

FOR SALE: 28 ASR's. With dual TD's, keyboard typing reperf and auxillary perf. Excellent physical and working condition. Three units, \$650 each. will ship. Box 218, Middletown, Virginia, 22645.

AUTOMATIC CW ID UNITS. Programs up to 32 dots, dashes or letter spaces, easily programmed. All on one board, less power supply, kit \$12.95. Wired and tested (your call must be supplied) \$17.95. Interface for above for ST6 or ST5, kit \$4.50 ea; wired and tested \$5.50. 5V 1A fully regulated, short proof TTL supply. Plus in or hard wired board and transformer included. Kit \$12.69; wired board and tested \$17.69. NuData Electronics, 104 N. Emerson St., Mt. Prospect, IL 60056.

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.

TRADE: EBC-144 Jr, 2 meter synthesized fm receiver with 8 Amp power supply. Unit has dual synthesizers, priority channel, 30 watts output. Covers 143.5 mHz - 148.5 mHz. Trade for model 28 or sell for \$5.00. Will ship in U.S. M. Watson, WBOIKT, 7800 E. 119th St., Grandview, Mo 64030. Phone: (816) 761-1412.

WANTED: Model 32 or 33ASR teletype. Please specify condition and price. J. Crane, 5650 Windsor Way #308, Culver City, CA 90230. 213-649-4187.

MODEL 28ASR -Sprocket feed printer - dome reperf. (perforator on base). Complete, 60 wpm throughout. \$550. 28ASR minus printer (has TD, perforator, complete keyboard, electric backspace: needs minor adjustments) \$375.00. you transport. Wendell WA4ERD. 502-368-7179, 1420 Garvey Dr., Louisville KY 40216.

HAL COMMUNICATIONS CORP. announces the availability of the RVD-1005A ASCII Video Display Unit. Serial or parallel data input, 110 or 300 baud, loop or RS 232 C levels. Request data sheet for full information. HAL COMMUNICATIONS CORP., Box 365RJ, Urbana, Illinois 61801. Phone 217-367-7373.

UT-4 COMPONENTS. Still geared up for hard-to-get items. Everything postpaid first class mail. Fairchild 33512 FIFO's \$13.00, 2/\$25; GI-AY-5-1013 UART \$7.00; MC1408L-6 D/A chip \$6.50; Edge Connectors for K7WTQ PCB's \$6.00 set; JAN XB-6 crystal \$3.50; MJE-340, MJE-370, 74LS221, \$1.25 each. TTL's (12) for XB-6 Dual Clock \$9.50; TTL & semiconductor kit for UT-4 \$8.50. Peter Bertelli, W6KS, 5262 Yost Place, San Diego, CA 92109. 714-274-7060.

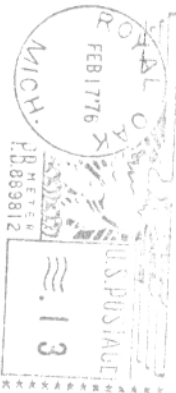
VIDEO READOUT OUTFIT: HAL Dual Mode Keyboard model KBD-2010 s/n 138; has 64-character memory. ID easily changed. HAL ST-6 with AK-1 oscillators and 425 Hz shift option, s/n 553. HAL RVD-1002 video display translator, s/n/336; has four speeds, unshift on space. Motorola 9 inch video monitor. Will deliver for 12c per mile in Florida south of Orlando; shipping at cost of packing and transportation, COD. First certified check or bank draft for \$1,000.00 gets the package deal. Original cost over \$1,500.00. If delivered in Florida will assist in hook-up. Phone questions cheerfully answered at your phone expense. Mail check to M. C. Bartlett (K4EU) 1299 South Ocean Boulevard (Apt. S-4), Boca Raton, Florida 33432. Phone (305)-391-0312 between 5 and 6 evenings, no collect calls please. Reason for selling: Have bought new equipment. Each piece mint condition.

CANADA. For sale HAL factory assembled, ST-6, DKB-210 Keyboard RVD-1002T character generator Buidrs. 11 Churchill Ave., Willowdale, Ont. M2N 1Y6.

