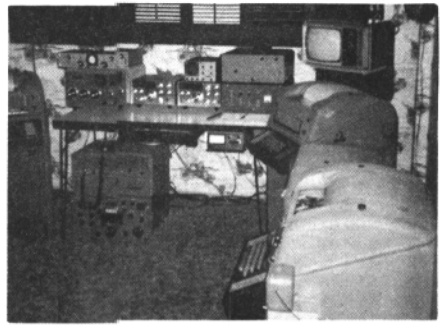
"Cecil", W7VKO - A Winner in Bi-Centennial WAS Contest.



Dear Dusty;

I have been a Ham since 1953, have earned the DXCC on CW and SSB and now getting close to it on RTTY†

Started in RTTY about 1962 and enjoyed this mode more than all the rest put together. I think the contest was a fantastic thing and did great things to generate interest and activity.

I made the necessary contacts for the WAS in eleven days but couldn't get the cards in any sooner. I sure want to thank everyone that made the contest so interesting.

Hope the photos are usable. The lower photo shows the overall set up with the 3 model 28 machines and operating position. I used a Kenwood R599A receiver and Kenwood T599A exciter running a SB200 final. A home brewed ST-6 with Hal Boards was the demodulator. And now I have a Dovetron HI. The box above the demodulator is a UT-4 (which I haven't been able to get working yet).

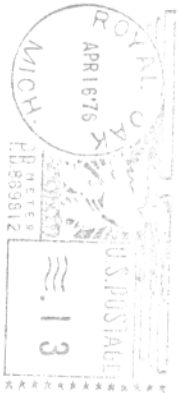
Thanks again for a fantastic contest and hope you can use the photos, Dusty.

73, Cecil, x

***** *****

FIRST CLASS MAIL

RTTY JOURNAL
P.O. Box 837
Royal Oak, MI. 48068



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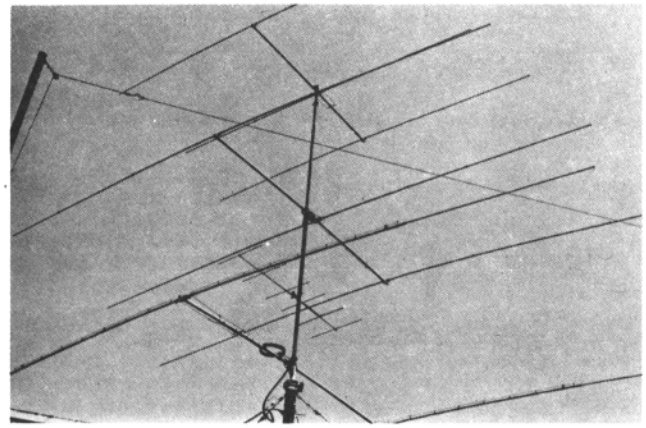
Volume 24 No. 5 35 Cents



CONTENTS

Pocket Sized Printer

RICK BOURGEOIS,WA5EVH
P.O. Box 2746
LAFAYETTE, LA. 70502

Recent articles by this author (1, 2) generated quite an interest in the little MITE teleprinters. While acquisition of these machines has become easier and their use more common since the previous articles, little else has been written about this particular line of teleprinter. In a continuing effort to encourage more interest and to increase dissemination of information about Mite Corporation machines, here is an introduction to the Mite Model 119A.

The model 119A is a micro-miniature page printer measuring only 4" by 4" by 10" and weighing 6 pounds. Figure 1 shows the entire machine on the right with an electronic decoder-driver on the left.

Anyone who has studied a standard sized Mite at work for a while sooner or later must wonder about the feasibility of using solenoids to accomplish character generation instead of the complicated system of motor, gears and pawls. Apparently, this idea occurred to the Mite engineers several years ago and spawned the development of the model 119A. The principle of operation of the model 119A is exactly the same as the larger Mite machines except for the fact that there is no motor and all functions of character selection, space, line feed and print are performed by solenoids. There are 9 solenoids used in the machine. Five are used to decode the 5 level baudot code, one is used for printing, one for advancing along the line, one for line feed-carriage return and one for upper-lower case selection. Figure 2 illustrates the location of these solenoids.

In the selection of a character for printing, the model 119A uses an 8 faced type font with 4 faces for lower case characters and 4 faces for upper case characters. There are 8 characters and 4 faces for upper case characters. There are 8 characters per row along each face. Referring to figure 2, solenoids 1, 2 and 6 are used to select a particular face with a rotary motion of the type font and solenoids 3, 4 and 5 impart a lateral motion to the type font to select a particular character along a row. Character selection is thus in response to the on or off state of each solenoid which is determined by the particular baudot code being presented.

This teleprinter accepts parallel information. In order to use it on RTTY, an accessory serial to parallel converter and solenoid driver had to be designed. Figure 3 shows a block diagram of this author's converter. Serial information from the station loop is entered and stored, then presented as parallel output to the proper solenoid. The solenoids require 28 vdc at 0.20 - 1.00 amps. Thus the TTL level output must first go through solenoid drivers to reach the solenoids. Electronic decoding

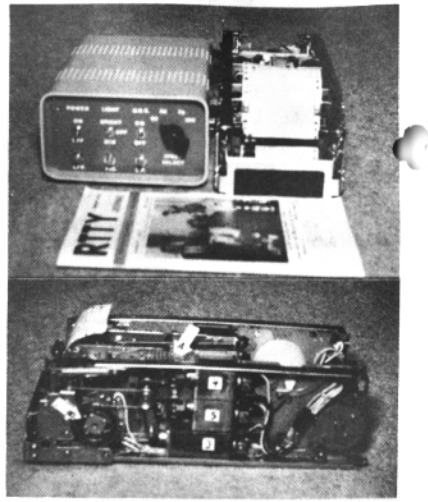


Fig. 1 (Upper)
Model 119A Microminiature
Page printer. (Right)
I.C. Series-Parallel
decoder/ driver. (left)
Fig. 4 (lower)
A-Mechanical character Decoder
B-Carriage return sense
switches and drum.
3-4-5- Lateral positioning
solenoids.

of the particular character being selected is used to perform the local machine functions of space, line feed-carriage return, letters/figures, space prevent and print prevent where required.

An interesting feature is built into this machine. Since the printed line can accommodate only 26 characters, carriage return and line feed occur automatically on the first space function after the 20th character is printed or at the end of the line. In this way, few words are broken by the shortened line format. This selector mechanism is shown by arrow "B" in figur. 4.

One other unusual feature is the mechanical digital decoder used to sense the various non-print, non-space functions such as space, line feed etc. Arrow "A" in figure 4 shows one of the two decoders. It consists of an 8 position p.c. sw[illegible]h which senses the position of the lateral and ro[illegible]y character selection functions as previously described and thereby can be used to detect any desired characters. Its function is to disable the print and advance solenoids on certain functions not requiring them. This decoding system was not

CONTINUED ON PAGE 10

Auto-CW ID for Picture Transmissions

JOHN LINBASH, WB4VUP
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SPRING LAKE, N.C. 28390

Shortly after getting the RTTY pix bug and copying several pictures on the 14,ØØØ KHZ net, it became painfully obvious to me that there had to be a better way to handle the whole pix situation than by the conventional paper type method. (Anyone who has ever rolled up a two hour tape by hand will vouch for this!!). A surplus tape rewinder was obtained and alleviated the mess somewhat, however since I was not able to find an unwinder with a compatible core size it was still quite a chore to have to unwind the tapes by hand before sending them on the TD.

Along about this point I happened to have a chat with Ricky, WAØCKY, and found out that he has most of his pictures converted to audio cassettes. This seemed like a good idea, so I got out the cassette recorder, hooked it to the AFSK output of the ST-6, fired up the TD and put a few pictures on the audio tape. Now while this was definitely a step in the right direction, it was still annoying to have to stop the whole operation every ten minutes and manually key the CW ID while transmitting from the audio tape. Again Ricky came to the rescue by telling me about an old VOX circuit he had modified to use as an automatic ID'er when playing pictures from the cassette recorder. He now uses a more elaborate setup in conjunction with his UT-4, but the auto ID in the old system was accomplished by stopping the TD at ten minute intervals while recording the pix and keying a CW ID onto the tape from an outboard audio oscillator. When the tape was replayed through the T/U a tone decoder circuit picked up the CW ID tones and keyed a relay connected to the narrow shift CW ID circuit in the T/U.

