PRICE — 15c

VOL. 1 MAY, 1953 NO. 5

Electronic Distributor for 21-A Printer

By CECIL CRAFTS, W6ZBV

The Model 21-A Printer is a very compact and quiet machine printing on tape. However, there is no distributor with the machine since it was designed to work with a central machine which supplied this function. The following is the description of an electronic distributor to operate the printer. It is designed to operate the printer "as is" with no modifications to the 21-A. The unit is basically a coincidence circuit, in that it will produce a current pulse to operate a selector magnet on the 21-A only if there is a mark pulse present at the appropriate time during the transmission of a character, and then, after the selection period is over, transmit a print pulse to the printer, after which the machine finishes the operation. Power supply requirements are fairly light, needing 200 to 250 volts dc at about 40 milliamperes, 6.3V AC at 5.1 amperes, 110 V DC at about 300 milliamperes and 110V AC at 300 milliamperes.

Circuit operation is as follows:

The input signal to the distributor is taken from a polar relay, using the contacts which are closed on "mark." These contacts are connected through a 47K resistor to positive 110V DC, giving a positive 35 volts on mark for gate tube bias and zero gate tube bias on space. However, this signal may also be taken from the output of a terminal unit which will produce about 35 volts positive on mark and either zero or a negative voltage on space into an impedance of 30K.

The negative going "Start" signal is applied through a .005 mfd. capacitor to the input of a "phantastron" trigger circuit consisting of the 7B7 tube and one-half 6H6. This circuit was chosen because it produces a negative pulse on the 7B7 cathode when triggered and then stays cut off for whatever time it is set for with no regard to the input signal during this period. The circuit is adjusted for approximately 150 millisecond time constant so that it remains cut off during the transmission of a single character and yet is ready for operation quickly enough for 60 word per minute tape operation.

The negative pulse from the cathode of the 7B7 is applied through a suitable amplitude limiting resistor to the input of a "single kick" multivibrator that is set up to trip on

(Continued on page 2)

NEWS OF AMATEUR RADIO TELETYPE

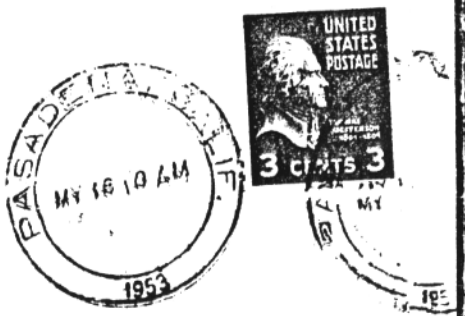
R·T·T·Y

HORSE TRADES

This page of the Bulletin is for use of amateurs who have teletype equipment for sale or trade and for those looking for equipment to buy or trade. It is a free service and may be the means of getting some one on the air.

FOR SALE—Model 12 with Sync Motor W6CAP
FOR SALE—One Model 12 complete with Sync Motor and One Model 12, Receiving Only, with Sync Motor W6EV
WILL TRADE—Model 15 Complete (Less Printer) for Model 15 Printer Only W1AFN
FOR SALE—SIX Model 26's .... Write RTTY for details
WILL TRADE Model 21-A Printers with Roll of Tape FOR SURPLUS Gear W1AFN
SWAP—MG Set for Model 12 and WU Perforator For a Complete Tape Transmitter VE2ANM
WANTED—AN/FGC-1 Manual W2VDM
FOR SALE—Sync Motor with gears for "12" W3LMC
WANTED—KEYBOARD W9SPT
FOR SALE—Single Space Gears for Model 12 W9UAU
Wanted—Model 12 Keyboard VE2AGF
Wanted—Model 12 Keyboard W5QDD
Wanted—Keyboard for Model 26 ..... VE2ANM

SOUTHERN CALIFORNIA RADIO TELETYPE SOCIETY
3769 East Green Street
Pasadena 10, Calif.
Return Postage Guaranteed



ELECTRONIC DISTRIBUTOR FOR 21-A PRINTER

(Continued from page 1)

a negative pulse only. The output of the mutivibrator is a square positive pulse with its length adjusted by the .05 mfd. coupling capacitor and the grid resistor of the second half of the tube. There are seven of these circuits in cascade in the distributor. The first is adjusted for a 33 millisecond time constant center. This time is made variable over an approximate plus or minus 10 millisecond range to allow for signal bias correction. The output of this stage is differentiated to drive the following stage. Since the following stage is set up to trip on a negative pulse, the positive pulse produced by the first multivibrator, coinciding with the start pulse, has no effect, but the negative pulse which arrives 33 milliseconds later when the stage "cuts off," trips the second of the multivibrators. The second stage is indentical with the first, with the exception that it is adjusted for a 22 millisecond pulse length to coincide with the 22 millisecond pulse length of the standard teletype pulses. The output of this stage is used in two different ways: The negative going pulse 22 milliseconds later trips another identical 22 millisecond stage. The positive pulse which coincides with the center of the first selector pulse is fed through a 150K resistor to the plate of a shunt diode and also to the grid of a 25L6 whose plate circuit is coupled to the No. 1 magnet on the 21-A. If a No. 1 mark pulse is present on the input as for instance in the letter "Y," the cathode of the diode is 35 volts positive and thus cut off allowing the pulse to drive the 25L6 positive, operating the No. 1 selector magnet. However, if the No. 1 pulse is a space, for instance "R," the diode is left conducting and shorts the pulse output of the multivibrator to ground and no signal is applied to the grid of the No. 1 25L6 and the selector magnet does not operate. The operation proceeds in an identical manner through the multivibrators, gates, and 25L6's for pulses No. 2, 3 and 4. The positive going pulse from the multivibrator that drives the No. 5 magnet is used in the same manner. However, the time constant of this multivibrator is shortened to about 10 milliseconds since the 22 millisecond time delay is no longer of consequence. Its output drives another similar stage which supplies the No. 6 or "print" pulse to the printer. Its time constant is also adjusted to about 10 milliseconds. The positive pulse from its output is coupled directly to the grid of a 6V6 tube which has a "millisec" relay in its plate circuit. The contacts of the relay apply 110V DC to the No. 6 relay in the printer through a 1000 ohm resistor which limits the relay current to about the required 60 milliamperes. This completes the distributor cycle as the 21-A provides the rest of the timing for the printing operation.