CLASSIFIED ADS--See Page 8

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

FIRST CLASS MAIL



RTTY JOURNAL

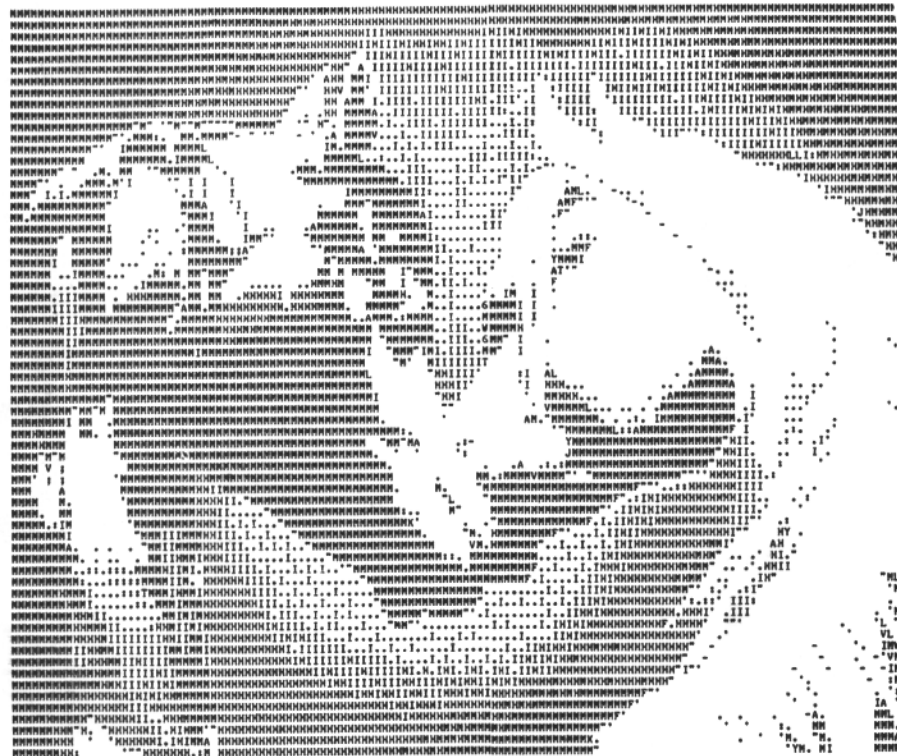
March, 1976

EXCLUSIVELY AMATEUR RADIO TELETYPE

Volume 24

No. 3

35 Cents



THE COURSHIP
A PAINTING BY FULLERTON
CONTENTS ORIGINATED FOR RTTY BY RICKY, WACKY, RICKY, LINCOLN, NEBRASKA

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WINNERS - 1975 RTTY ART CONTEST

This year's contest was a bit better received than the first one in 1974. Entries came from all over the U.S. and from Canada and Germany. The following are the results:

- 1st Place**, Ricky Johnson, Lincoln, Neb. WA0CKY - "The Courtship"
- 2nd Place**, Jim Ringland, Cincinnati, Oh. W8JIN - "Jaguar"
- 3rd Place**, Dick Peters, Norfolk, Mass. WA1PWF - "Bicentennial Symbol"
- Honorable Mention**, Horst Miers, Hamburg, Germany - DL6US/DL6USA - "Noli Me Tangere" (Don't Touch Me)
- Honorable Mention**, John Bellinger, Seattle, Wash. - K7LVJ - "Tweety Pie"

Other entries were received from Rick, W8ADE and his son, Eric (12 years old); from the daughter, Thelma (11 years old) of W6DSL; Bruce, VE2QO; and from Henry, WB2QXX. Several of the entrants each submitted multiple entries.

The scoring was very close and based upon compliance with the contest rules; the formatting of the tape; the subject matter of the art; the excellence of the technique; the general appearance of the

entry when viewed from a distance; and the suitability for publication. The other judges for this year were John, K2AGI; Dick, WA7RQV; Joe, WA9UGE; and Neil, K9WRL.

Anyone having any questions concerning this contest or that being planned for next year may contact Don, WA6PIR at his new address: 19765 Santa Isadora St., Fountain Valley, CA 92708. Don says that he is planning to be back on 20 M from his new location in the near future. He also extends his sincere congratulations to the winners and his thanks to all other entrants.

It is hoped that other RTTY art enthusiasts will continue their efforts toward making next year's contest even bigger. Most anyone can produce this art with a little practice but consider the second place winner, Jim, W8JIN. That was his very first effort! Also, consider the ages of some of the other entrants. While the rules were not difficult to follow, Henry, WB2QXX went a long way for his on-the-air confirmation: Serge, F6ALL, Grillon, France.

OPTO COUPLER FSK KEYER

DAVE CHAPMAN, W9DPV
670 N. Elizabeth
LOMBARD, IL. 60148

This article describes an opto coupler frequency shift keyer offering several outstanding features:

1. Will work from either a 30 or 60 mill loop with no changes. (in fact is safe up to 80 ma.)
2. Insulation between the loop and keyed circuit is 500-2500 volts depending on opto isolator used.
3. In some conditions is self powered. (requires no power supply)
4. Will key at high speeds without distortion.
5. May be connected in the loop in either polarity without damage and will operate properly.
6. Low cost
7. No mechanical adjustment required.
8. Electrically quiet.

Description:

The keyer in its simplest form consists of a bridge rectifier using 1N4004 diodes. These can be almost any silicon power diode.

The loop current is fed into the bridge and after rectification is fed to the light emitting diode section of the opto coupler.