Well this sounded just like what I was looking for and after thinking it over for a couple of months I had pretty well figured out how to interface it in the station here. Now all I needed was the tone decoder. After some fruitless experimentation with a PLL circuit I happened across the circuit shown in Figure 1. It is a modified autostart circuit from an article by KØPHF and WAØUZO in the January 1976 issue of Ham Radio. Since the circuit is basically an audio tone decoder driving a relay, it was just what I had been looking for.

The circuit was modified slightly to eliminate the delayed pull-in and drop-out feature of the autostart and a liberal amount of parts substitution was made to keep it within the realm of my junkbox. Since it worked well the first try, I assume that most any fet and audio transistor of the proper polarity will work. I happened to use a HEP 8Ø1 and HEP 726 because I had them available.

CIRCUIT ADJUSTMENTS

Deciding what audio frequency to use posed a bit of a problem, 35ØØ HZ was finally decided upon since it is well away from both the 17Ø and 85Ø HZ shift tone frequencies, and the bandwidth of the input filter is broad enough at that frequency that the output frequency of the audio oscillator tones can be off a couple of hundred HZ either way without affecting the operation of the decoder. Once the circuit is completed, apply power to it and if nothing goes up in smoke connect the input of the decoder to the input of your T/U. Plug the output of your tape recorder into the T/U input also and play back a tape containing a steady mark tone. The audio level of the tape recorder should be the same as what you will be using on the air. Adjust the pot on the decoder input until the circuit is overdriven and the relay locks up continuously on the mark tone. Now slowly back off on the pot until the relay opens.

While continuing to play the mark tone into the T/U input, connect the output of your audio oscillator to the T/U input and set it to the frequency you have selected for the tone decoder. Adjust the output level of the audio oscillator until the relay closes and opens as you apply and remove the tone.

Final adjustments of the recorder playback and audio oscillator levels will have to be made on an individual basis and are somewhat interlocking.

RECORDING THE PICTURE

The block diagram of the recording set that I use is shown in Figure 2. The ST-6 is placed in standby, the tape recorder input is connected to the AK-1 output, and the audio oscillator output, through the key, is also connected to the recorder input.

Once the tape recorder is running in the "record" mode the picture tape is started through the TD. The loop and AK-1 are keyed by the TD and the audio

tones are recorded on the cassette.

At ten minute intervals the TD is stopped and the ST-6 being in standby remains in mark-hold. The AK-1 is now feeding a steady mark tone onto the cassette. About ten seconds of mark is allowed so that when the picture is played back on the air the receiving station will have the opportunity to switch his T/U to standby during the CW ID. After the delay, the CW ID is keyed onto the tape from the output of the audio oscillator, in my case at 3500 HZ. This procedure is then repeated every ten minutes for as long as the picture runs.

PLAYBACK/TRANSMIT

The block diagram of the playback/transmit set up is shown in Figure 3.

The ST-6 is placed in the auto mode and the output from the tape recorder is applied to the ST-6 input. The tone decoder input is also connected to the ST-6 input, and the output relay contacts to the CW ID jack.

The transmitter is turned on and the tape recorder started. The RTTY tones comprising the picture are now being played into the ST-6 and are keying the loop and FSK circuits.

Because of the toroid filter on its input, the tone decoder will not react to the normal mark and space tones; however, when the 3500 HZ CW ID tones come along they are decoded and drive the relay instep thereby keying the CW ID circuit in the ST-6. The result is complete hands-off picture transmission.

There is nothing original about this project. The general idea came from my good friend Ricky, WAØCKY, and the circuit was borrowed from KØPHF and WAØUZO. It was easy and inexpensive to build and proved to be extremely tolerant of parts substitution. It has definitely made picture transmission much less effort and more fun.

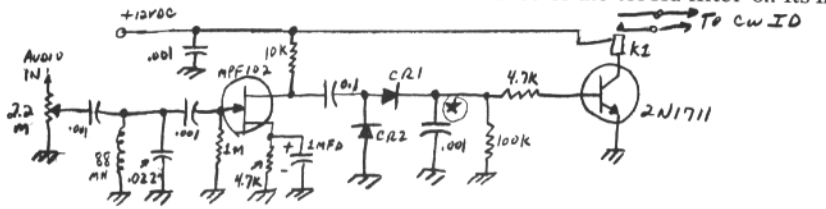


FIGURE 1

★ THE 100mfd CAP. USED HERE IN THE ORIGINAL CIRCUIT, PROVIDED THE DELAYED PULL-IN AND DROP-OUT FOR AUTOSTART

CR1-CR2 - ORIGINAL ARTICLE CALLED FOR HEP 154's, BUT I USED A COUPLE OF 1 AMP RECTIFIERS AND THEY WORKED OK.

K1 - JUST ABOUT ANY SENSITIVE 12VDC RELAY SHOULD WORK. I USED ONE FROM RADIO SHACK WITH A 10MA. COIL.

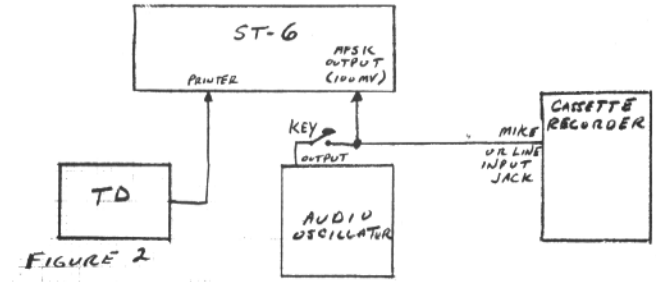


FIGURE 2

RECORDING SETUP

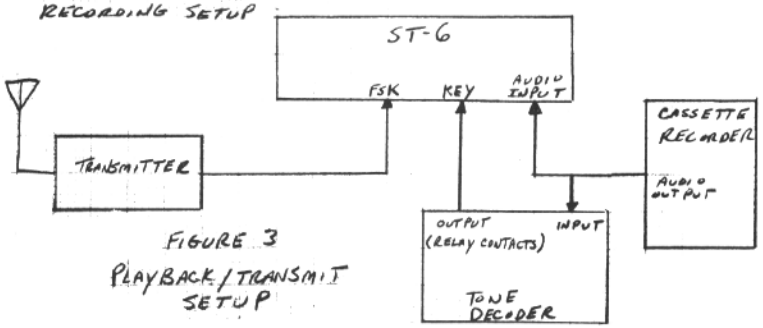


FIGURE 3

PLAYBACK/TRANSMIT SETUP

*****

TTY TIME CLOCK

FRED LaPLANTE, KL7HQB
7161 TALL SPRUCE
Anchorage, AK. 99502

Here is a time clock for your teletype station that is simple, inexpensive and flexible enough to fit most any station configuration. The basic time message generator requires only 11 integrated circuits with a cost of approximately $12.00 for the chips. The display will add about $6.00 more.

The unit generates the following 15-character message: "**LTRS - SP** - AT - **SP - FIGS.** - XXXX - **LTRS - SP** - AST" or any other combination of 11 fixed characters and four time digits. More imaginative types will no doubt find ways to add 12 hour time rather than 24 hour, and some will want to add seconds to the display with colon separators. None of these are described here. Just a simple 24-hour clock with the above message.

The message is generated in two parts -- the fixed portion which is stored in segment "0" of the Read-Only-Memory (ROM) you program yourself ($3.00) and the variable time portion generated by an LSI time clock chip and translated into TTY code (Baudot) by segment "1" of the ROM.

