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TAPE PERFORATOR. 11/16" oiled, buff with 2" center hole. \$8.00 case 40 rolls, FOB Akron, Ohio, P. Davis 1830 Toepfer Rd. Akron, Ohio. 44312

WHO CAN HELP ME find a first class CV89/URA 8 write to A.L.B. Jansen, Kievidwarsstrast 13, Utrecht, Holland.

"**SELL two CV-89's** excellent condition and cm-22 Comparator \$200.00. Also sell R-390 A in excellent condition, minus top and bottom dust cover. Excellent \$300.00: You pay shipping. George Tate, W4AIS, 306 Thornwood Drive., Taylors, S.C. 29687"

WANTED: COLLINS 75A4 with 136C-1 noise blanker. Sell or trade 32V2, Johnson Courier 500 W (811s), TT/100FG. Consider teletype or ?? K6WZ, 13638 Sproule, Sylmar, Ca. 91342

BRAND NEW, (unused) Novice Adaptor for Collins S-Line Transmitter. This is for 4 position crystal controlled fixed frequency operation. \$50.00. Murray Fisher W7NSU 1011 Hobson St. Walla Walla, Wa. 99362

SOLUTION TO PUZZLE ON PAGE 7

T N N G A M S E R U T C I P A N T
 E S A U T O S T A R T R T S O F E R
 L T T R P L T A N N E T N A X E S R
 E R Y T R E P A P T M C O D D E E K
 T A P T P O C K T R A M E E N C C L
 Y C I G O L M I A T R S E I L C S A
 R E S A O R M U N Y K T H L V E S N
 O S C C L S V O E P O C S A M E T R
 T A K I N D C X P E A V R T T O R U
 A C R A O A D I R S E R I O P E O
 L S R C B B I S L A T U R G R R K U
 U T U O B A O T V L O D A I S E P U
 D I C N I U D S I H A H N D Y K L F
 O U F T R D E F P T A T U B W N D R
 M C T E K O S P A C E K O R B I C E
 E R X S L T A U A R T A L R W N D P
 D I F T F I H S C H R L A C L E S E
 O C U S T A P E R D E E P S L L P R

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RTTY

May-June 1975

JOURNAL

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RESULTS- 1974 VOLTA Contest

New Equipment from HAL Communications.

SCORE	
1°	K4GMH 34,437.676
2°	W3EKT 33,156.432
3°	DLØTD 16,717.044
4°	15WT 14,337.440
5°	11YTL 14,295.600
6°	16NO 13,211.968
7°	18AA 9,733.300
8°	K4YZV 6,999.980
9°	W3ORG 6,127.440
10°	K6WZ 4,649.472
11°	HA5KHM 4,110.885
12°	KØTSP 3,871.296
13°	FGALL 3,651.648
14°	DLØVX 3,620.160
15°	VK3KP 2,705.250
16°	CE3MA 2,522.800
17°	W1KJL 2,422.454
18°	ON5WG 2,388.852
19°	PY2CYK 2,056.347
20°	HB9AVK 1,977.226
21°	WØITU 1,586.950
22°	JHLTFP 1,517.535
23°	W7RSJ 1,447.488
24°	IK2XV 1,318.044
25°	CE3EX 1,278.732
26°	PAØKO 1,251.150
27°	SM2EKT 1,177.008
28°	12ØW 1,020.789
29°	SK5AA 968.100
30°	11FXC 947.380
31°	W3KV 864.690
32°	ØK2BJT 810.432
33°	J1LTYH 794.556
34°	W7BCT 776.100
35°	K4GJV 742.824
36°	TP3IR 670.560
37°	ØK1P 627.285
38°	G6VT 623.415
39°	ØZV 547.433
40°	VZ2ARA 521.475
41°	HB9HK 514.647
42°	PYØHL 510.000
43°	SMØOS 482.391
44°	WAØWGL 466.200
45°	1ØZAN 379.799
46°	SMØEZD 348.680
47°	YU2CAL 317.250
48°	ØK2BFS 315.000
49°	VØEE 294.462
50°	ØE5ØEL 205.216
51°	ØM4ZD 159.852
52°	Ø5DEE 154.800
53°	PYLDØB 114.933
54°	PAØRZ 114.660
55°	OY (+) 105.504
56°	W2DS 102.144
57°	W7CBY 96.480
58°	SMØASD 94.920
59°	PAØSOL 84.196
60°	12II 69.960
61°	GW3IGG 57.344
62°	DLØVR 53.760
63°	SM7BGL 46.320
64°	1ØTTC 42.952
65°	G3ØUR 42.000
66°	VE3BPH 36.432
67°	G3RDG 35.860
68°	LA2IJ 23.463
69°	ØZ8GA 18.216
70°	18AMP 11.248
71°	ZS1FD 9.828
72°	W8CAT 9.558
73°	JØ8QP 9.324
74°	SM5APS 6.300
75°	SM5EIT 5.920
76°	SØØASW 3.724
77°	W6FFY 3.458
78°	W8TCO 3.016
79°	G2FFO 2.880
80°	JØØADQ 1.840
1)	MENADLER PAUL (USA) 5,050.582
2)	HORST BALLENERGER (Germa) 4,765.436
3)	ROBERTO GIARNELLO (Italy-) 3,114.408
4)	MARIO TOSOLINI (Italy-) 2,649.150
5)	PAUL WINCHESTER BRS25676 1,748.214
6)	GELLER WOLFGANG 1,413.516
7)	LARRY FILBY 292.486
8)	A.MARCHESINI I4-14707 83.536