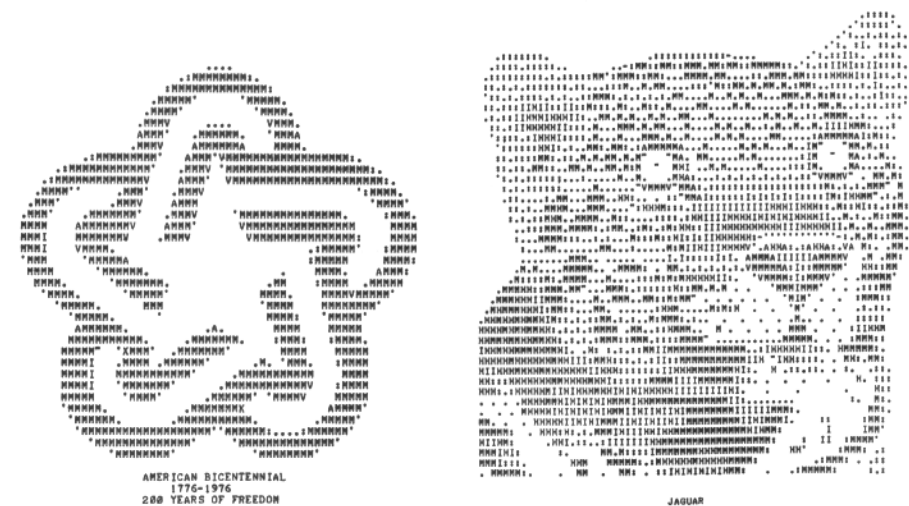
The opto coupler can be the older Motorola MOC-1000 or a 4N26 or 4N27. The main difference being the isolation breakdown.

Sketch #1 would be applicable to an audio shifter as it would have the lower frequency under "mark" conditions. C2 might need to be increased to .01 or larger and under some conditions C3 will need increasing. R1 for audio service could run as low as 470 ohms. All resistors 1/2 watt.

The voltage at V1 in SK2 in one of my crystal oscillators was - 17 volts. The MPS3703 cut this off nicely and gave very clean RF keying. Note that SK-2 is an RF shifter with the mark high while the SK-1 is an audio shifter with the Mark low. C4 and R1 can be used as a shaping network to reduce "keying sideclatter" if carefully selected.

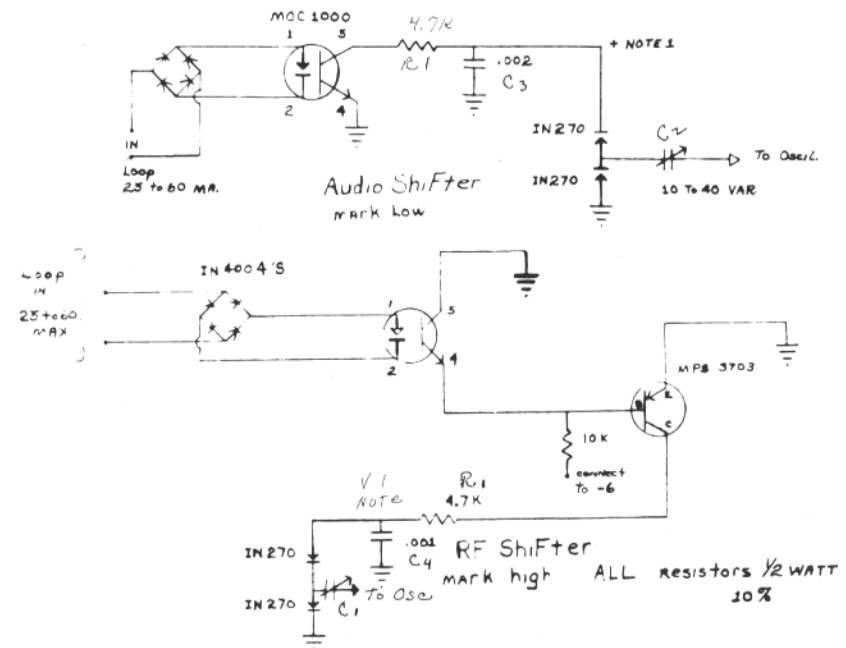
Conclusion:

This information will allow the reader to key his oscillator circuits directly from 170 volt machine loops with good results. It has been in use here for several years.



CREATED BY DICK PETERS - WA1PWF, NORFOLK, MASSACHUSETTS

ORIGINATED FOR RTTY BY JIM, W8JIN, CINCINNATI, OHIO



ALL resistors 1/2 WATT 10%

A UNIVERSAL CLOCK FOR UART'S

HAP KING, W7QC
451- 145 P1. N.E.
BELLEVUE, WA. 98007

Introduction

If you have been reading about the Universal Asynchronous Receiver Transmitter (UART), you are aware of the fact that this integrated circuit requires a clock input signal of 16 times the desired output or input baud rate. The other requirement for the clock is a minimum pulse width of 1 microsecond. The following clock circuit for UARTS is program-able in .5 microseconds steps, so literally any baud rate or printer speed can be selected.