The fixed portion of the message is pretty straight-forward. IC's V1, 2 and 3 form a clock and divider chain which generate at the A, B, C and D outputs of U3 a binary code for each of 16 possible characters. This code is passed through a 4PDT switch (U5) to the ROM (U6) where a preset TTY character is selected and presented to a parallel-to-serial converter (Selector), U7, of U9. This is divided down into minutes and hours within the chip by a series of divide-by-120 and divide-by-6 circuits. The digits representing the time are outputted in binary form at pins 2-5 one digit at a time in the following sequence: minutes, tens of minutes, hours, tens of hours. (The digits appear as a parallel 4-bit BCD code.) As each of these digits is outputted, one of four other pins (22-25) will go low to indicate which digit is being made available. At the same time, the binary coded digit is translated into seven other signals (pins 6-12) which are fed to an LED 7-segment readout to display the current digit. To see the time then, it is necessary to use a multiplexed 4-digit LED readout and to connect it to the time clock chip as shown in figure 2.

Up to this point we have ignored the means of determining how and when the individual digits are selected for output by U9. This selection is performed by a set of selectors, dividers and oscillator built onto the clock chip which may be controlled through pin 26. When Q1 is off, the .001 capacitor and 150k resistor determine the frequency of the free-running on-chip oscillator and each digit is displayed at an approximately 5khz rate. When Q1 is on, it effectively shorts out the capacitor and the oscillator stops, leaving at the outputs to both the display and the ROM whichever digit was last selected.

In order to set the clock, three control lines are available: 'S' when grounded, advances the counter chain at a rate of 1 hour per second, 'F' advances the chain 1 minute per second, 'H' prevents the clock from advancing. The procedure then is to put the clock in hold (H), set the hours one hour less than the desired hour with **FAST** (F), advance to the desired minute of the correct hour using SLOW (S), then at precisely the indicated time, release the hold switch. The clock will then be set to the desired time and maintain that time as closely as any electric clock.

To understand how the current time is fed to the TTY code generating circuitry described before, we must first assume the time clock is running and displaying the time as we just described it. Note that the outputs of U3 which are fed to U4 and U5 are also tied to U8 which is a 1 of 16 selector. As U3's count progresses from 0 to 15, the corresponding inputs of U8 are connected to its output. The out of U8 is connected through an inverter to Q1. This arrangement means that any time the output of U8 goes high, Q1 is turned on therefore stopping the digit selection and display oscillator. This would occur only if the specific input of the selector (U8), which corresponds to the binary count from U3, happens to be low.

Since all inputs to U8, except 6-9, are floating (and consequently high) no such oscillator stoppage can occur except during character times 6-9 which are those times when time digits are described. Now at character time 6, the tens of hours output of the time clock (U9) is connected through input 6 of U8 to its output. When the digit display oscillator finally selects the tens-of-hours digit (H10) that output of U9 will go low causing U8's output to go high, thus stopping the oscillator with the binary code for tens-of-hours being presented to U10, U1, U5, U6 and U7 for output to the TTY loop.

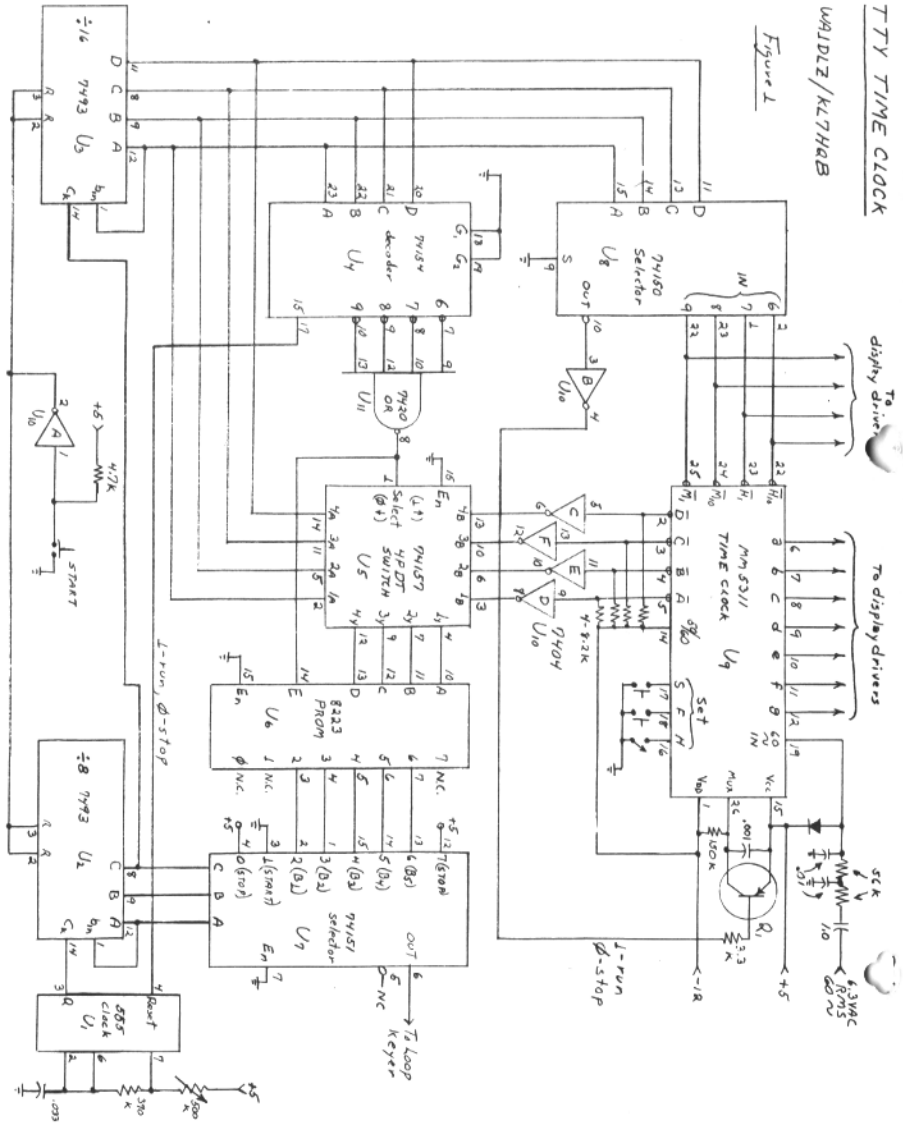
When the digit has been completely trans-

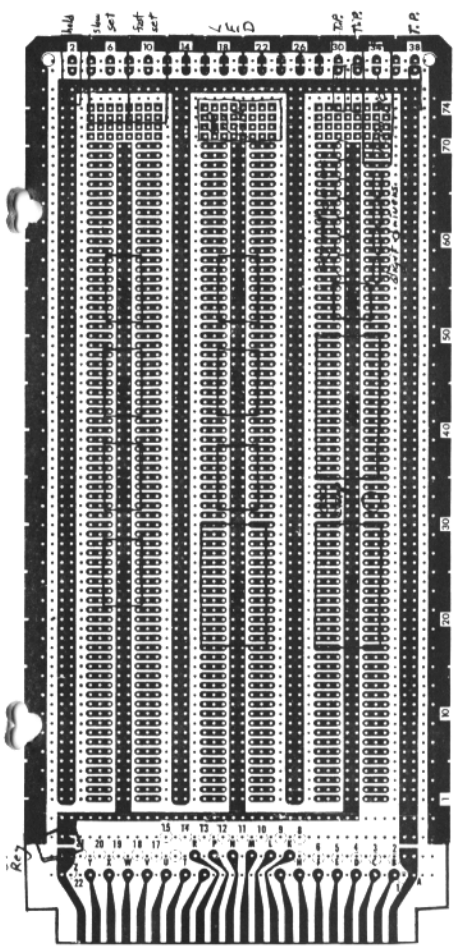
mitted, U4 will advance to character time 7, U8 will connect the H1 output of U9 to its output and the oscillator will stop when the hours digit is available. This procedure will be repeated for the tens-of-minutes and minutes digits during character times 8 and 9. At character time 11, the 4DPT stiwch U5 no longer connects the ROM to the time clock and the fixed portion of the time message continues.

Eventually, U3 reached character-time 15. When this occurs, output 15 of U4 goes low. This output is connected to the reset line of the 555 clock which now stops with the output of U7 connected to its 0 input which is high, causing the output to maintain a steady Mark until the entire process is restarted. This restart will occur when the U2-U3 counter chain is reset to 0, thus moving U4 to its 0 condition and allowing output 15 to go high which in turn allows the 555 clock to run.