SWL
SCORES

Armed Forces Day -

ARMED FORCES DAY held on May 17, 1975 will again feature a radioteletypewriter "RTTY" receiving test: transmitted at 60 words per minute. A ten minute CQ call for tuning purposes will begin at 18/Ø335 GMT. The special Armed Forces Day message from the Secretary of Defense will be transmitted at 18/Ø345 GMT. This test is to exercise the technical skill in aligning and adjusting of equipment by the operator and serves to demonstrate the growing number of amateurs becoming skilled in this method of rapid communications. Transmission will be from the following stations on frequencies listed.

2 MAY-JUNE 1975

RVD-1005 VISUAL DISPLAY UNIT

HAL Communications Corp. announces the RVD-1005 Visual Display Unit. The RVD-1005 is the second generation version of the HAL RVD-1002, the first visual display unit offered to the teletype operator. The features that have made the RVD-1002 so popular are retained in the RVD-1005, and some new features have been added. For example, the RVD-1005 offers

New features are

- * Display format of 25 lines, 40 characters per line
- * Automatic carriage return - line feed on space when space is received after the 34th character. Prevents splitting of short words.
- * Speed indicator. The speed indicator times the incoming signal and causes an LED to light, showing the operator which speed switch to select. Especially helpful in tuning unknown commercial stations.
- * Operation at 60, 66, 75 and 100 WPM
- * Manual line feed and letters shift controls
- * Selectable letters-shift-on-space control
- * Automatic carriage return - line feed on line feed ("non-overprint")

The price of the RVD-1005 is being held at \$575.00. For more information, write or call HAL Communications Corp., Box 365RJ, Urbana, Illinois 61801. Phone 217-367-7373.

XTK-100

HAL Communications Corp. announces the XTK-100 crystal controlled tone keyer kit. The XTK-100 generates the tones required for the AFSK method of RTTY, and provides the superior stability of a crystal controlled oscillator for those applications where it is called for. The XTK-100 is designed as a plug-in accessory for the ST-6 terminal unit, and it will replace the AK-1 AFSK oscillator in existing ST-6 terminal units, or in new kits or assembled units.

Shifts provided are 850 Hz, 170 Hz, and 100 Hz (CW-ID) using standard high tone frequencies, while low tone frequencies are available as an option. Frequencies are easily changed by changing the crystal frequency. High and low level outputs at 600 ohm impedance are available.

The XTK-100 requires 12 VDC at 40 ma, and is keyed by an EIA compatible signal such as provided by the ST-6 or ST-5 FSK line. Write for specifications, price and availability to HAL Communications Corp., Box 365RJ, Urbana, Illinois. 61801

TRANSMITTING STATION	FREQUENCIES (KHz unless otherwise indicated)
WAR - Army	4030, 6997.5, 14405
NAM - Navy	4012.5, 7385, 14385
NPG - Navy	4010, 7347.5, 13922, 5, 148.410 MHz
AIR - Air Force	7315, 13997.5

SUBMISSION OF TEST ENTRIES

Submissions should be submitted "as received". No attempt should be made to correct possible transmission errors.

Time, frequency and call sign of the station copied as well as the name, call sign (if any) and address, including zip code of the individual submitting the entry must be indicated on the page containing the test. Each year a large number of acceptable copies are received with insufficient information.

A TTY DIGITAL CLOCK

PART 1

GEORGES J.M. WERTS, ON5WG
87, rue P. Lemarchand
B-4801 STEMBERG, BELGIUM

1. FOREWORD

During every RTTY contest for which the time is required in the contest message, I was always thinking that time was the most difficult part of the message to transmit quickly. That need to watch the clock, to transmit this information to your brain and to transmit the translated keyboard information to your fingers, they are many things to do correctly and quickly during the contests' tremendous atmosphere. For this reason, since several years, I thought that an automatic print of time would be a very useful accessory. I have built it and have called it "TTY DIGITAL CLOCK". It includes twenty-nine integrated circuits: one MOS, two voltage regulators, and twenty-six TTL circuits. This clock is specially designed for use in the RTTY contests. It has a memory which gives it the time storage capability and so the possibility of reprinting the initial time as many times as you want or until your correspondent has received the time correctly. The four digits display, two LED indicators and a five positions rotary switch are located on the front panel. One LED shows the memory's state, loaded or not and the other one indicates when the clock is printing. The clear memory and print commands are remotely installed on the TTY machine's table near the keyboard.

The price of the RVD-1005 is being held at \$575.00. For more information, write or call HAL Communications Corp., Box 365RJ, Urbana, Illinois 61801. Phone 217-367-7373.