The Circuit

The circuit consists of a crystal oscillator; a 12 bit binary counter; and a mono-stable vibrator. The crystal oscillator provides pulses to the counter at .5 microseconds intervals (2MHz crystal). When the binary counter reaches 4096 decimal or 111,111,111,111 in binary, the next oscillator pulse causes a carry pulse to be emitted. The carry pulse is used to trigger the mono-stable vibrator (one shot). The timing resistor and capacitor are picked to give an output pulse width of approximately 8 microseconds.

The carry pulse is also used to preset into the counter the number the count is to

begin with. The time between output pulse is the time it takes to count from the preset value to 4096. The preset count can be set to any value from zero to 4096 with switches or jumper wires.

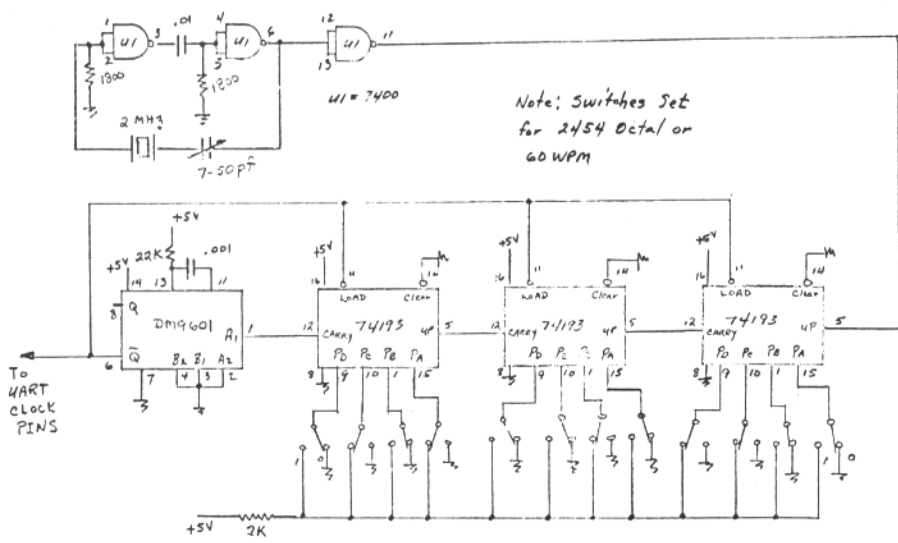
To figure out the preset count, calculate how many crystal oscillator periods are needed to give the UART period. So for 60 WPM, the baud rate is 45.45×16 equals 720 Hz. 720 Hz equals a period of 1,388 milliseconds. Dividing .5 microseconds into 1.388 milliseconds gives the required count of 2776 pulses.

The preset value is 4096-2772 or 1324. So, for 60 WPM the counter starts at 1324, counts 2772 crystal oscillator pulses to reach 4096, and then puts out a carry pulse. The carry pulses occur every 1.388 milliseconds or at a frequency of 720 Hz.

The following table gives the preset counts for 60, 75, and 100 WPM speeds.

60 WPM - 45 bauds - preset count - 1324 or 2454 octal
75 WPM - 56.88 bauds - preset count - 1900 or 3554 octal
100 WPM - 74.20 bauds - preset count - 2411 or 4553 octal

I have used jumpers to set the preset value. A series of 12 switches can be used for speed selection. Or a 12 pole 3 position rotary switch can be connected to give 60, 75, and 100 WPM speed selection.

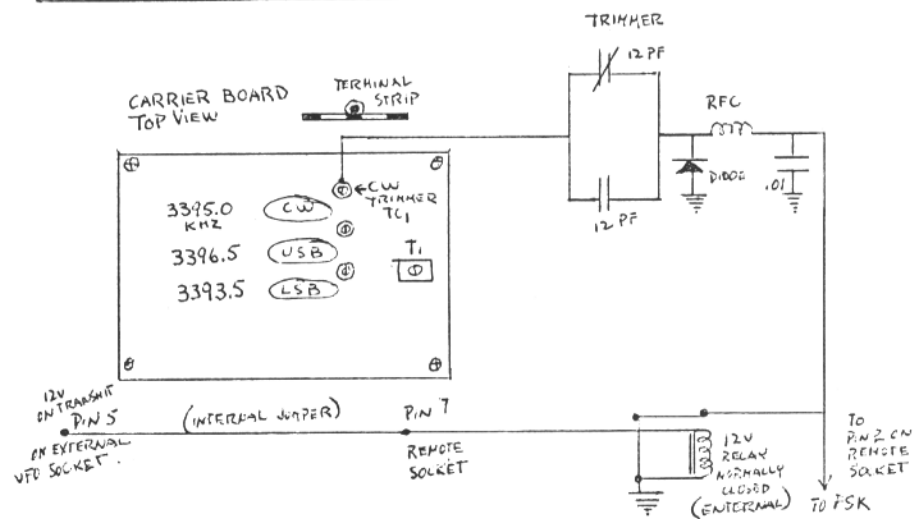
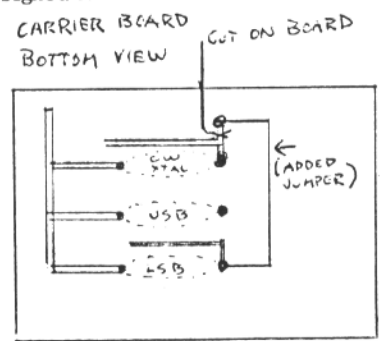


Modification of the Kenwood TS520 for use of CW filter on RTTY.