Regardless of the state of the TTY output however, the time clock U9 continues to count 6 Hz sinewaves, maintaining accurate time a displaying it on the LED readout.

It should be noted that the fixed portion of the





PROM CODEING

Count Section		Character	bit code Ø 1 2 3 4 5 6 7
Ø	Ø	LTRS	X X X X X
	1	SP	X
	2	A	X X
	3	T	X
	4	SP	X
	5	FIGS	X X X X
	6	not used	
	7	not used	
	8	not used	
	9	not used	
	10	SP	X
	11	LTRS	X X X X X
	12	A	X X
	13	S	X X
	14	T	X
	15	not used	

		Ø 1 2 3 4 5 6 7
1	Ø	X X X
	1	X X X X
	2	X X X
	3	X
	4	X X
	5	X
	6	X X X
	7	X X X
	8	X X
	9	X X
	10	not used
	11	not used
	12	not used
	13	not used
	14	not used
	15	not used

X — coded as a "1" or "MARK"

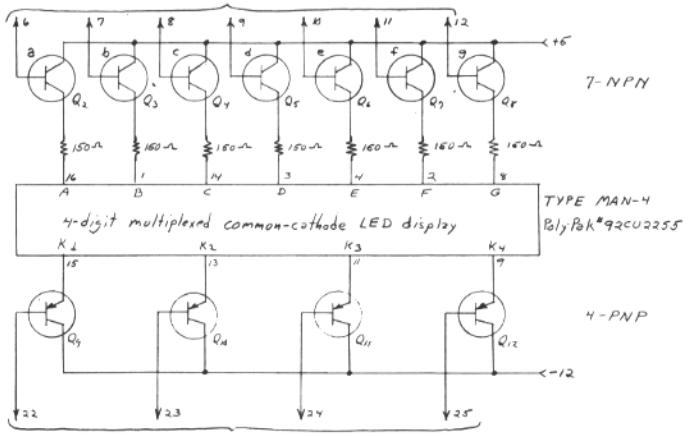


Figure 2

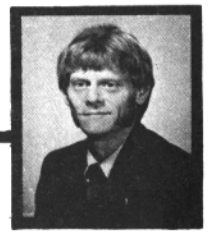
message may be anything the builder desires by simply coding the ROM accordingly. The position of the time digits may also be changed by simply changing the wiring between U8 and U9. (For instance, if the tens-of-hours digit is desired to appear at character time 3, pin 22 of U9 (H10) is connected to pin 5 (input 3).

The LED display is a non-standard unit available from Poly-Pak which has all the digits appearing in a vertical line, one above the other. This allows the card to be mounted in a standard card cage with all controls and the display on the end of the card where they can be easily seen or reached.

The entire device including 4-digit LED display, display time-setting switches, osc trim pot, a 5v regulator, and all LED drivers can be mounted on a $10.00 Vector #3677 4.5 x 9.6 inch board with room for about 6-7 more I.C.S. One builder, KL7HOH, has used this space to add a C.W.I.Der, call sign generator, and 4N generator to the basic time clock as a portion to his UT-4 station control system.

*****

VHF RTTY NEWS



Ron Guentzler, W8BBB, Editor
212 Grandview Blvd.
Ada, OH.45810

This month we have two pieces of information about activity in the Washington, D.C. area from Paul Rinaldo, K4YKB.

"All RTTYers are invited to a "Green Keys" get-together near Washington, D.C. on May 3 at 8 p.m., sponsored by AMRAD (Amateur Radio Research and Development Corporation). The meeting will take place at the Patrick Henry Branch Library, Maple Avenue at Center Street, Vienna, Virginia. (I-495 Beltway Exit 12W, VA Rt. 123, 2 miles on left). Admission is free.

"One of the reasons for calling this gathering is to acquaint those interested with our new WR4APC repeater on 147.81/147.21 MHz at Tyson's corner, McLean, Virginia. Also to be discussed, will be concepts for adding a microcomputer to the repeater for RTTY access.

"The other main reason for the meeting is to give RTTYers in the area an opportunity for "eye-ball QSO's" and a chance to hear about different facets of RTTY. The program will include topics of interest to beginners and experienced amateurs who are active on HF and VHF (amateur and MARS) bands.

"If interested in information on the repeater, please contact Jeff Brennan, WB4WLW, 7817 Bristow Drive, Annandale VA 22003, (703) 354-8541. For information on the meeting or AMRAD in general, contact Paul Rinaldo, K4YKB, 1524 Springvale Avenue, McLean, VA., 22101, (703) 356-8918."

Also from Paul we have the latest information on the RTTY repeater:

"Our WR4APC repeater went on the air on March 20. WB4WLW, WB4ZOH, WB4NFB, and WA4KFZ spent most of the 20th and 21st at the repeater site debugging everything and pruning coax. By the time they left on the 21st, the machine was working well. We still have a few problems, but they will be worked out over the next few weeks. We also have to increase the output power a little and complete some new control circuitry. From our site at Tyson's Corner in McLean, VA., we are covering about 40 miles in radius at the moment. That will be extended as the tweaking process is continued."

Thank you so much, Paul, for the meeting notice and the repeater information. Anyone else out there with some information?

73 ES CUL at Dayton, RG.

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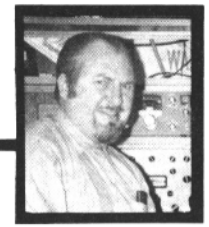
RTTY-DX



John Possehl, W3KV, Editor
P.O. Box 73, Blue Bell, PA.19422

Hello there . . .

No doubt you all have your own pet adjectives to describe band conditions for the BARTG Spring Contest and I would imagine that they would all add up to some form of the word "terrible". However, this did not dampen the spirit of the RTTY fan one bit it seems. There were scores of signals to be printed when the ionized curtain raised long enough to let them through. A quite unusual occurrence at about 1900z on the second day of the Contest resulted in a complete black-out of signals throughout the spectrum for about an hour, it was just as if a steel door was slammed shut on the proceedings. It was not confined to RTTY as there was a SSB contest in progress the same week-end and the same phenomenon was noted on those frequencies also. The conditions seemed to bounce back however, and the Contest ended in much better shape than when it started.

Rumor has it that including W and VE districts, there were perhaps in excess of 45 multipliers or countries to be logged on one or more bands. Some of the more unusual ones were: CE3MA, CO2HZ, CT1IW, EA4UM, EA8IT, FG7XT, GW3IGG, HI3XCP, JA1ACB, JR6AG, KZ5BH, LZ1KDP, OA4BR, OE8HWK, OK1KVK, PY2CYK, P29DJ, TF3IRA, UR2GAX, XE1AFU, ZS6BNF, 5B4YK, 9P6AY. We were also informed that several VK stations were active but the calls elude us at the moment. JR6AG is on Okinawa; however, this now counts the same as Japan. CO2HZ stopped everyone in their tracks and while he seemed reluctant to give out numbers, I am sure that he was a new country for many that he worked. QSL via the Cuban Bureau, P.O. Box 1, Havana.

A big surprise was the activity from LZ1KDP. Uli, DK3CU, put in many months of effort in getting equipment to this station and we must say that Uli did an excellent job as the signals from Sofia are just perfect . . . Rumen seems to be the chief operator at this club station and says that he will try to be on the band after 1700z daily. His first stateside QSO was with W1MX.

During the third week of March a group of the Swiss amateurs activated HBØAN in Liechtenstein with excellent RTTY signals in addition to their main effort in the ARRL C.W. contest the weekend of March 21st. They were active on RTTY before that and into the middle of the following week on RTTY. So with past activity, there should hardly be anyone that does not have this country in the log. At the keyboard Rene, HB9AHA, was doing most of the honors. RTTY QSL's can go via Rene or to --

USKA Ortsgruppe Aargu Sandacher
c/o Irminger
CH 5314 Kleinoettingen AG
Switzerland

Pierre, OD5HC, was again active in early March during the period when things quieted down in that country. With the situation there again deteriorating, he has not been heard from recently and we all hope for the safety of his family and himself.