2. BLOCK DIAGRAM

Fig. 1 shows the TTY digital clock's block diagram. The MOS circuit MM5311 is its heart. The seven segment outputs are not used. To drive the LED display, I prefer using four TTL decoders 7447 rather than several transistors in both circuits: seven segment and digit enable. The MM5311 is supplied between plus 5 volts (VSS) and minus 12 volts (VDD) thus giving a direct interface between MOS and TTL. (see ref. 1) The display's multiplex is done by the digit enable outputs of the MM5311 in the BI/RBO of the 7447. Now for printing it is more complex. The time information present on the BCD outputs of the MM5311 is stored in four 7475 (one for each digit). When the push-button "PRINT" is depressed, the TTY BIT COUNTER is

running via the START F.F. and in the same way the TTY CHARACTER COUNTER too.

At the same time, the start FF. loads the programmable PRINT LENGTH COUNTER at the data chosen by the PRINT LENGTH rotary switch. The TTY CHARACTER COUNTER drives four data selectors 74151 which choose the data to feed in the DECODER 4-to-16 lines. They begin by the fixed data such as CR, LF, etc. and after follow with the time. The DECODER 4-to-16 lines puts a low level on the matrix's line corresponding with the data present in its BCD input. The TTY BIT COUNTER drives the TTY parallel-to-serial converter which is scanning the five matrix's columns. The W output of this converter is used to drive the TTL input of the TT/L2 RTTY converter (see Fig. 2 and Ref. 2).

The message's format so generated is:

CR LF FIG - H10 H1 M10 M1 FIG - H10 H1 M10 M1 with the PRINT LENGTH rotary switch on position 1 equal 2 prints. With this switch on position 2 the part FIG - H10 H1 M10 M1 is printed four times, and so on for the other positions. The power supply plus 5 volts for the TTL circuits is built with a MC7805 from MOTOROLA. The consumption on the plus 5 volts line is about 950 mA. The minus 12 volts for the MOS circuit is furnished by a negative voltage regulator MC1463R also from MOTOROLA.

3. CIRCUIT DESCRIPTION

It seems to me useless to describe all the clock in its slightest details; some good articles on TTL projects have been published in the past (see Ref. 3,4,5). So, I'll describe only some particularities of this design. Fig. 4 shows the schematic diagram of the TTY DIGITAL CLOCK. For the drawing's clarity and for a better understanding, the pin's number of TTL IC is omitted so that all the wiring of the power supply plus 5 volts to the IC. You can find easily the pin assignment and characteristics of the TTL IC (see Ref. 6)

3. 1 Load Logic

The most difficult part of the design has been the load logic circuit (U10, U11, U12, U13). This circuit drives the enable G input of the four 7475 and allows the time's storage in these cir-

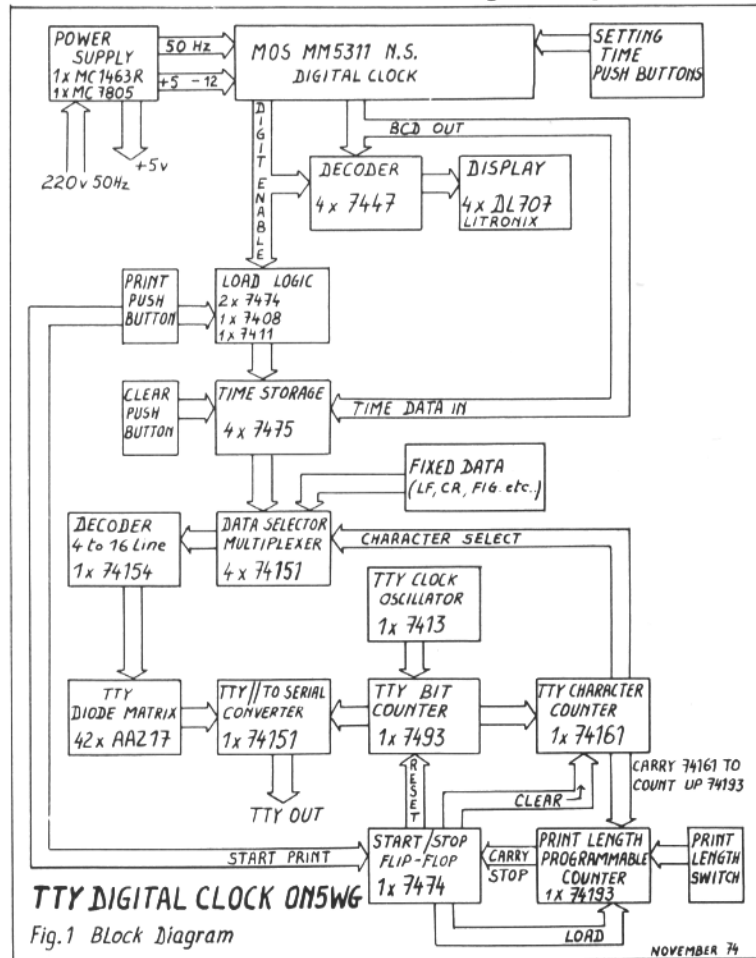
MAY-JUNE 1975 3

cuits. In the initial state, the four FF. (U10, U11) are clear so Q equal 0 and Q equal 1. The 7475 are unloaded because G equal 1. When the push-button PRINT is depressed, the input of U12 connected to U28 goes to 1 and when H10 is present on BCD out of MM5311, the third input of U12 goes to 1. The clock of the first FF. U10 goes from 0 to 1. This transition puts Q to 1 and Q to 0 then U14 has stored the H10 digit. The first FF. U10 with its Q equal 1 allows U13 to drive the second FF. U10 when the H1 goes to 1 and then U15 has stored the H1 digit and so on for both other digits M10 and M1. During the check, 1 established, after many bench-tests, that to have the time correctly stored in the four 7475 it is necessary to delay

the signal G. I suppose this is due to the fact that the BCD outputs of the MM5311 are not valid during the transition of the digit enable outputs of the MM5311. But I am not sure because the MM5311's timing diagram is not available on the N.S. data sheets. The 0.1 uF capacitor on each G input of the four 7475 delays the G signal's transition from 1 to 0. It doesn't look well for those who are regular customers of the TTL, but it has the advantage of simplicity and it is very efficient.