CONSTRUCTION:

There are no apparent critical points in the layout. Straight line layout of the multivibrators is suggested since this tends to lend itself to point to point wiring. The unit it not particularly critical to RF; however, normal precautions should be followed, particularly with regard to noise suppression in polar relays and the like. The 110V DC power supply should be capable of about 300-400 milliamperes with at least 80 mfd. output filter capacitor since it must supply the power for the printer operation as well as that of part of the distributor.

ADJUSTMENT:

The best method of adjustment involves the use of the station teletype transmitter, with the printer, if available, coupled in series with the polar relay which drives the distributor. The writer permanently installed 250K potentiometers on the chassis to be used as the grid resistors of multivibrators one through five. However, a better method might be to use 50K potentiometers and a suitable value of fixed resistor in series for this purpose, giving a finer control on the adjustment. After wiring is completed, insert all tubes with the exception of the 6V6 which drives the 6th pulse relay. The 2000 ohm potentiometer in the 25L6 cathode circuit should be turned to the maximum resistance position. About 2 mfd. should be temporarily wired in as the timing capacitor of the 7B7 stage. This is too large a value for normal operation but will allow a safety factor during the adjustment period. Turn on all filaments and the 200 volt supply to the delay circuits and allow them to warm up. After a warmup period, turn on the 110V DC supply.

1. Reduce the value of resistance in the 25L6 cathode circuit until the selector magnets operate. Then increase it until all the magnets have dropped back again. This value may be fixed at this time.

2. Send the letter "E" from the teletype transmitter and adjust the potentiometer in the grid of the first multivibrator stage to the center of the region where the No. 1 selector closes and then drops out each time the key is pressed. The printer should be operated each time a selector operates by touching the sixth pulse relay (located at the right hand rear of the machine) since after a selector has operated once, less energy is required for successive operations unless the printer is cleared in this manner. It also provides a check on the mechanical operation of the printer, as well as a certain amount of personal satisfaction at seeing something on the tape!

3. Now proceed with the adjustment of the next four multivibrators. The letter "A" sent from the teletype transmitter should operate selector magnets one and two, "U" will operate magnets 1, 2 and 3: "K" operates 1, 2, 3 and 4 while the LTRS key will operate all five selectors. At this time, operation of all characters should be tested, operating the 21-A by hand on each character.

4. Replace the 6V6 in its socket, and allow it to warm up. The printer should now follow the operation of the transmitter at a limited speed of operation.

5. Now reduce the value of the timing capacitor in the 7B7 stage to the minimum value which permits proper operation. In the writers case this value was about 0.8 mfd, however it may vary somewhat with parts placement and tolerances. The machine should follow a tape transmission. If it is still slow, reduce the values of the coupling capacitors in the last two multivibrator stages and again adjust the 7B7 timing for minimum value. This completes the adjustment.

RF SUPPRESSION:

For some strange and unknown reason the 21-A is supplied with excellent arc suppression on all contacts except the print circuits. The writer has found that a 2 mfd capacitor in series with about 150 ohms will give excellent results in the two places where it has been omitted. The first point is the print relay which is located at the right rear of the machine behind the 6th pulse relay. The other point is the print contact which is located at the far left hand of the machine. Application of this suppression circuit to these two points should quiet the machine in a satisfactory manner, as far as receiver noise is concerned.

The unit which has been described was designed to operate the 21-A with the minimum change in the printer itself. However, it seems probable that with some modification of the printer, considerable simplification in the distributor could be made. For instance, if the selector magnets could be rewound to a higher impedance, three 6SN7's could be substituted for the 25L6's and the 6V6 with considerable power saving, as well as tube investment. Work is also proceeding on the problem of eliminating the relays in the printer by substituting thyratrons , since relays, at best, produce radio noise and require periodic adjustment. However, as it is, the 21-A is a very quiet, smooth operating little machine which will produce excellent results for a quite reasonable time and money investment.

See Circuit Diagram on pages 8 and 9.

Armed Forces Day Amateur Radio Activities

RATT (RTTY) Receiving Competition MAY 16, 1953

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

Time	Call Sign
1300 EST	NDC (Norfolk, Va.)
1300 CST	NDS (Great Lakes, Ill.)
1300 MST	NDF (New Orleans, La.) or NDW2 (Salt Lake City, Utah
1300 PST	NDW (Treasure Is. Cal.)

Above Stations will operate on 7375 kcs.

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 message 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 and call letters of the station copied should be indicated as well as the name and call sign of the amateur concerned.

Adapting the ART-13 for FSK

By PHILLIP M. CANTONA, W2JAV

"At present am still using the ART-13 and FSK its FB VFO. The circuit below is a very simple arrangement that works very well on all present F-1 bands. It must be back keyed, however, to comply with present practice of Mark high. A polar relay is used in series with the channel amplifier relay in a local AFSK loop. It requires no voltage and has excellent keying and frequency stability.