There has been no RTTY activity from Sid, A4XGB, in recent weeks, which of course had many of us concerned. Sid wants you to know that all is well and that the QRT is temporary and due to an administrative problem with the licensing authorities in that country. As soon as this is resolved he will be back in full swing again. In the meantime, you can find Sid in the SSB portions of the band and he can fill you in on the details.

There is another new station active from Korea. Bill, HL9WI, has been on since 16 March and was hoping to be in the BARTG Contest. W8BCT was his first stateside contact and his QSL manager is WA5ZWC.

Activity has been reported from VP8OB, HC8GI (Galapagos), and TA2MM. The later being DJORR, and ex-YBØAAO of some years back. Since details are lacking at this writing, we merely mention them so that you can dig for the weak ones with the odd shifts and we are hoping to fill in with more details as they become available.

Jeff, G3YDR, was on leave in the U.K. and active in the BARTG Contest. He should be again active from Malta by the time you read this.

We understand that 9L1JM, Jaap, in Freetown, Sierra Leone, is getting set up for RTTY and may show on the band at most any time. He has a machine and a ST-6 is presently in the works.

That excellent new signal from Guadaloupe Island comes from Serge, FG7AQ. In use is a TS-520 T/R into a three element beam, a ST-6, and a Siemens T100 printer. Along with FG7XT and FG7AO, it makes for three active stations from this area.

Ivan, PJ3SF, is now QRV from Aruba and should keep up the activity from here while Roy, PJ3AR, is away on the St. Martin's.

OY1A was printed briefly but was on his way to Copenhagen to visit his son Mike, OY1M, who is in that city furthering his education.

Jean-Marie, F6BEX, and ex FM7AJ, was in New York recently and spent some time with Bud,

CONTINUED ON PAGE 12

Pocket Size Printer -

CONTINUED FROM PAGE 2

used by the author in his electronic decoder however, and these switch wafers were subsequently removed from the machine as it is more reliable to use electronic decoding for the local functions detection.

The machine is quiet in operation, only the print hammer makes any noise and can be used at any speed up to 100 w.p.m. The maximum speed is dictated by the time required to set the solenoids (85 msec.) and the time required to stroke the print hammer (15 msec.) or a total of 100 msec. per character.

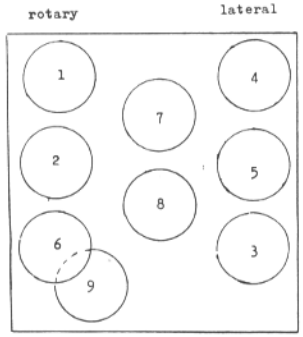
As the mechanics of the machine have been reduced to the basics, little in the way of maintenance or adjustments are ever required. Only a light oiling in a few places every 250 operating hours is recommended.

These machines are no longer being manufactured. It is not known how many were ever produced. This particular machine was acquired through the generosity of Harry March WB4HID. Certainly there are more of them around, possibly just sitting unused for years as this one did. Should enough interest be generated in this machine future articles are contemplated where in complete schematic of the author's Digital Decoder/Driver and details of machine wiring and adjustments will be presented. Correspondence from anyone having one of these printers or desiring further information is welcome.

References:

1. **RTTY Journal**, February 1971, page 4, "Non-overline for the MITE," WA5EVH.

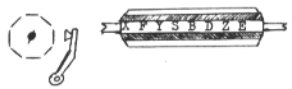
2. **RTTY Journal**, September 1970, page 4, "Mites in the Ham Shack," WA5EVH.



Printer viewed from front

Figure 2: Solenoid location and views of type font

1,2,3,4,5 - 5 level baudot code selected solenoids
6- letters/figures solenoid
7- advance solenoid
8- line feed / carriage ret. solenoid
9- print solenoid



Side and front views of type font

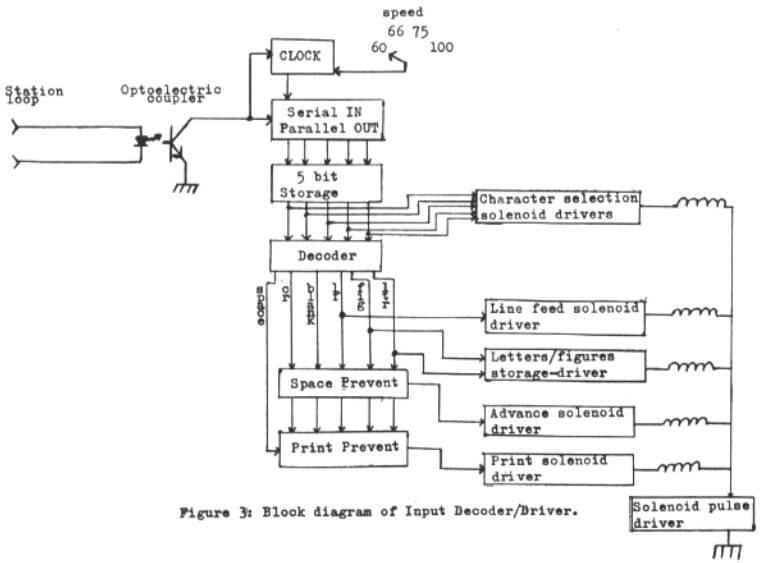


Figure 3: Block diagram of Input Decoder/Driver.

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The Post Office informs us that all mail including any U.S. possessions is forwarded via Air Mail. Only Mexico and Canada should renew at the $4 rate for Air Mail delivery.

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ATLANTIC CITY, N.J. – One of the latest developments in the electronic field, personal computers, will be the subject of a trade show/convention in Atlantic City, N.J. August 28-29, 1976.

PERSONAL COMPUTING '76 is the first truly national gathering of manufacturers and users of these devices. Space has been provided for over 200 exhibitors and a series of related seminars is being arranged.

The weekend show is being staged in the Shelburne Hotel on the Boardwalk in the famed resort city. PERSONAL COMPUTING '76 is sponsored by the Southern Counties Amateur Radio Association of New Jersey.

John H. Dilks, chairman of PERSONAL COMPUTING '76, said, "We are expecting that most of our exhibitors will be aiming directly at the consumer." "In the first days after our plans were announced," Dilks added, "we received a number of exhibit commitments from some of the biggest names in the microcomputer field."

Recent advances in microminiaturization have enabled manufacturers to reduce the size and cost of personal computers to the point where the small businessman or hobbyist can now acquire one without a great expenditure of funds.

The committee would like someone to speak on "Personal Computers and Amateur Radio, especially on use in the RTTY station. Contact K2TQN at the address below.

For further information contact:
Personal Computing '76
Shelburne Hotel
Boardwalk & Michigan Ave.
Atlantic City, N.J. 08404
609-927-6950

***

When Renewing - Please be sure your last name is legible.

***

By a large majority any comments on the JOURNAL are good. We get only two criticisms --

1-Wish you would run more simple articles for us beginners.

2-Why do you run so much for the beginners, run more of the sophisticated articles.

? ? ? ? ?Actually we try to balance it but can only run what we get so if you can help out with either of these problems send it in.

***

BACK ISSUES -

New subscriptions and classified ads are cash in advance as we have no method for billing. New subscriptions will be started with the current issue and one back issue, if requested. Please do not ask us to start any further back than this. Back issues - if available - may be ordered at 35 cents each at time of subscription. The JOURNAL is mailed about the 20th of the month preceding the dated month. May and June are a combined issue and July-August is a combined issue.

The ONLY back issues available are listed below. 35 cents each.

1972- OCT.-NOV.-DEC.-[3]
1973- ALL ISSUES [10]
1976- FEB.-MAR.-APRIL.[3]

UART REPRINTS - 50c
Beginners Handbook $2.50
RTTY JOURNAL BINDERS $4.00

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Editor & Publisher "Dusty" Dunn, W8CQ

Box 837- Royal Oak, MI 48068

U.S. Canada, Mexico, 1st Class	*$3.50*
Canada, Mexico, Air Mail	*4.00*
Other Countries - Surface Mail	*4.00*
Air Mail	*8.00*

DIAL YOUR SHIFT

JIM McADAMS, K4GJW
2304 Dogwood Lane
HUNTSVILLE, AL. 35810

***

We goofed again. We are sorry, but it may still happen again - On page 7 of the April article Selective Overline for the Model 28, we added another short article with no connection. The article and drawing are reproduced again below as the article without the drawing is worthless.