MARTIN SIEGEL, WA2FSD!
11 Burbury Lane
GREAT NECK, N.Y. 11023

Owners of the Kenwood TS 520 who have tried to use the CW filter for receiving RTTY find that it will not pass the standard (2125 - 2295) tones.

The following simple modifications will make this equipment receive on 170 shift RTTY almost as though it was designed for it.



The modifications are easily made on only one board, the carrier board (X50-00901) located on the bottom of the TS 520. You have to be able to get to the both sides of this board. This means removing the four Phillips head screws in the corners that hold the board in place.

None of the wires will have to be disconnected. Gently pull the board up and turn it over 120 degrees so that the bottom (wiring side) is accessible. With a razor blade cut the single foil lead where shown in the drawing. Make sure the foil is severed. This removes the original crystal (X1) and trimmer (TC1) from the CW diode switches (CWR & CWT) D 2 & D1.

Solder a jumper as shown in the same drawing using a piece of insulated wire. This jumper connects the CW diodes to the bottom of the lower sideband crystal (X3) at the Junction point of C1 and X3 TC3. This turns on the LSB crystal in the CW position of the mode switch.

On the component side of the board, locate the trimmer next to the CW crystal (TC1). Adjacent to the carrier board, near the CW trimmer, you will find a 3 point terminal strip with only one tie point being presently used. The unused terminals are used along with the hot side of TC1 to wire in the FSK components. (Note: that one of these ties is already grounded).

A relay was added (externally) as shown, to ground the FSK input on receive to prevent FSKing the received signal.

The FSK input is brought in through

CONTINUED ON PAGE 7

Interpreting RTTY Weather Data.

PART 2

EXTREME TEMPERATURE GROUP -- 4TxTxTnTn

44428 -- This indicates a high temperature of 44 degrees and a low temperature of 28 degrees. Note that these temperatures are reported in Fahrenheit for stations in the continental U.S.

The maximum temperature for the previous 24 hours is reported at 0600GMT. The maximum for the previous calendar day is reported at 1200GMT. At 1800 and 0000GMT the maximum for the previous 12 hours is given.

The minimum temperature for the previous 24 hours is reported at 0600 and 1800GMT. The minimum for the previous 12 hours is reported at 1200GMT. The minimum for previous 18 hours is given at 0000GMT.

When the temperature is higher than 100 degrees F., the amount over 100 degrees is sent. If it is lower than zero degrees F., the absolute value of the minus temperature is subtracted from 100 and this amount reported. Thus minus 15 degrees F. would be sent as 85. Zero degrees is coded as 00. Minus one degree would be 99.

SPECIAL PHENOMENA GROUP -- 9SpSpssp

The 9 of this group is the indicator and the second and third digits, SpSp, specify the type of special phenomena. The fourth and fifth digits, spsp, give further information on this phenomena. A wide variety of events can be covered with this group, and it is sent whenever conditions warrant. Special phenomena generally considered of value are: direction and speed of maximum wind during the preceding 6 hours provided the wind speed equals or exceeds 33 knots, or is higher than some speed which is appropriate for the particular station. Detailed information on blizzards, hurricanes, and severe local storms including tornados. Pronounced variations in wind direction, wind speed, visibility, barometric pressure and the occurrences of frost, and frontal passages. Cloud directions when a hurricane is in progress within approximately a 500 mile radius of the station.

The special group to give the total accumulation of snow on the ground (904--) was covered above. Also, to be included in the report is a special group for the depth of newly fallen snow (901--) whenever one inch or more has accumulated on the ground during the past 6

hours. This group gives the total amount that has fallen prior to melting. That is if there were two accumulations of say one inch and three inches, the amount reported would be four inches even though part of each snowfall had melted at the time of observation.

There is a special phenomena group, 907-- which is sent when freezing conditions at the station are present. It gives the average rate of accrual per hour of glaze. For example the report 90702 would indicate an average rate of 0.2 inches per hour. This report is always sent when this freezing is occurring at the time of observation or has occurred during the past 6 hours.

For further details on other special phenomena and their code numbers refer to Federal Meteorological Handbook No. 2.

OTHER SUPPLEMENTARY GROUPS

The group 3PwPwHwHw gives the period and height of wind waves at ocean locations. The periods are coded directly in seconds and the heights in increments of one and one half feet.

The group dwdwPwHwHw gives the direction, period and height of swell waves.