To date have worked 25 of the boys on the various low frequency bands, and sure could use a W5 and a W7 to complete the deal. Also worked VE2AKT for, I think, his first "W" QSO, he was sure excited, hi.

Am still working on a new rig, using SSB principles, a pair of 811's Class B linear, and an audio phase shift network for FSK keying. Also have had good preliminary results on reception using W2KUJ's signal splicer (G. E. Ham Tips, August 51). It still has a few bugs, however it should not be overlooked for FSK reception.

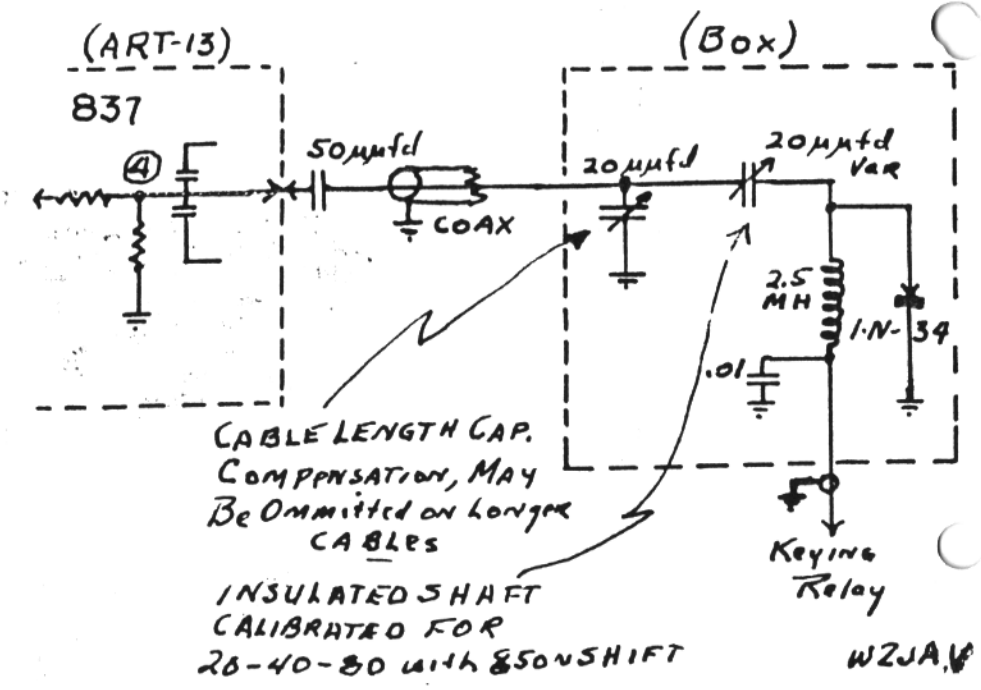


FIGURE 1—CIRCUIT DIAGRAM OF FSK

Tuning Indicator for FSK

By MERRILL SWAN, W6AEE

Many of you have found by this time, that any aid to the proper tuning in of FSK Teletype signals will help. Several circuits have been proposed thus far. One such circuit was in the Bulletin from Wayne Green, W2NSD, recently, written by Bob Weitbrecht, W9TCJ. Each of the various circuits will appeal to certain operators, who might have some of the necessary parts on hand. Another circuit to add to those already in use is the following which makes use of an oscilloscope. Many stations have one in their test gear. By connecting the output of the filters (or filter amplifiers) which feed the detectors in the terminal unit, to the vertical and horizontal plates of the 'scope, a cross type of pattern will be observed. Correct tuning will give a perfect cross, while mistuning will be shown by other types of patterns. Typical patterns are shown on the next page. Multiplex signals can be tuned in so as to copy either of the signals. So far not too much work has been done to develope this technique, as at the present, amateur RTTY signals will not fall into this type of reception.

Figure 1 shows one method of adding a 'scope to an existing terminal unit. A minimum of extra parts are needed to add this feature to many units. One small filament transformer for the extra rectifier for the negative high voltage, a 2 mfd. capicitor for the filter, a few resistors, some small by-pass capacitors, and the necessary centering potentiometers, is all that is needed for most of the three inch 'scope tubes. 3BP1, 3FP1 and many other similar three inch 'scope tubes can be used, many of these can be purchased for less than three dollars in surplus. Magnetic deflection can also be used, with only additional coupling tubes to operate from your present filter