3.2 Data Selectors

The circuits U18, U19, U20 and U21 select the character which will be transmitted to the diode matrix after decoding by U22. These four selectors are values are shown. The size of the capacitor can get to be quite large (1000 mfd at



scanning their inputs at the rate given by the character counter U26. The inputs 0,1,2,3 of these selectors are used to enter the fixed data. For instance: inputs 1 are: A equal 1 B equal 0 C equal 1 D equal 1 after the decoder this is equal to 13 (1 plus 0 plus 4 plus 8) which corresponds to LF. in the diode matrix. The other inputs 4,5,6,7 are used to enter the time data.

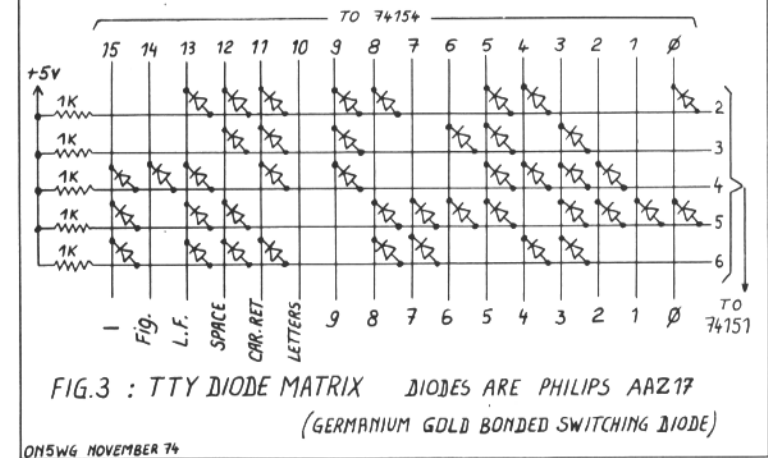
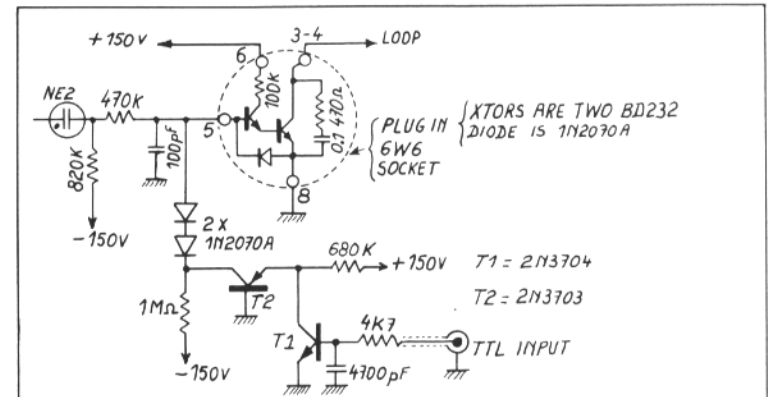
3.3 Diode Matrix

The BDC inputs of U22 determine a low level on one of its sixteen outputs. This low level's position determines the TTY character in the diode matrix. Fig. 3 shows the diode matrix's wiring. The diode matrix is scanned by the parallel-to-serial converter U23. This

configuration requires the use of germanium diodes in the matrix. Indeed, we must keep the low level at the inputs of U23 below its V_{il} equal 0.8 volts (Low level input voltage.) As the typical low level output voltage of U22 is 0.2 volts, if you are using silicium diodes you would exceed certainly the 0.8 v. in the inputs of U23. As always in the RTTY message generator, the stop pulse's width is equal to 44 ms (2 bits).

3.4 Counters

The TTY DIGITAL CLOCK contains only three counters: a 7493 as TTY BIT COUNTER (U24), a 74161 as TTY CHARACTER COUNTER (U26) and a 74193 as PRINT LENGTH COUNTER



(U27). The TTY clock oscillator is the classic gate controlled pulse generator built with a NAND gate Schmitt trigger 7413 (see Ref. 5). The TTY BIT COUNTER drives the TTY parallel-to-serial converter and the TTY CHARACTER COUNTER. You can see the A,B,C inputs of the four selectors U18,19,20,21 shifted in the B,C,D, out-

puts of the U26. This configuration has been made to take advantage of the 74161's capability of doing carry - load operation. After the first print, the U26 is loaded at 2 and so goes on the print with the inhibit of the two first characters (CR, and LF.) Each load operation of the U26 is counted in the U27 PRINT LENGTH COUNTER which stops the sequence (Via the stop FF.)