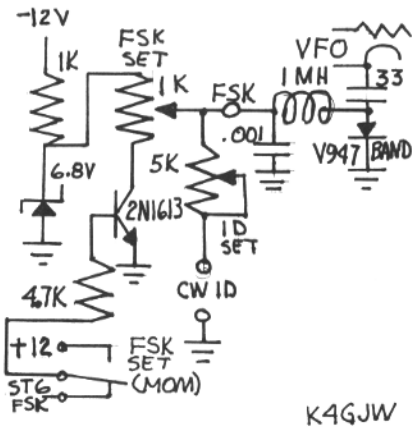
***

DIAL YOUR SHIFT

Here is a circuit I use between my ST-6 and the VFO. For a lot of band changing, it is certainly handy. It uses a voltage variable capacitor in place of the usual diode and eliminates the variable capacitor (and the insulated mounting) usually employed to change the FSK range. It provides both remote FSK control and a calibrated dial for any shift on any output frequency. The resetability is excellent and the keying is very clean and fast.

I installed a ten turn pot and dial in my ST-6 which is about 20 feet (through cable) away from the VFO. A chart gives the dial settings. I can obtain 850/170 shift from 3205 KHZ (Army Mars) through 21 MHZ. The CW ID remains fairly constant and I don't change it between band-changes.

I used a "PSI" type V947 varicap from the junk box. However, any other type of about 50 MMFD or so would work. A 1000 OHM and 100 OHM pot in series would do in place of the ten turn pot. The transistor is also a junk box NPN. The fixed capacitor is silver mica. I don't have a UT-4 but believe the circuit would interface directly.



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DX-Cont. ---

CONTINUED FROM PAGE 9

W2LFL, before heading for the San Francisco area during his holiday.

At this time we wish to extend congratulations to the following stations upon obtaining the RTTY Journal Merit Award as indicated.

W A C All 28 MHZ.

Nr. 2 Robert L. Nolan - WA6WGL
Nr. 3 Hans J. Schalk - DJ8BT

W A C All 21 MHZ.

Nr. 7 Robert L. Nolan - WA6WGL

W A C All 14 MHZ.

Nr. 23 Ron Siqueira - PY2CYK
Nr. 24 Danny Smith - WB9LUK
Nr. 25 Robert L. Nolan - WA6WGL
Nr. 26 Philip C. Duff - WB4TPU
Nr. 27 James H. McAdams - K4GJW
Nr. 28 Uwe Rehage - DL8QP
Nr. 29 Gennard Casaburi - I8YRK

A word about the Worked All States Award. Special WAS certificates are to be printed commemorating the Bicentennial year and will be issued when available later in the year. Being a "one off" certificate they will not be numbered serially but will be issued and noted here in the order the requests and confirmations for WAS are received.

Our apologies to ON4CX mentioned here in last months column. While our copy had the name correctly as Bernard, it somehow translated to Edward at the print shop. Of course it is Bernard, ON4CX. Sorry about that!

Very shortly we will be making our annual trek to Dayton to see all the latest electronic wares displayed, to do a little scratching in the flea market, and to meet old friends and settle down to serious RTTY talk in the BAUD room of the RTTY Journal at the Imperial House North. Come see us all if you are in town that weekend.

Next issue we will post the RTTY-DX Honor Roll listing. Have your numbers in by the end of May to be posted.

73 de John

***

DAYTON

RTTY FORUM Sun. April 25

The RTTY forum will again be moderated by Keith Petersen, W8SDZ, and promises to be of interest to everyone. Sunday morning, April 25th at 10 AM.

*****

CLASSIFIED ADS-- 30 words $2. Additional words 4¢ ea.

Cash with copy, Deadline 1st of Month.

MORE RTTY! ONLY HAM RADIO MAGAZINE consistently brings you more RTTY articles and better RTTY articles than any other general amateur magazine. You need RTTY Journal, but you need HAM RADIO also. $10.00 per year, $20.00 for 3 years. Ham Radio, Greenville, NH 03048.

HAL COMMUNICATIONS CORP. announces the MCEM-8080 microcomputer. The MCEM-8080 is a complete operating system on a single PC board, including serial I/O at RS-232C levels or 20-60 ma current loop, 3 parallel I/O ports, 1024 bytes of RAM, 512 bytes of ROM containing the system monitor program, and switches and indicators to manually control all bus and control lines. The powerful 8080A CPU and its family of chips are used. The system monitor allows the use of either Baudot or ASCII terminals, and enables the user to load hex files, dump or display memory, insert data in memory and transfer program control to a specific location. Whether you are a RTTY operator turned computer hobbyist, or a computer hobbyist turning to RTTY for a communications link, the MCEM-8080 should be your choice. Write today for full details. HAL Communications Corp., Box 365RJ, Urbana, Ill. 61801. Phone 217-367-7373.

WANTED: 32 and 33 ASR's. Also perfs, readers, UCC's, etc. Highest cash prices. PO Box 1219, South Station, Newark, N.J. 07114 (201) 824-1300

HAL COMMUNICATIONS CORP: Headquarters for electronic RTTY equipment. In demodulators, choose from the incomparable ST-6 or, for a low cost beginning in RTTY, the ST-5. Tailor either to your requirements by selecting the 425 Hz press discriminator, the XTK-100 or AK-1 AFSK oscillators and the ST-5AS autostart for the ST-5. Full details available in our current catalog. Compare before you buy. BankAmericard and Master Charge plans available. HAL COMMUNICATIONS CORP., Box 365RJ, Urbana, Illinois 61801. Phone 217-367-7373.

SAROC SECOND HAWAIIAN CONVENTION Kuilima Hotel, August 28-29, 1976. Depart Los Angeles only August 21st return 31st via Del Webb World Travel United Airlines OTC. Only $300.00 per person includes double occupancy in hotel room, roundtrip from Los Angeles, ground transfers and baggage handling in Hawaii, SAROC Advance Registration with luncheon, tax on above items. $100.00 deposit per person will confirm reservation and must be paid in full 45 days before departure. Details SAROC, POB 945, Boulder City, NV 89005

DOVETRON MPC-1000 MULTIPATH-DIVERSITY RTTY TERMINAL UNIT with automatic MULTIPATH CORRECTOR and IN-BAND DIVERSITY (automatic Mark-only for Space-only), 2 inch CRT Cross Display, continuously variable Mark and Space channels (1500 to 3200 Hz), active IC channel and low pass filters (no toroids), noise correlator, dual autostart (Mark or FSK), phase-continuous sine-wave AFSK tone generator (1200-3200 Hz), EIA and MIL voltage level FSK outputs, CW ID provisions for AFSK and FSK, internal RY Generator, automatic mark-hold, anti-space, anti-CW and anti-mark/fade (AMF), automatic threshold selector, adjustable 130 volt loop supply, keyboard actuated with timeout delay, Signal Loss Indicator (LED), Loop Keyer Monitor (LED), rear panel provisions for external scope, dual-diversity, Uart/FIFO interfaces and remote control of TU and xmtr/rcvr. One year warranty. 17" x 3.5" x 9", 10 pounds. 110/220 VAC, 50-400 Hz, $495.00 FOB, 30 days ARO. Commercial Model (MPC-1000C) also available. Your QSL will bring complete specifications. DOVETRON, 627 Fremont Avenue, South Pasadena, Calif., 91030. (213-682-3705).

NEWS-NEWS-NEWS - Amateur Radio's Newspaper, "Worldradio", Trial subscription - Two issues for one dollar. "Worldradio" 2509-F Donner Way, Sacramento, Calif. 95818.