The group 8NsChshs is for cloud layer(s). This reports the amount of sky coverage of a particular cloud type, C, and gives the height of these clouds. As many groups as necessary might be sent to describe various ascending layers.

RECORD TEMPERATURES

If a temperature extreme record is broken or equalled at a station with adequate records to report it, this fact is reported with a plain language contraction immediately following the 4TxTxTnTn group. These contractions are as follows:

HIXAT -- Highest exceeded for all time
LOXAT -- Lowest exceeded for all time
HIEAT -- Highest equalled for all time
LOEAT -- Lowest equalled for all time
HIXFM -- Highest exceeded for the month
LOXFM -- Lowest exceeded for the month
HIEFM -- Highest equalled for the month

LOEFM -- Lowest equalled for the month

Spring Temperatures

HIXSE -- Highest exceeded so early
LOXSL -- Lowest exceeded so late
HIESE -- Highest equalled so early
LOESL -- Lowest equalled so late

Autumn Temperatures

HIXSL -- Highest exceeded so late
LOXSE -- Lowest exceeded so early
HIESL -- Highest equalled so late
LOESE -- Lowest equalled so early

CITY TEMPERATURES

Some larger cities include downtown temperatures and conditions in the reports over and above the data from the normal weather reporting station. This additional report takes the form CITY TxTx TnTn TT R24R24R24R24. It gives the maximum, minimum and present temperature for the downtown location as well as the 24 hour precipitation figure if appropriate. The above nomenclature for temperature records applies to the data also, with city records being used for the analysis.

With the information so far presented available, you can obtain a fairly accurate weather picture for the entire U.S. by printing WSY70 and WBR70. At present their transmission schedules seem to be such that the synoptic surface data from WSY70 is delayed from WBR70. This allows copy on both reports with one printer and receiver. As noted, the coverage and completeness of data from the two complement each other giving a great deal of information for a preceding six hour period.

It is interesting to make some sort of weather map drawing isobars from the PPPTT grouped along with the temperature readings, and wind directions and speeds. Weather patterns can be followed at six hour intervals. Then you can note how this data compares with forecasts in the newspapers and on TV, and formulate your own forecasts.

TIDE INFORMATION

On the primary synoptic report from WBR70 there is often included tide data for coastal stations. This might print out at the end of the message as TIDE HW 005 or maybe TIDE LW 002. This indicates the deviation of the tide from the normal level for the hourly tide curve. The reading is taken one hour before the normal weather observation times of 0000, 0600, 1200 and 1800. If the time

for high or low tide occurs during this previous hour, the reading is taken at the exact time for the high or low tide.

CONCLUDED IN NEXT ISSUE'

Modification-TS520

CONTINUED FROM PAGE 5

the presently unused pin 2 of the REMOTE socket. The 12 volts for the relay is derived from pin 5 of the EXTERNAL VFO socket which is activated upon transmit. It is internally wired to the unused pin 7 of the REMOTE socket (which then goes to the outboard relay).

Adjustment of the 170 hz shift is the same as for any FSK unit.

Use the RIT control for the best frequency into the TU.

NOTE: It may be necessary to slightly retweak TC3 LSB carrier crystal to compensate for the addition of the FSK capacitors to the circuit.

Bi-Centennial RTTY WAS Contest -

The Bi-Centennial WAS RTTY Contest was almost a sudden success, at least for the winners of the DOVETRON Terminal Units. We are not exactly sure of the final results and John, W3KV should have them in his column but understand that the winner took only 13 days to work all states and less than a month to obtain all confirmations. In the last WAS contest the winner took about four months. Our congratulations to K7BV, Mac, and Cecil, W7VKO. Carl, K6WZ seems to be next in line if no foreign station wins the last Dovetron.

However the contest is not over. It was a pleasure to listen on the bands and hear the activity, remember there are 5 plaques to be won yet and everybody that makes WAS gets a nice red-white and blue Centennial certificate. One of the objectives of the contest was to increase activity - this it certainly did - lets keep the activity going and with more time to chat now it should be easy and a pleasure to get any states needed for YOUR certificate. Who knows, the activity created in this contest may bring on something else good.