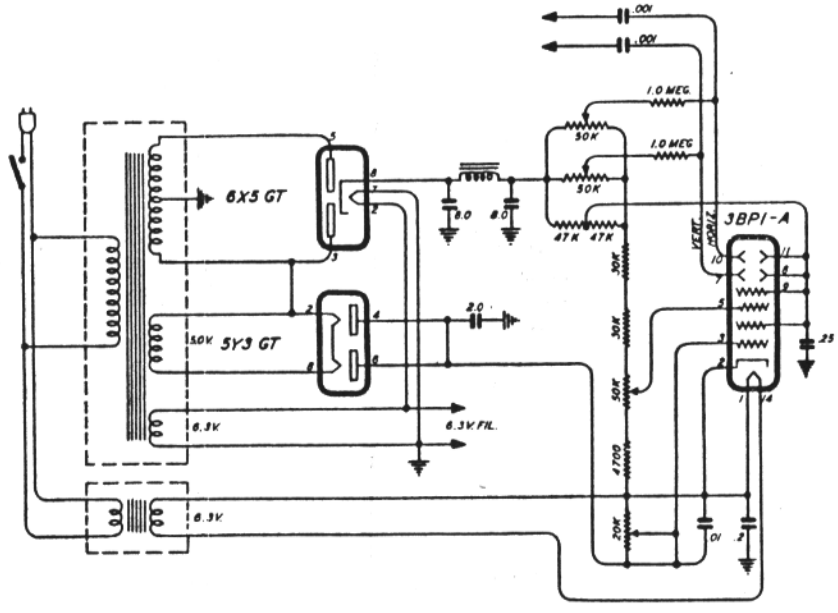


FIGURE 1—CIRCUIT DIAGRAM OF 'SCOPE

output. Mark signal is usually connected to the horizontal plates, and provides an easy reference from which to tune. As an FSK RTTY signal is tuned in, the pattern usually goes from vertical to horizontal, then thru zero and again horizontal and then vertical. At this station the BFO is set so as to require the FSK signal to be tuned in from the high frequency side, for normal Mark on the high side. After a short period of use with this type of indicator, the need for sending RYRYRYRY's is not present. One can retune to his own signals when in contact with stations not on his own frequency, this of course makes for more rapid QSO's. By retuning to one's own signals, misadjustment of FSK keying equipment or other misadjustment of the transmitting gear can be observed while transmitting. Copy from side tone while simpler in some cases is desirable, does not provide self monitoring. At some future time the need for this type of equipment will not be of such importance as it is now, in other words, "when better terminal and transmitting equipment" is in use.

An added advantage is in the ability to check ones own shift when shifting from one frequency to another, without the need for additional equipment. The accuracy of such measurements depend on the filters used in the terminal unit, but then again, they should be correct if copy is to be good at all times. The filter networks used in this station's terminal unit are of the modified BC-733 type. The pass to reject amplitudes are of the order of 26 to 32 DB (20 to 1—30 to 1), and give very little widening of the opposite trace. These filters were set up for a nominal 850 cycle shift, however copy can be had to as low as 600 cycles shift in frequency. The "+" pattern on the 'scope degenerates into an "X" when shift smaller than 850 CPS are received.

It is hoped that this indicator will help some of the RTTY stations to tune in other stations more easily. Most of the Southern California RTTY stations are so equipped and as a result the practice of sending RYRY's when first contacting another RTTY station is not used to any great amount. One can almost determine whether the other station has a good tuning indicator from the amount of time spent in the RYRY process when coming back after each transmission.

Another type of 'scope indicator used in some military units, use an entirely different type of pattern. It requires direct connection from the detectors after the filters, or discriminator, to the deflecting plates of the 'scope. This poses some complications, as normally we like to operate our equipment at DC ground potential rather than at some high voltage above ground. (Safety precautions). The indication from this type of circuit is a straight line (horizontal) when no signal is received, and then a line horizontal above and below the original line. The amount of frequency shift determines in one version, the amplitude of the shift above or below the no signal line. Tuning with this type of pattern while better than no indicator, leaves much to be desired, in the opinion of the writer.

RTTY is the Official Publication of the

Southern California Radio Teletype Society

and is published for the benefit of all Radio Teletype Amateurs and Experimenters.

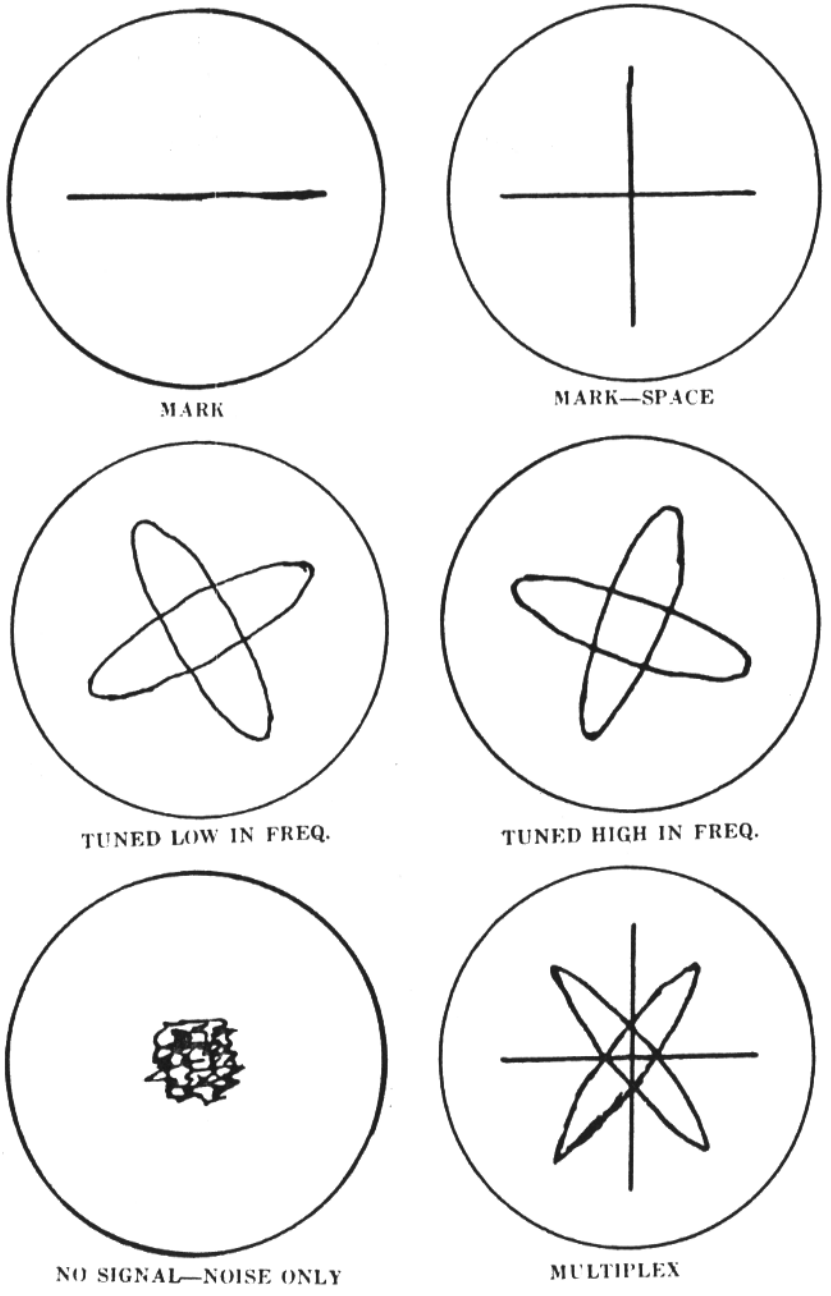
Permission to copy is granted provided credit is given.

