dr. Albert Reilly, W4WMN, president of the Florida RTTY Society shown presenting the organizations annual award for "outstanding service to the field of RTTY," to Fred W. DeMotte, W4RWM, as Ches Watkins, K4KKZ holds his Public Service award and Dr. Tom Lipscomb, W4RTJ, looks on.

The awards were made at the annual meeting of the Society in Daytona Beach during January.

WIBGW/AIBGW

It sure is a long while between our letters. Got a letter from Tom Howard who is in Florida at the moment. He informs me that he was able to get Don Merton to put on the dinner in N.Y.C. on March 21, at Ire Show. Don is K2AAA. Guest speaker will be Capt. Kurt Carlsen. Should be a nice affair. At least it will keep them [redacted] Hi. Don't know if I was able to make it. Will find out later.

Tom would also like to run another one [redacted] Boston and would like to have it occur during your yearly visit to these parts. Please let me know as soon as possible what your plans for this year are so we can plan accordingly.

The shack here is a bit different from the way it was when you saw it last year. Enclosed find a photo to give you an idea. It's not a very good photo, but only one I have right now. Hope you can visit us again this year.

I need a sync motor for my Model 15. Have the gears and just need the motor.

Haven't been very active on RTTY, although maintain my Sunday morning sked with Lou, VE2ATC. Did get on the RT Net last night to send the dinner bulletin. First time I got on Net in many months. W2JCM is NCS. When reported in said I had a bulletin for Net. Phil also reported

he had one and suspected he had same one from Tom. Hi. Well sure took the wind out of his sails, as after I sent it he said QRU. Hi.

Had a fine QSO with W4DGW/MM while he was off coast of Argentina about month ago. He is a swell fellow and puts in FB sig. That was on 20. Also had a landline QSO that lasted about hour and half with Bill, G3CQE. He gave me all the latest from there. Says a ZS6 is ready soon. He makes my ninth country on RTTY, so am not up to your 13 yet. Hi. The old beam is perking fine and up to 222 on CW/Phone. Need South America for WAC on RTTY, but no card yet from that darn CN8.

Sure is too bad that we are losing high end of 20 for RTTY. That was my best RTTY band. It will be rough getting back again amongst the foreign fones and CW boys.

There sure were lots of new calls on the RT Jet last night. At least they sounded new to me. Mainly on acct my lack of activity. Now that I have most of the work around the house done and all expeditions currently on the air worked, I can get back to RTTY a bit more. Hi. Will look for you a bit more on the high end of 20 before we lose it.

73,

Jack, WIBGW



WIBGW