MARCH 1976 7

RESULTS - SARTG RTTY CONTEST

Nr	Call	Points	19	DK3MG	71,010	37	LA7AJ	23,120	55	OK1MP	7,705
1	1L1PYS	229,320	20	OX3DL	65,520	38	DJ2YE	22,925	56	PA0KU	7,400
2	CT1BQ	204,590	21	CE3MA	64,260	39	XJ5BX	21,140	57	OZ6PI	7,020
3	18AA	204,000	22	SM6ASD	52,525	40	W3KV	20,740	58	OA4BR	6,745
4	OD5HC	167,750	23	F9XY	49,880	41	OZ2X	20,295	59	SM6DDL	6,510
5	HB9AVK	147,600	24	PA0RZ	49,060	42	G3RDG	19,080	60	VE2QD	6,270
6	I6VGA	133,955	25	G3ZWW	47,530	43	WA3CFK/2	17,500	61	LA5HE	5,760
7	ON5WG	121,980	26	SM2DMU	45,780	44	SL5AR	16,975	62	DJ9IR	5,700
8	W3EKT	114,725	27	OZ4DZ	45,360	45	HB9GS	16,170	63	OZ2ZZ	4,675
9	WA3JTC/ZI	113,425	28	CE3EX	38,700	46	IT9ZWJ	15,500	64	SM6EBM	4,370
10	4X4MR	107,250	29	OH3UK	37,430	47	SM5FUG	14,355	65	KZ5OD	4,130
11	SM00S	96,815	30	K6WZ	37,350	48	CX7BZ	13,440	66	G2PKO	3,705
12	11COB	94,860	31	WA0YDJ/4	36,960	49	LA2IJ	13,230	67	SM7ACN	3,600
13	F6ALL	85,760	32	ON6HF	36,960	50	OH0N1	12,870	68	ZP5NP	3,450
14	PY2CYK	85,050	33	OH22Y	34,320	51	W8CQ	12,825	69	OZ8GA	3,420
15	SM5BKA	80,320	34	W90EQ	33,480	52	SM7BGE	11,500	70	OZ4XR	3,010
16	K4GMH	74,240	35	SM6AEN	29,055	53	JA3AJW/1	9,870	71	PA0WDW	2,600
17	W4CQ1	73,060	36	W1GKJ	25,885	54	OK2BJT	9,240	72	F6CDB	2,580
18	OH6JG	71,250							73	WBTCO	1,875

Additional Classified

See also Pages - 14 - 15 - 16

TELETYPE MODEL 28 KSR's: Good working condition, over 200 available at \$350 each. Call: Henry Holder, (817) 420-3021.

TELETYPE MACHINES - \$25.00 up. Also aimed 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.

SAROC SECOND HAWAIIAN CONVENTION Kulima 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

NEW RTTY DEMODULATOR - KEYER - Complete with: Auto-start with 10 amp, DPDT contacts, PLL receiver tracking, switchable 170 Hz and 850 Hz shift, switchable mark-space, normal-reverse, terminals for tuning meter, power supply, etc: Model WM-R12A for 12 VDC operation. Model WM-R130A for wired, tested, 42.95. Post Paid, no C.O.D. WM Electronics, PO Box 544, Wilton, CT 06897.

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. Alexandria, VA 22306. - Only full head photos are acceptable.

8 MARCH 1976

28ASR FOR SALE. 100 WPM-sprocket feed. Expertly adjusted and lubricated. All previously worn parts replaced. Excellent condition. Must-go-sacrifice for \$550. Prefer no shipping. Gary Straub, WA8RXQ, 24 Marshall Street, Norwalk, Ohio 44857. Phone 419-668-1100 after 6 P.M.

MOD-U-LINE CABINETS ST-6 STYLE MCP3-17- 12 \$24.36. All sizes available. Blue and tan normal 24 hour delivery. Black and gray 2 to 4 weeks. Send SASE for more information NuData Electronics, Dept. C, 104 N. Emerson St., Mt. Prospect, IL 60056.

CIRCUIT BOARDS--Frequency Standard \$8. CW ID-ER \$8, RTTY Counter \$18, Clock \$8, see previous ads. Also Morse to ASCII converter Nov QST plug-in board includes improved WA1BYM proc \$15, ASCII to tv board Dec QST \$10. Boards epoxy plated postpaid in US only. Morse/ASCII board requires several jumpers. Bert Kelley, 2307 S. Clark Ave., Tampa, Fla., 33609.

MODEL 28KSR WITH MkIII KEYBOARD, new and unused MkII typing unit, green Bell System cabinet with scratches on one side, \$325. Model 28KSR Compact with three speed gearshift (60-67-100), very late MkIII, brand new condition, \$425. Ron Ott, WA6FAD, 528 Bonita Avenue, Pleasanton, CA 94566 (415-846-1459).

TELETYPES; MODEL 19 \$175.00. Model 15 \$75.00 Model 14TD \$25.00. With power supplies, tables, clean, excellent condition, 20 or 60 MA. Al Shapiro, WB2RBF, 516-581-6509.

FOR SALE: 1-110 to 110v VOLTAGE REGULATOR TRANSFORMER \$10. 2-Regenerative Repeaters w/mercury relays (as is) \$15.00, 1-6" Bud Relay Rack \$10.00, 1-RCA Fixed Frequency Crystal Receiver 7-12kc \$25.00, 1-51J3 Collins Receiver \$450.00. B. Haley, WOEGLA, (712) 255-8332.

FOR SALE: MODEL 28ASR - Typing Reperf, TD, with 60-100 wpm gears. Mint condition. \$400.00 or best offer. Prefer local. F. Weiner, WA2RIM, 24 Northview Rd., Murray Hill, N.J. 07974. 201-464-9523.