For Informateion regarding the SCRTS contact the following:
W6CLW—Ed Simmons
W6AEE—Merrill Swan
W6SCQ—Lewis Rogerson

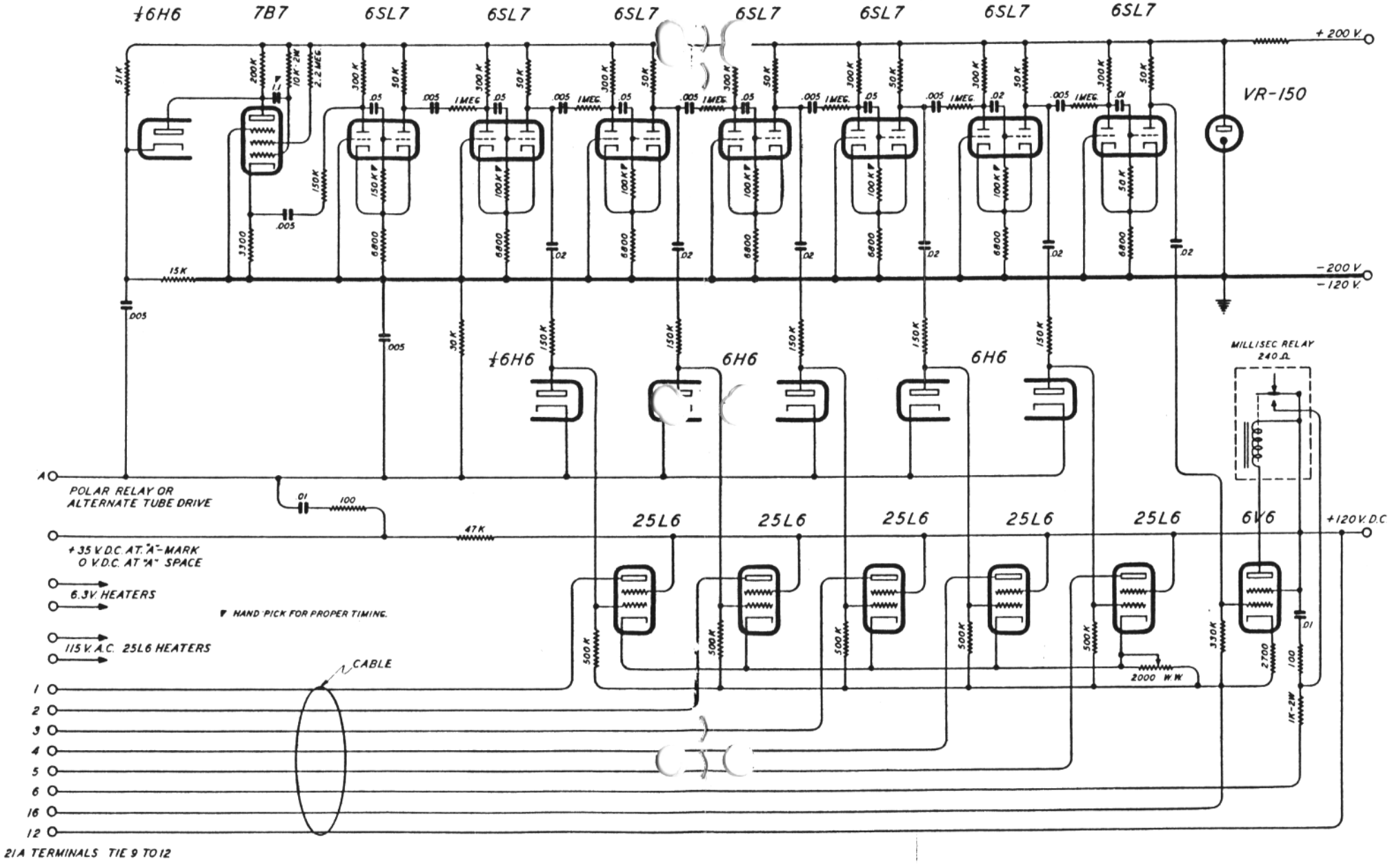
For Traffic Net Information:
W6FLW W6IZJ

For "RTTY" Information:
W6CL W6CLW
W6DEO W6AEE

FIGURE 2—SYMBOLS OF PATTERNS ON 'SCOPE"