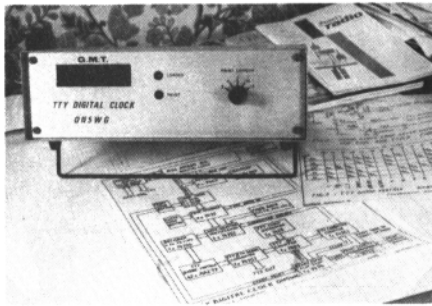


Photo 1 Front Panel

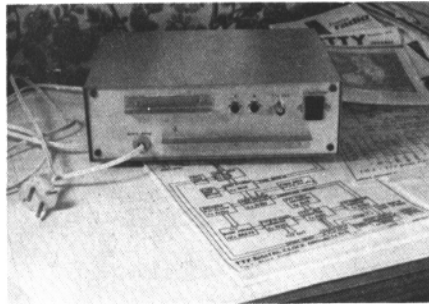


Photo 2: Rear Panel: The aluminum L are the radiator for the MC7805. Time setting P.B., TTL out and clear/Print connector are located on the rear panel.

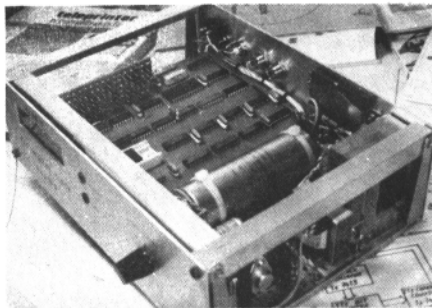


Photo 3: Near the diode matrix you can see the oscillator with the 89P Helix trim 1K Ω . At the low part of the picture are from left to right: MC1463R -12V Xformer and 5V Xformer

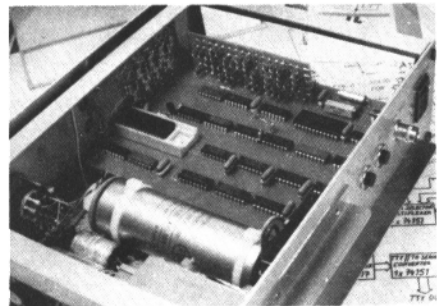


Photo 4: The display DL707, four 447 and 28 resistors 560 Ω are mounted on the vertical P.C. board behind the front panel. The MM5341 is on the white socket

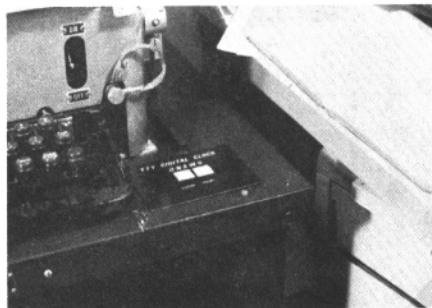


Photo 5 Clear and Print P.B. on TTY machine's table.
ANSWA December 77

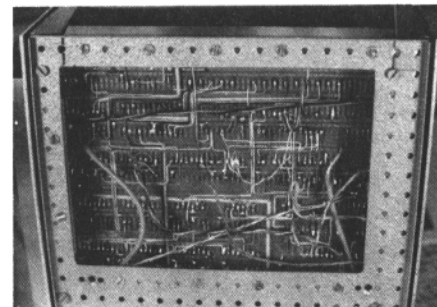


Photo 6: bottom view of the universal P.C. board wire is 30 AWG.

when the print's number is equal to the difference between 16 and the number chosen by the rotary switch.

Part 2, containing full schematic, construction hints and references will follow next month.

RTTY JOURNAL BINDERS \$ 4

RTTY JOURNAL
Box 837
Royal Oak, Mich. 48068

A TTY PUZZLE

We have had TTY poems, TTY pictures, TTY famous quotes and now comes a TTY crossword puzzle, only it ain't exactly a crossword puzzle. Find the words given by circling them, they may run across, diagonally or vertically and they may be spelled forward or backwards. The solution is printed elsewhere but don't cheat. If

you think it is hard, think of the work done by Mary, W9NCZ, in making up the puzzle and submitting it.

When it comes to TTY scoops you'll see it in the JOURNAL first. You can read the entire magazine in 30 minutes but if you complete this puzzle we give you an extra hour's entertainment for free.

AFSK
ANTENNA
ASCIL
AUTOSTART
BAUDOT
CIRCUITS
CLOCK
CONTESTS
CW ID
DATA
DEMODULATOR
DIGITAL
OSCILLATOR
PAPER
PHASE
PICTURES
PLL
PRINTER
RECEIVER
REPERF
RIBBON
SCOPE
SELCAL
SHIFT
SLICER