TELETYPE PAPER; NEW; FRESH from the mill. 4 1/2" rolls white or canary. For all friction feed Teletype machines. $20.00 case of 12, Buy 5 cases, only $18.00 each. ZTY-RTTY Paper Co. PO Box 147, Corunna, MI 48817

YOUR COMPUTER IMAGE (10x12); Have your favorite full head photo printed by our computer system for only $4.00 per picture ($2.00 for each additional copy). Send your photo to-The Computer Hut, 7702 Richmond Hwy. Alexandra, VA 22306. - Only full head photos are acceptable.--

ST-6 CW IDENTIFIER designed for HAL ST-6 terminal unit. Plug in circuit board measures 2.75" x 5". Will work with most other keyers. Easiest to program 127 bit diode matrix, adjustable speed, sidetone speaker output. Can be programmed for RTTY-ID. Complete kit for HAL ST-6 includes 50 programming diodes: $26.50. Wired and programmed: 36.50. Flesher Corp. P.O. Box 902, Topeka, Kansas 66601. BankAmericard, Master Charge, phone orders accepted (913 234-0198). No COD.

HAL COMMUNICATIONS CORP. announces the ST-6000 RTTY Demodulator/Keyer. The ST-6000 is ideally suited for amateur or commercial service offering fixed 850, 425, and 170 Hz shifts for ease of tuning. Standard low and high tone frequency pairs are available, and active filter design allows the use of any set of tone pairs between 1200-3000 Hz. Crystal controlled tone keyer for stability. Self-contained loop supply RS-232C, and MIL-188-C levels for I/O. Scope or meter tuning. Keyboard operated switch. Selectable ATC, and new DTH (decision threshold hysteresis) circuitry allows optimum performance under the most demanding conditions. Complete flexibility in the interconnection of the demodulator and tone keyer allows separate, half duplex, or full duplex operation. Usable at all data rates up to 110 baud ASCII in standard form. The ST-6000 carries the usual HAL one-year warranty, and is an ideal companion to our new DS-3000 KSR microprocessor based communications terminal. Write today for full details. HAL Communications Corp., Box 365RJ, Urbana, Ill. 61801. Phone 217-367-7373.

TELEPRINTER GEARS, COMPONENTS, Modification kits, tools, manuals, parts, ribbons, supplies, paper. Toroids SASE for list AB. Typetronics, Box 8873, Ft. Lauderdale FL 33310. We buy all unused parts and late unused machines.

MINI-MANUALS ON FOLLOWING EQUIPMENT, $2.95 each -- M15/19 Wiring Hints and Diagrams. CV-89/URA-8 FSK Converter. TDA-2 Stelma Teletype Distortion Analyzer. AN/SGC-1 FSK Converter. Teletype Gear Guide for all teletype Corp. equipment. SASE for surplus list. Jim Cooper W2BVE, POB 73, Paramus, NJ 07652.

THRU-HOLE PLATED UT-4 PC BOARDS - Commercially made. Set of four thru-hole plated, solder coated, G-10 epoxy glass boards. 2-7/8" X 7" with provisions for 12 pin edge connectors. Boards include XB-6 Dual Clock, Two UT-4 boards, and power supply board including plus 5 volts, minus 12 volts, and plus 12 volts. All boards two sided with the exception of the power supply. Boards ready for immediate shipment. $22.50 Postpaid in U.S. Clyde Keenan K7WTQ, Rte. 1 Box 309, Lakebay, Washington, 98349 1-206-884-3838.

Additional Classified
See Next Page -

ANY ISSUE OF RTTY JOURNAL reproduced $1.00 PP. I have a complete file of all issues. R. Wilson, WBØESF, 4011 Clearview Dr. Cedar Falls, IA. 50613

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TELETYPE MACHINES - $25.00 up. Also allied items. Patch panels and misc. electronics, etc. Send SASE for info. Operating instructions for teletypes Xeroxed, $5.00 PPD. Manuals for Kleinschmidt TRP-311's, $25.00 PPD. C. B. Goodman, 5454 South Shore Dr., Chicago, IL 60615 312-752-1000 anytime.

MODEL 28 ASR's $600.00 ea. excellent condition, 32 ASR's $500.00 ea. 28 KSR's $250.00 ea, DXD-4. Write or call A.D.M. Communications, Inc., 1322 Industrial Ave., Escondido, Ca. 92025, 714-747-0374.

NS-1A (Journal 1/76) Wired/tested $29.95 ppd. Drilled and plated board $4.75 ppd. Parts kit $15.00 ppd. Fla. orders add tax. Stamp for further info. Nat Stinnette Electronics, Tavares, FL 32778.

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HAL COMMUNICATION CORP: Replace those machines with the HAL electronic RTTY RVD-1005 Visual Display Unit and DKB-2010 Dual Mode Keyboard. You'll have a quiet, reliable system allowing you to transmit and display Baudot code at all four standards speeds. Full details available in our data sheets. HAL COMMUNICATIONS CORP., Box 365RJ, Urbana, Illinois 61801. Phone 217-367-7373.

HAL COMMUNICATIONS CORP. announces the DS-3000 and DS-4000 series of KSR Video Display Terminals for Baudot and/or ASCII code. Offering error correction capability, multi-speed operation, and 16 lines of 72 characters per line, these terminals employ the 8080 microprocessor in what we believe is the first microprocessor based product offered to the amateur radio communications market. Request data sheet for full information. HAL COMMUNICATIONS CORP., Box 365RJ, Urbana, IL 61801. Phone 217-367-7373.

PC BOARDS FOR THE UT-4, double sided, thru-hole plated, plug-in edge connectors. Write for details. AK-2 kit for $19.95, XK-2 STAL AFSK kit $34.95, ELECTRONIC DEVELOPMENT, INC., P.O. Box 951, SALEM, OREGON 97308 (503) 399-9660

LOOK, NO TOROIDS! Audio frequency shift oscillator uses active filter instead of toroid inductors. IC oscillator insures stable operation. Switchable 170 Hz or 850 Hz shift. CW ID keying input. Wire in direct or use PC edge connector. Plug-in replacement for AK-1. Universal mounting. PC board measures 2 5/8" x 2 7/8". Complete kit ($21.00) includes etched and drilled PC board, all necessary parts and instructions. (Power supply not included.) Wired and tested; $29.00. Order FS-1 from Flesher Corp., P.O. Box 902, Topeka, Kansas 66601. Master Charge, BankAmericard, telephone orders accepted (913 234-0198).

SALE: BLACK NYLON RIBBONS for all your Teletype machines; Box of 12 for $5.90; Red and Black nylon ribbons, Box of 12 for $9.75; Ribbon Re-Inkers for your Model 14, 15, 19 and Kleinschmidt machines; Print nice and dark and stop straining your eyes for only $3.90 a Kit. (Specify for which machine). White Roll paper for $2.25 per Roll. Toroids, 88 millihenry, center tapped, never potted, 5 for $4.00; Female jack panels containing 144 jacks on a 19" panel $16.00. Female jack panel containing 24 jacks, Fahnestock type 218A on a 19 inch panel $6.50. Also available Machines, Parts, and Supplies. Write stating your needs. Atlantic Surplus Sales, 3730 Nautilus Ave., Brooklyn, New York, 11224. Tel: (212) 372-0349.

TECH MANUALS - $6.50 each: TT-63A/FGC, CV-591A/URR, TS-2/TG; following manuals $8.50 each: R-388/URR, TH-5/TG, USM-50; other manuals - TGC-14/14A, $12.50, TT-298A/B, TT-299A/B, UGC-38, 40, 41 - $15.00. Model 14 TD manuals, $3.00 each. All manuals mostly new, unused. Thousands more in stock. Send 50¢ (coin) for large 22-page listing. W3IHD, 7218 Roanne Drive, Washington, D.C. 20021.

TELETYPE PAPER, SINGLE SHEET rolls, not surplus. 12 roll case, white, 4½ inch rolls, $26.10 per case plus shipping (case wt. 36 lbs.) $2.50 per single roll. N & S Print, P.O. Box 11184 Phoenix, Arizona 85061.

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MOD-U-LINE CABINETS ST6 Style MCP3-17-12 $24.36. All sizes available. Blue or tan normal 24 hour delivery. Black or gray, 2 to 4 weeks. Send SASE for more information. NuData Electronics, Dept. C., 104 N. Emerson St., Mt. Prospect, IL. 60056.