CIRCUIT DIAGRAM FOR MODEL 21-A ELECTRONIC DISTRIBUTOR



21-A ELECTRONIC DISTRIBUTOR

Active Low Frequency Amateur Radio Teletype Stations

Additional Information on Station Equipment and other Stations would be greatly appreciated

*MOBILE OPERATION

CALL	NAME	LOCATION	TRANSMITTER	PRINTER	Tape	Rep.
W1BGW	Jack	Dorchester, Mass.	1000 watts	12		
W2BDI						
W2JAV	Phil	Hammonton, N. J.	ART-13	12		
W2MYL	Graham	New York, N. Y.	32-V-2	21-A/26	Yes	Yes
W2NSD	Wayne	Brooklyn N. Y.	1000 watts	12/14	Yes	
W2OOG						
W2PAT						
W2PAU	Brownie	Westmont, N. J.	500 watts	12		
W2PTW						
W2PXR						
W2VDM	Harry	White Plains, N. Y.	150 watts	21-A/26		
K2WAN						
W3ERS						
W3LCW						
W3LMC	Howard	Baltimore, Md.	800 watts	12	Yes	Yes
W3ODF						
W3PKF	Ed	Frederick, Md.		12		
W3PYW	Frank	Silver Springs, Md.	1000 watts	12	Yes	Yes
W3PZA	Red Cross	Washington, D. C.	TBK-16	15		
W3RUA						
W4ACV						
W4FJ						
W4MOP	Stew	Louisville, Ky.				
W4OLL						
W4OYC						
W4PCT	George	Covington, Ky.	32-V-2	12		
W4SQF	Bud	Alexandria, Va.	Viking II	12/19		
W4VMS						
K4WAR		Washington, D. C.	BC-610	15		
W9BCY/4						

CALL	NAME	LOCATION	TRANSMITTER	PRINTER	Tape	Rep.
W6AEE	Merrill	Pasadena, Calif.	1000 watts	15	Yes	Yes
W6CAP	Bob	Gardena, Calif.	ARC-5	26		
W6CLW	Ed	Pasadena, Calif.	32-V-2	12/14	Yes	Yes
W6CMQ	Ted	San Marino, Calif.	500 watts	15/21-A	Yes	Yes
W6FLW	Emile	Whittier, Calif.	32-V-2	12		
W6GFI	Roy	Los Angeles, Calif.	300 watts	14-15-26	Yes	Yes
W6ITH	Reg	Morago, Calif.	1000 watts	15/19	Yes	Yes
W6IZJ	Ed	Sierra Madre, Calif.	ARC-5	12	Yes	
W6MSG	Bob	Paso Robles, Calif.	300 Watts	12		
W6NSS	Al	Los Angeles, Calif.		15		
W6NYF	Roy	Los Angeles, Calif.				
W6OQB	Ralph	Arcadia, Calif.	1000 watts	26		
W6OWP	Bart	Belmont, Calif.				
W6RL	Shorty	El Segundo, Calif.	32-V-2	12/26*	Yes	Yes
W6RZL	Rich	Redwood City, Cal.				
W6SCQ	Louie	San Gabriel, Calif.	32-V-2	15	Yes	
W6YDK	Larry	San Diego, Calif.	BC-610	15	Yes	Yes
W6ZH	Herb	San Marino, Calif.	1000 watts	26	Yes	
W7LU	Wally	Portland, Ore.				
W7VS	Temp	Portland, Ore.				
W8BYB						
W8DLT						
W8RMH						
W9TCJ	Bob	Williams Bay, Wisc.	813 Final	12	Yes	
W9THE						
W9UAU	Doc	Rockford, Ill	600 watts	12/21-A	Yes	
W9ZBK	Ben	South Bend, Ind.	300 watts	12		
WØBP	Beeps	Minneapolis, Minn.	1000 watts	12		
WØHKF	Bob	St. Paul, Minn.	200 watts	12		
VØLHS	Bill	Fargo, N. D.	32-V-2	12		
WØUVL	Trot	Pierre, S. D.	1000 watts	12	Yes	
WØUYL						
VE2AKT	Benny	Montreal, Quebec	100 watts	12/15		
VE2ANM	Al	Montreal, Quebec		26		
VE3AKO	Frank	Toronto, Ontario				
VE3AXX						

Traffic Net News

EMILE DUVAL, W6FLW

The Southern California Radio Teletype Society Net operates every Tuesday evening at 8 p. m. on 147.85 mc.

Traffic is beginning to flow with the handling of messages coming mostly thru W6NWM who seems to be relaying from the South and from the Islands. This is very encouraging and W6CLW is copying on the Tape printer on Gummed paper, pasting the strips on Post Cards and forwarding them to their desination. At the bottom of the tape Ed has a notation: "Received via Amateur Radio Teletype."

Activity for the Month of Aprli:

APRIL 7, 1953—N. C. W6FLW
TOTAL CHECK-INS—TEN

W6AEE	W6FLW
W6CL	W6IZJ
W6NWM	W6NAT
W6DEO	W6RL

W6BWQ and W6SCQ Checked In before Net Operations:

APRIL 14, 1953--N. C. W6FLW
TOTAL CHECK-INS—ELEVEN

W6AEE	W6NWM
W6BWQ	W6OQB
W6CLW	W6RL
W6EV	W6SCQ
W6FLW	W6IZJ

W6CL Checked In from W6AEE

APRIL 21, 1953—N. C. W6AEE
TOTAL CHECK-INS—ELEVEN

W6AEE	W6NAT
W6CL	W6OQB
W6CLW	W6RL
W6EV	W6SCQ
W6FLW	W6WYH
W6IZJ	

APRIL 28, 1953—N. C. W6IZJ (W6SCQ)
TOTAL CHECK-INS—THIRTEEN

W6AEE	W6NAT
W6CL	W6OQB
W6CLW	W6RL
W6EV	W6SCQ
W6FLW	W6GFI
W6IZJ	W6NWM

W6MSG (Paso Robles) Relay from 40 meters.