DIODES
FILTER
FSK
GATE
INKER
JOURNAL
KEYBOARD
LOGIC
LOOP
MARK
NARROW

SPACE
SPEED
ST-SIX
TAPE
TEEDEE
TOROIDS
TRACE
TRANSMITTER
TYPE
UART
WIDE
WRU
XT-FOUR

T N N G A M S E R U T C I P A N T T
E S A U T O S T A T T R T S O F E R
L T T R P L T A N N E T N A X E S R
E R Y T R E P A P T M C O D D E E K
T A P T P O C K T R A M E E N C O L
Y C I G O L W I A T R S E I I C S A
R E S A O R M U N Y K T H L V E S N
O S C C L S V O E P O C S A M E T R
T A K I N D C X P E A V R T T O R U
A O R A O A D I R M S E R I O P E O
L S R C B B I S L A T U R G R R K J
U T U O B A O T V L O D A I S E P U
D I O N I U D S I H A H N D Y K L F
O U F T R D E F P T A T U B W N D R
M C T E K O S P A C E K O R B I C E
E R X S L T A U A R T A U R W N D P
D I F T F I H S C H R L A C L E S E
O C U S T A P E R D E E P S L L P R

active in March and early April. This is a destroyer escort of the Canadian Navy, the HMCS Algonquin and anchored in Portsmouth harbor. They started out using 50 baud and 850 shift but quickly switched to 45 speed and narrow shift and had an excellent signal in the States. W3EKT and K4GMH have been in contact with Ed Thompson, formerly 9J2ED, and things look promising for an early return to RTTY by Ed but this time he will be signing A2CED from Botswana.

Have you been wondering what ever happened to Frank, WA2YVK, that active dx'er and contester from New York? We recently had a contact with him in another mode and he is signing G5BJM, in Blackpool, where he has been for the past year as an exchange teacher. Frank says that he is due to resume his stateside activities again August. At about the same time, Larry, K1LPS/18, will retire from the U.S. Navy and return to Vermont. You may have noticed that Larry won the CARTG Contest in the SWL category. He had not been able to get on the air during his tour of duty in Italy as apparently there is no reciprocal agreement on amateurs between the two countries.

Some of the fellows you all know have been doing some stateside traveling recently. Robin, G8LT, was in New York for the IEEE show the week of 5 April and had a visit with W2LFL, W2PLQ, and others in that area. Due to be at the Dayton Hamvention are KH6AG, ON5WG, ON5HI, XE1LL, XE1WU, and usually a few more pop in unannounced.

This month WAC certificates have been issued as follows---

14 Mhz. Nr. 13 Art Bradley K4YZV
14 Mhz. Nr. 14 Harry Moore W7JWI

Art is an avid contester and is working hard toward DXCC and Harry is an "oldtimer" for RTTY, having received regular WAC Nr. 58 back in 1965.

You are no doubt aware that additional endorsements are available to be attached to the Plaques awarded to holders of the DXCC-RTTY Award. These are given in multiples of 10 for additional countries confirmed. The following endorsements have been awarded in recent months.

110 - G6JF - I5KG - W3DJZ - WA3IKK
- W2LFL - W5QCH
120 - WA3IKK - W5EUN - W5QCH
130 - ON4BX - ON4CK - W3KV
140 - ON4BX

Next to DXCC the WAS certificate is perhaps as difficult or maybe even more difficult to obtain. Some of the states that seem to be most in demand

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follow with at least one active RTTY stations noted.

Rhode Island - W1ZXA - Active most every week end at around 2000z on 14 mhz and was active in the contest.
North Dakota - WB01QK - Look for him evenings local time around 7090 khz.
Utah - K7RGY - active all bands including 2 meter repeater 10/70 in the Ogden area.

Nevada - K7YBS - active on 14 mhz. We have repeated requests for the present QTH of Dave Le Jeune, formerly HL9KL and stateside K5WNV. Anyone know Dave's present QTH?

Commencing April 25th US amateurs will be permitted to use special calls signs to commemorate the Bicentennial Year 1976. They may be used at the amateurs option. Monitor ARRL RTTY Bulletins for details.

Many tnx to W3DJZ, W3EKT, K3SWZ, K6WZ, W7BCT, DK3CU, K1LPS/18.

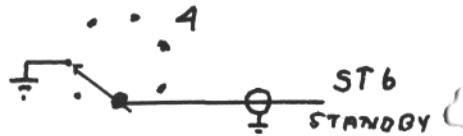
73 de John

DX-RTTY May/June 1965

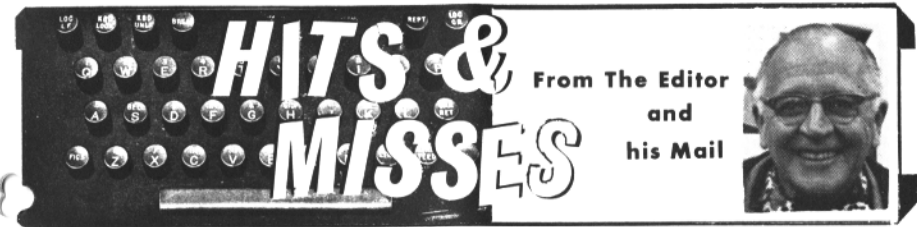
TA1AH QRV during BARTG test, 19 OSO's with KWM-2 and dipole. Op. Herb, DL1VR. WA6WGL reports a good QSO with PZ1AX. YS1RFE reported active in BARTG test. MP4BEK has a strong signal stateside. Olle, SM5KV, made WAC QRP by getting KH6AX. DL3IR is skeding 7X3HT for week-end RTTY tests. DL1VR will be in US for 2 weeks in June. John, W3KDF, reports a QSO with UB5AC. K8MZS heard 7Z3AA, Saudi Arabia. FG7XT won the BARTG Contest.