COLLINS 50E-7B synthesized HF receiver, mint, $875. M28KSR MkIII, excellent, $295. Three-speed gearshift for M28KSR, unused, $125. HRO 60 with A-B-C-D-E-F-AC coils, calibrator, SSB adapter, mint, $195. Collins KWM-1, 516F-1, 516E-1, like new, $375. WANT: Fredericks 1273/1200A TU. Ron Ott, 528 Bonita Avenue, Pleasanton, CA. 94566 (1-415-846-1459).

GIVE YOUR KEYBOARD, KEYPAD, AND SUPPORT electronics a handsome home with the UNIVUE Keyboard and instrumentation enclosure. Only $32.95 plus shipping on 17 lbs. Stamp brings additional information. ADS, PO Drawer 1147, Marion, OH. 43302. (614) 382-7917.

TELEPRINTER SUPPLIES: New white 8½" roll paper. $16/case of 12 (4½" dia.). $19/case (5" dia.). TTY ribbons $1 each. 11/16, 7/8, 1 inch tape. FOB Royal Oak, MI. See you at Dayton. Paul Andersen, 2448 N. Wilson, Royal Oak, MI. 48073.

UT-4 COMPONENTS - UART $7.00, FIFO's 2/$25, MC1-408L-6, $6.50, XB-6 Crystal $3.50. Postpaid first class mail. Others, see March ad. Peter Bertelli, W6KS, 5262 Yost Place, San Diego, CA. 92109. 714-274-7060.

KLEINSCHMIDT TD MODELS TT-122 or TT-123 - Choice of 60 or 100 WPM $19.95. Reperforators - Model TT-107FG, Choice of 60 or 100 $29.95. Teletypewriter models TT-98 or TT-100FG standard communications - A teleprinter that includes a keyboard and a power supply - Less paper holder - Paper may be supplied from base of model FN-59/FG table $44.95. All units checked and working. FOB Bham – Packing and shipping extra. TABLE - Model FN-59/FG for Models TT-98/FG or TT-100FG $12.95. W.F. Harmon, 5628 10th Avenue, So. Birmingham, Ala. 35222. Tel. 205-592-0835.

SELL—AN/URA—8A (two CV89 units, 1 CM22 comparator) in rack cabinet with cables and spare converter module, $100.00. Hammarlund SP600-VLF type receiver, 10-540 KHz, with cabinet and manual, $90.00. G175H receiver with manual and power supply, 30-260 MHz continuous, AM and FM, 5 bandwidths, $125.00. Rodney Morris, 6000 Garden Grove Blvd. #103, Westminster, CA. 92683 (714) 893-2245 evenings.

33 KSR TELETYPES for sale. Table top - some with Modem. Recently removed from service. Also 28 ASR Delta. Fredrick Ghofulpo, 15865 Flanagan, Roseville, MI. 48066. Call before 9 P.M. EST 313/771-1487.

BEAUTIFUL 3 month old ST-5 with autostart and the AK-1. Works perfect. Enclosed in nice aluminum cabinet. $100. Would sell w/o AK-1. Dr. R.V. Sullivan, 812/847-7800, or 410 N.E. Seventh, Linton, IN. 47441.

AUTOMATIC CW ID UNITS. Programs up to 32 dots, dashes, or spaces, easily programmed. All on one board. Less supply, kit $12.95; wired and tested $17.95. (Your call must be supplied.) Interface for above for ST5 or ST6, AFSK or FSK, kit $4.50, wired and tested $5.50. 10 minute automatic resetable timer for ID unit, kit $8.95, wired and tested $11.95. 5V 1A fully regulated short proof TTL supply with transformer and plug in or hard wired board, kit $12.69, wired and tested $16.69. SAVE on all four units, package of above reg. $39.09, its sale price $35.95. Reg. wired & tested price $51.09, sale price $47.00. Cabinet for above unpunched (Dozy E box) $ .25 each. NuData Electronics, 104 N. Emerson St., Mt. Prospect, IL. 60056.

UT-4 COMPONENT UPDATE. Price squeeze requiring adjustment on some components. Fairchild has abandoned plans for plastic FIFO, therefore special price concession on ceramic version no longer available. New price $14.00 each. UART remains $7.00. Edge connectors for K7WTQ boards (now all Cinch) $6.50 set. New lower cost Motorola MC4308 D/A converter chip $4.50. XB-6 TTL/resistor dual clock kit now $8.50. Set of all 29 low-profile IC sockets for new K7WTQ boards $8.00. Everything postpaid. All other prices unchanged, see prior ads. Peter Bertelli, W6KS, 5262 Yost Place, San Diego, CA., 92109. 714-274-7060.

KLEINSCHMIDT TT 100 printer and TT 76 typing reperf and TD with homebrew TU, AFSK osc. and loop supplies, 850 and 170 shift. Complete operating system with all manuals, paper, tape, spare parts and gears. Come see it operate or pick up at Dayton. $295 firm. Pete Graulich, WB2NRU, 1157 Concord Dr., Haddonfield, N.J. 08033. 609/795-1065 Sunday evening.

MODEL 28ASR - $250 - KSR - $125. Both complete, need cleanup/rewiring. Pickup only. 28ASR gearshift (new) - $150. 28ASR auxiliary reperf (60 wpm) - $100. Mac McGinnis, WB5LID, 4304 McFarlin Blvd., Dallas, TX. 75205 (314/528-4499).

TRADE: M-28 LPR-8 Chadless reperf, 3 speed gearshift 60-75-100 wpm for HAL RKB-1 or similar RTTY Baudot keyboard in working condition. K. Dado, 415 S. Mt. Vernon - #253, San Bernardino, CA. 92410. 714/889-7825.

KLEINSCHMIDT TT-100, with manual, good condition mechanical and cabinet. Will need motor. $80 Will ship. Neal K3RVC - 2254 West Market St., Pottsville, Pa. 17901 - 717-622-2297.

FOR SALE: 28 ASR friction feed teletype, $650.00. Manuals and some tools included. This machine is in excellent condition. Will deliver Detroit area. Ron Spanion, WA8AWK. 313/474-3861.

WANTED: MODEL 28 ASR or KSR. State condition, price, and other particulars. All letters answered. Bill Johnston, 1808 Pomona Drive, Las Cruces, New Mexico 88001.

WANTED: PAIR MATCHED 2½ inch square meters. 0-100 microamp. 50-0-50 microamp. Brand not important. Al Flitcraft WA8GCG, 94 Elm Court, Chagrin Falls, Ohio. 44022.

RADIO ASTRONOMY EXPERIMENTERS? For sale or trade Lenkurt Microwave Channel Receiver, Model 72B1, covers 900mc region complete with power supply. Also have companion transmitter, 10 foot Andrews Parabolic antenna. Wanted: Professionally built ST-6, TTL/2, Collins 75S receiver, 28 reperf 3 speed chad type preferred, cash or swap. Dawson, 1308F, The Dalles, Oregon 97058.

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SB300 Series Receivers

JIM McADAMS, K4GJW
2304 Dogwood Lane
HUNTSVILLE, AL. 35810

SB300 SERIES RECEIVERS

My SB300 is rather old and it was aggravating to have a 400 HZ filter installed but not able to use it for RTTY. RTTY operation was in the LSB position whose bandpass was not good for 850 HZ shift. I purchased Heath's RTTY XTAL and added a small relay (with a diode and large capacitor connected to the filament hot lead) through a small front panel toggle switch. The relay's SPDT contacts interchange the LSB XTAL and the RTTY XTAL (3392.110 KHZ). The 850 and 170 shifts are now fine. The 400 HZ XTAL is centered at 3395.4 KHZ and is used with the USB XTAL to give a tone of 1 KHZ. Inspection of the schematic and the set shows that on switch section MS4R, the USB and CW positions are connected to the same XTAL with a jumper. To activate the 400 HZ RTTY position, remove the jumper and connect a 3393.190 KHZ XTAL to ground from terminal 3 of that switch. This disables the CW position and puts 400 HZ RTTY in its place. I ordered a 0.0025 percent XTAL but fine tuned it correctly on the 400 HZ filter using a counter and the internal 100 KHZ calibrator. In the SB301 schematic pin 4 of switch section MS4R would be the one used. This type modification would probably apply to other makes of equipment.

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