APPOINTMENTS FOR NET CONTROL STATIONS FOR THE MONTHS OF MAY AND JUNE, 1953:

May 5—W6CL
May 12—W6CLW
May 19—W6DEO
May 26—W6EV
June 2—W6EZP
June 9—W6GFI
June 16—W6IZJ
June 23—W6KNI
June 30—W6NAT

The present schedule of procedure is as follows:

1—Roll Call of stations (Do not break in unless called).

2—Handling of Traffic.

3—Handling of Bulletins.

Do not carry on any two-way contacts between other stations than Net Control unless asked to do so by Net Control.

On Tuesday Evening, April 28 W6MSG of Paso Robles, California checked into the Two Meter Net Thru W6IZJ and W6AEE on 80 and 40 meters respectively and was retransmitter on two meters by reperf. by W6AEE. The contact was not solid due to skip conditions present on that evening, however enough was copied to constitute a Check-In.

Perhaps we can try this again next week with Bob or some other station when conditions are a little better.

MARS Radio Teletype Operations

"The MARS Bulletin of March, 1953 reports the activity of the MARS members who have Radio Teletype Equipment. Among those active stations were—A4OLL, Jack Brown of Herndon, Va.; A4FJ, Ted Mathewson, Richmond Va.; AA2WAO (Operator, Steve) of Fort Dix, N. J. and A4SQF, Bud Sable of Alexandria, Va.

Present operations are held on Saturday from 1800Z to 1900Z and 2000Z to 2100Z. A secondary period of operation from 2000Z to 2100Z on Sunday has also been established. These operations are on MARS frequency of 3497.5 kcs."

Any RTTY readers who are members of MARS and are interested in the above operations, please send complete information to MARS Headquarters thru your regular Command Channels.

Comments from Readers

"Thanks for your very interesting letter, and perhaps will see you on the air if you ever bother with an old-fashioned phone and CW anymore."

—Nicholas Rosa, W1NOA

"You have the information that is needed by fellows, as I, who are interested in getting started."

—N. I. Wallen, WØKMW

"W9JBT and myself are still sweating out keyboards (at least one) to get on the air. Bob has his TU all built up, I have a receiver that should work, and between us, we could get a rig on the air. But, without a distributor, all is not so good."

—George, W9SPT

"I received the first three copies of "RTTY" and find them very interesting. Amateur RTTY is so new, that I believe that such a Bulletin is necessary to pass the necessary information around. I am receiving only due to lack of keyboard."

—Floyd Colyar, W5QDD

Been having lots of fun working F-1, miss the peace and quiet of two meters."

—Howard Snyder, W3LMC

"Am still working on a new rig, using SSB principles, a pair of 811's Class B linear, and an audio phase shift network for FSK keying. . . . . On the sad side, I don't have room for a good antenna (Don't we all?) . . . . most all I can use is a random length of wire."

—Phil, W2JAV

"We have a telephone engineer interested in RTTY and at the present working on the design of an electronic distributor. He is Ray, W9GRW. But as I said, any problems you may have on the 12's drop me a line and maybe we can iron them out. We have used the 12's in this office for a good many years, so know them pretty well."

—Jack Gallup, U. P. Railroad
(Union Pacific)

"Received the last copy of RTTY and found it interesting as usual. Although the happenings in organized RTTY out there concerns us little here, it is interesting to know what is going on. . . . . and as soon as I can get into Evanston and get the prewar rig, I will be able to put 600 watts well TVIed."

—Doc, W9UAU

"Gosh, that was splendid service. I wrote you for info on RTTY on Monday this week Air Mail and your Bulletins were back here Air Mail same week."

—Kendall Speer, Jr., W3CA

"The set-up here is for Xmitting only but hope to have a Model 12 or a Model 21-A. . . . . You have a very nice bulletin and am sure I will get much out of it. KEEP 'EM TYPING."

—73—Trot, WØUVL

A group of us here have a test tape run on 7162 KC (850 cycle shift FSK, 100 watts output) several hours daily, and am beginning to wonder if the gang out there listens—I hear W6's, but no one seems to have printed our tape out there."

—Frank, VEAKO
(VE2AKT gets into Pasadena, Ed)

"Have worked the following stations on 3.5 MC band: W2NSD, W2OOG, W2JAV, W2PAU, W4SQF, W3PYW and W3ERS . . . . Guess that's about all the local dirt can think of at the moment. Keep up the good work."

—73—Jack, W1BGW

"Wanted to be sure to write this letter and congratulate you on the fine bulletin you've been putting out. I like the composition, as well as the un-biased view point you have taken."

—Bud, W4SQF
(Hope we can continue to do this, Ed)

"Hope to hear much more from the West Coast in the near future. We never had much trouble getting out your way on 80, 40 or 20, almost any time of day or night. But some how, the RTTY gang just don't seem to be making the big effort to scrape up cross country QSO's. Is the activity actually low out that-a-way? (Gotta admit it often is in this neck of the woods). Maybe all we need is more good operators and fewer engineers. Keep up the good work."

—73—Brownie, W2PAU

"I received the March issue of "RTTY" and wish to express my thanks for it. The technical information contained in it was much appreciated and the article on the Model 12 was informative. Will be looking forward to the adjustment one."