Correction; Expanded Video printer.

The author of "Expanding the Video Printer" in the April 1975 issue sends us a correction. On switch section #4, point 6 should NOT be grounded but left floating. Switch section #4 on page 12 should be wired as shown here.



*** * ***
* * *



Box 8557
Pocatello, ID 83209

Shortly after you receive this issue it will be time for Dayton. Everything is set - flowing hospitality at the South Room - Imperial North Motel, Friday and Saturday evenings. Probably pictures on the wall, and many old friends to greet and new ones to meet. A group will eat dinner in the Motel about 7 p.m. Since the capacity at one table is limited it will have to be on a first come-first served basis. See you at Dayton. This is the 9th annual gathering for the JOURNAL and every year gets larger.

A late note from Paul, KH6AG tells us of a fire which destroyed Freeman's KH6AX, Yacht Brokerage building along with all his radio equipment. Freeman was operating at the time and smelled smoke, thought it was the rig at first then discovered the fire in another part of the building and barely had time to get out and move his car before everything was in flames. We understand the rig had some insurance but nothing else. Just about everyone on 20 meter RTTY has worked Freeman at some time and I am sure they all wish him luck in getting back on the air as well as sympathy for his loss.

We have had several inquiries in the picture - "Two Ladies" on the January issue. They are both there and personally it took me a long time to find the second one but when you see it, it jumps at you - looks like a witch - the only hint we can give is that the white space in the center - starting about 1/4 inch from the bottom is the chin, cross your eyes and squint and it may show up.

RTTY fans may come and go but we are pleased to announce an all time circulation high at the present time. 2318 subscribers including 102 Canadian and '49 to other countries.

The proposed new license docket has been pretty well discussed by now, and cussed, however there are always two sides and we are printing letters received expressing two different views.

Dear Dusty,

I was surprised by the concern you expressed in your February editorial concerning the effect of the proposed license restructuring on RTTY operation. The inference seem to be either that it is somehow inappropriate to require a greater showing of proficiency for RTTY operation or that most RTTY'ers are incapable of obtaining an Advanced (or Experimenter) license. I disagree in both cases. The proposal recognizes the General Class license for what it has become in recent years--an appliance operator's permit. The proposal recognizes that RTTY is not an appliance operator's mode, that it requires greater technical proficiency, and that a greater showing of proficiency should be required.

I do not feel that the restructuring will spell "the demise of RTTY"--here you are ranting, not reasoning. The proposal will assure that those amateurs using RTTY are the technically more competent hams. The FCC's interest here is clearly in providing an incentive for Advanced licensing. I think that we should be proud that the Commission has seen fit to distinguish RTTY'ers from AO's. Rather than fight the proposal, you should be encouraging those RTTY'ers who are not Advanced licensees to become fully qualified, and assist them in doing so.

Sincerely,
Mitt Nodacker, WA7TFE

29 Grove St.
Homer, N.Y. 13077

March 24, 1975

Here is a comment on the restructuring proposal, and what it will do for me. I went into semi retirement in 1970 with the idea that I would have something to do when I finally retired. I had wanted to get into RTTY for several years but could not afford it, but in 1972 I got my first machine and that was the beginning, from then until I retired last November I spent several hundred dollars in surplus, parts and equipment because I knew I could not purchase this after I retired and I wanted to experiment with RTTY and do some designing and building. I hold a Tech ticket and was going to see what I could do to get my code up (code comes hard to me for some reason) get my general this spring and get on the lower bands, as 6 meters and above in this area have gone dead. No activity at all.

If restructuring goes through I would be in the same boat as I am in now. I guess I would join the ranks of the SWL's.

Perhaps if we had wantonly violated the rules and pulled some of the things that are going on on the 27 meter band we would be given more spectrum and privileges. What are we being penalized for? This will take away my hobby that I had planned for in my retirement years.

Yours,
Edmond Roy

(We are willing to bet that any newcomer will learn more about RTTY from our Beginners' Handbook than by passing his advanced exam. Any Takers?)

MAY-JUNE 1975 11

Remote Start - Stop for Model 14 TD.

CLIFFORD MUELLER, WB6GAW
741 Kilkenny Ct.
SUNNYVALE, CA. 94087

This article describes modification of a teletype model 14 transmitter-distributor for remote re-start. The following system has been in use for us for some years and has worked satisfactorily during that time.

To implement the stop and re-start of the T.D. we will take advantage of the tape out sensing pin and its associated switch located below the tape guide plate.

To stop the TD we merely cut a notch in the edge of the tape and allow the sensing pin to rise which will stop the TD. To restart the TD we will withdraw this pin via fabricated linkage and a relay. Fabrication of the linkage will take a little ingenuity and depend on the type of relay and materials on hand.

On my modification I drilled a small hole in one end of a piece of aluminum and epoxied the existing sensing pin in place. A piece of music wire was then soldered to a 24V DC relay armature and coupled with a sliding fit to the same piece of aluminum. A small collar with a set screw, obtained from a hobby shop, was used to adjust the pin for complete withdrawal from the tape. The photograph shows the complete modification installed under the tape guide plate. Installation will be easier if the tape guide plate support casting is removed by re-

moving the two screws on the guide plate and the two screws that come through the base casting. When mounting the relay I was able to use the holes that I found already drilled in the casting.

If push button operation is desired all that is required is to energize the relay long enough to allow the notch in the tape to pass the pin. If pulse operation is desired (as from a model 28 stunt box switch) a relay circuit will have to be added as shown in Fig 1.

The values of the resistor and capacitor in the circuit will depend on the type of relay and the voltage used so no

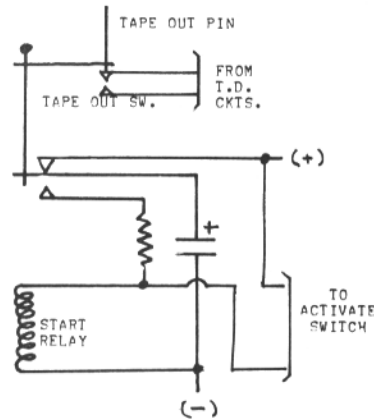
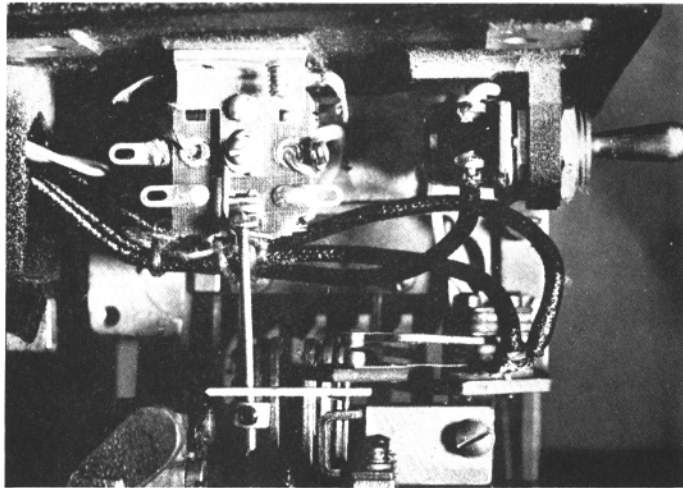


FIG. 1



35 volts) but there is plenty of room under the TD. for mounting of components.

At this station I used the TD. in connection with the terminal unit to call CQ for 30 seconds and then call again. If I receive an answer the system disables through a relay in the terminal units auto-start circuit. This system is also used for contests for insertion of required information from a pre-cut tape.

On a Mars network it could be used to transmit messages from a station after interrogation from the NCS. I am sure there are many more applications limited only by the imagination and needs of the operator.

I would like to give credit to Bob Jenkins, K6DHO, for taking and supplying the photograph.

RTTY JOURNAL

Box 837

Royal Oak, Mich. 48068

Editor & Publisher 'Dusty' Dunn, W8CQ

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1975- Jan.-Mar.- [2] -
RTTY BINDERS-\$4.00

Increased circulation has played havoc with our back issues of 1974-75. Since most of the issues with the popular UART articles are gone, Clyde Keenan, K7WTQ, has kindly offered to make a set of reprints of all 4 articles. They will be 30¢ or 3 10¢ stamps.

New! Beginners RTTY Handbook.

In publishing the RTTY JOURNAL for a number of years we feel we have a good idea of what should be in a beginners handbook. We have tried to put as much of it as possible in this handbook.

A complete section of 18 parts on theory and application of RTTY with emphasis on the application. Simple wiring for the 15-19 teletype machines. Modern AFSK oscillator. PLL Demodulator, ST-5 Demodulator. Auto-start for the ST-5. Improved scope display for demodulators. 3 band xtal controlled transmitter and receiver for \$100. Operating procedures on RTTY. How to make your own picture tapes on RTTY. Awards for RTTY operations. Sources of supply.

Much of the material has been published in the Journal but has been edited to bring it up to date and is all in one place.

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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. \$7.00 per year, \$14.00 for 3 years. Ham Radio, Greenville, NH 03048.

OA-5 SOLID-STATE TU. See February and September issues of "RTTY Journal." Drilled and plated boards, \$15.00; board with parts, \$100.00; complete unit, ready for air, \$210.00. FOB. WA8ETX, Ken Simpson, 3700 Mountview, Alliance, Ohio 44601.

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

CIRCUIT BOARDS: CW ID October Journal \$9 Frequency Standard Feb. 1974 Ham Radio magazine \$8, Digital Clock QST November 1974 \$8, RAM Message Generator January 1975 Ham Radio \$10. Limited supply of relays for message generator probably will be gone by time this ad appears, also no more RTTY Counter, AFSK, Digital Autostart, or receiver boards. All boards high quality G-10 Epoxy, plated, but undrilled. Parts list included. Sent postpaid in US and Canada only. Bert Kelley K4EEU, 2307 S. Clark Ave. Tampa, Florida 33609

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HAL COMMUNICATIONS CORP. announces the DKB-2010 Dual Mode Keyboard. Provides flawless transmission of RTTY and Morse Code with standard 3 character buffer and optional 64 or 128 key buffer. Call letter identifier and "Quick Brown Fox" sequence standard. Write for detailed spec sheet. HAL COMMUNICATIONS CORP., Box 365RJ, Urbana, ILL. 61801 Phone 217-367-7373

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**Additional Classified
See Next Page -**

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