—George Hanna, W4PCT

"This bulletin looks good to me. It is bringing to me some of the things that I want to know about "stuff and things."

—73—Phil, W6HCC

The grapevine reports the activity of two more new stations (W6HOE) and (W6HBQ). W6HOE is located in Temple City and the probable gear, a Model 19. No report yet on the location and type of gear for W6HBQ, but maybe by next month we can report more on these two new stations.

* * * *

. . . . Well Louie, will let you retire so you will be able to check in on the early bird net in the morning. So will let Don produce some quotations on the line now. W6EZP/W6SCQ de W6CLW.

* * * *

. . . . was up on forty meters but couldn't raise a soul so back to the good old standby. How is everything up on the DX hill. Sounds to me as tho you have a tape transmitter up there or have you been practising on the monster? W6EV de W6OQB.

* * * *

W6WYH is now on the 2 meter band going full blast. Ted is a Fireman and his hours of work make it possible for him to be on in the day time, so if any other 2 meter day time stations are looking for an active station in the day time look up W6WYH.

* * * *

Forgot to mention, W6WYH is using a Model 12 machine.

. . . . Cliff I have a new 26 here and it is very much like the 24—it is a fine machine and I like it OK. This is our first contact and sure glad to hear you on. W6KNI de W6OQB.

* * * *

. . . . You should have seen Marion as that was the first time she had ever been out here when this thing was running and she tried to write with her fingers on the board and when it came time to shift or return the carriage she would give a big swipe at where it should have been, then she would give a funny look. W6CL de W6WYH.

* * * *

The local boys really hit the jack pot this last month with several stations acquiring Model 26 machines. Among the new equipment gang are W6CAP, Model 26; W6OQB, Model 26; W6ILW, Model 12; W6ZH, Model 26; W6WYH, Model 12; W6NSS, Model 15; W6EV, Model 24.

* * * *

. . . . Have a new feature on the RTTY here. I obtained one of those touch plate relays they use in the model modern houses to turn the lights on and off with a single push button switch. Use the break push button on the machine here to turn on and turn off the transmitter using the relay. It is the type which alternately closes and opens the circuit upon momentary excitation. Works fine. It is made for twelve volts DC but works fine on AC using 100 ohms in series with the 115V AC line. W6CL de W6CLW.

* * * *

. . . . Good evening Cliff. You are putting in a good signal here and the copy is O. K. Roger on all the prospective stations. W6KNI de W6CLW.

* * * *

. . . . The above was a tape. The first part copied from W6AEE and the second part copied from W6GFI. This is W6CMQ.

. . . . I won't say who is the strongest here as all of you have nice solid signals and Frank is as strong as anyone. W3 PYW/WØUVL/W6OWP/W6AEE de W7 VS, Portland.

* * * *

. . . that tape perforator and tight tape switch. Though it works fine, the letters pop out like a "burp" gun, then it burps again. Very cute. WØUVL and the gang de W3PYW, Silver Springs Md., 4 miles north of Washington, D. C.

* * * *

W6KGS, Lem Moeschler (Technician) of Compton, Calif. reports setting up for operation on 420 and 220 megacycles on Saturday, the 16th of May. Anyone desiring to try the higher frequencies can depend on finding Lem there. He also reports a station in Torrance with whom he will hold regular schedules on the 420 mc. band. The station is W6BGM, Chuck, who will also be on the other bands as soon as he completes a terminal

Both stations have Model 12's. .n has been on 220 and 420 for the past year and a half and has maintained consistent schedules with San Diego on 420 mc. Lem has also been responsible for getting at least ten stations on 220. If he follows the same pattern in the next year and a half, they will all have teletype. (He hopes, says he).

. . . . OK Frank, I lost you for a moment and had to copy a little to get the drift. No good on Merrill at that time. He has a strong signal considering everything. W3PYW/W6AEE de W3RHX, (on two meters), Washington, D. C.

* * * *

W6ILW has just completed his TU . is ready to put the unit to its first . test this week.

* * * *

. . . . Am running a KW here now so wonder if that will help any? Boy does the XYL go crazy when I get all this stuff going. She is out right now or she would really be in the bughouse now—hi, hi W6AEE de WØUVL.

The Seventh Annual ARRL Convention to be held in Houston, Texas, July 10, 11 and 12 will include a discussion on Radio Teletype.

* * * *

W6QQM, Walt is moving to New York City in a couple of weeks to take on a more responsible position with the American Telephone and Telegraph Co. in New York. We wish to congratulate Walt on this endeavor but are sorry to see him go. Walt has been on 2 meters in this vicinity for a long time and has been consistently active. Perhaps he will put up some low frequency gear and we can continue to work him.

* * * *

Ted, W6WYH had the misfortune of burning out one of the padders on his tone oscillator the first evening he got on the air. A quick trip out to W6CMQ on a Saturday afternoon put him back in business. Ted Swift, W6CMQ has a calibrated Standard tone oscillator and has put many of the boys on the nose on their tones.

* * * *

. . . . wonder if there has been any interest in RTTY in the Hams up your way, Johnny? There are several Model 12 machines available now from stations who recently acquired more expensive equipment, so if any of the fellows are looking for teletype printers they can be had at the present! (See pack page Horse Trades)

* * * *

W6NYF, Roy, has been heard on 40 meters, I knew we would have that boy on about this time, as he has been working on the outfit for the past month.

* * * *

. . . . W6NYF/W6AEE de W9TCJ. Roger and FB Roy. Your printing in here very nicely . . . . as W2BFD says, "Keep 'Em Printing!"