THE MICHIGAN AMATEUR RADIO CLUB meets on the fourth Tuesday of each month at 8:00 P.M. at the Madison Heights Civic Center. Whether you're an old timer or just getting started in RTTY, come join us at our next meeting. For more information, call Dan, 791-8364.

VHF RTTY NEWS

RON GUENTZLER, W8BBB Editor

212 GRANDVIEW Blvd.

Ada, Ohio 45810



We've got a load of VHF operating information again, this month. Glad to have it all. Please keep the news coming!

Rich Tashner, WB2TCC, secretary of the Tu-Boro Radio Club, sent the following comments and information: "In the December RTTY Journal our members read that there were a number of stations operating VHF FM RTTY on 146.550 MHz and commented that there was a lack of RTTY in the New York City area. We wish to correct this error.

"The Tu-Boro Radio Club meets bi-monthly in Whitestone, NY at 149-14 14th Ave the first Tuesday and 3rd Thursday of the month at 8 p.m. operating on 145.620 MHz AFSK on AM with 850 Hz shift. The following stations are on autostart: WB2TCC, WA2WAK, W2LXC, WA2IVV, WA2MXB, WB2KEK, WB2OCM, and WA2PMW, with WB2IPD soon to be active. Most of the stations have timers to turn on and start the equipment.

"On March 7 the Tu-Boro Radio Club will sponsor a RTTY contest on the 2 meter band. Calling frequency will be 145.620 MHz. Tu-Boro members will designate such by sending CQ DE "CALL" TU-BORO. Any station working 5 or more members of the Tu-Boro Radio Club will receive a worked 5 members certificate suitable for framing. Contest time is from 8AM to 8PM EST."

Barry Simpson, WA7HJR, in Tacoma, WA, has some interesting information: "Just a note to let you know that there are several of us currently active on 146.700 MHz FM simplex using 2125 Hz Mark/2295 Hz Space. All are set up to receive autostart 24 hours per day, and would welcome anyone who would like to join us on 170 Hz shift. The other stations are: Clyde K7WTQ in Lakebay, Dick WA7RQV in Olympia, Bob WA7HTJ in Federal Way, Craig WA7HTN and Gary W7GRS, both in Marysville. Bruce WA7SNE gets on from time to time also, but is not on autostart at this time.

"There are a few fellows up north that operate 850 shift, and have plans

for an 850 shift repeater on 146.100/146.700 MHz. Since none of those listed above have any interest in 850 shift, present plans are for a RTTY repeater in the 450 band. All 30 kHz spaced channels are either in use or spoken for at this time and the splits are not being used so far. We have obtained a 70 watt commercial repeater package and duplexer and will be working on this as time permits.

"One more thought before I close, how about an article written explaining bandwidth, etc., as related to the different shifts and tones? Know it has been briefly mentioned in letters, but, I for one, would like to see a complete article on the subject." Funny you should ask - we ran a several part series on the subject in late 1969 and early 1970 and have been planning to rerun it (with or without changes) in the near future - RG.

Don Pili, Jr., WB9BXQ, Beloit, WI, sent the following information: "In the southwestern Wisconsin area there are four active RTTY operators on 146.400 MHz: K9WIP, Lee; WA9JTX, Jim; WB9 BXQ, Don; and W9JWK, Grant. We are on every night and spend at least 3 hours on RTTY. We are also on 20 meters in the morning."

From Lynne Ghofulpo, WB8DSN, we have: "Detroit's 2 meter RTTY repeater is doing just great. We run 146.220 MHz/146.820 MHz wide shift. There is also some activity on 146.700 MHz. Pictures are always an incentive and activity really picks up when the picture fellas get on.

"Perhaps some of the fellows on the low bands in Detroit (and probably some on VHF also) don't know that we have a RTTY club here, the Michigan Amateur Radio Club. For more information they can contact Ted Stahl, W8MO, or Fred Ghofulpo, W8PYM.

"Seems as though a lot of the RTTY VHF'ers here in Detroit are branching out into computers. Jim Prest, WA8SEL, has a pretty neat one in the works. The rest of the guys are really getting interested also, although they are still in the UART stage."

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Steve Phillips, WA6TVA, has an update on the Costa Mesa, CA, repeater situation: "Shortly after my letter appeared in your column several months ago about the WR6ACA Los Angeles RTTY Repeater, we lost the repeater site and part of the repeater when vandals destroyed much of the commercial equipment that was located at the same site. After being off the air for nearly three months, we moved to a new site northeast of the San Fernando Valley, repaired the damage, and kluged up another TU out of one of the commercial "onechip" modems.

"Unfortunately, the new site is not as good for locations east of Los Angeles, but San Diego and Ventura Counties now have fair coverage. With the recent addition of a new Super Stationmaster antenna, commercial hardline coax, and a North Shores Duplexer, the situation has been improved a great deal, but is still not ideal. All this improvement has been a direct result of formally organizing the Southern Counties Amateur Teleprinters Society, establishing dues, and purchasing the needed equipment. Work is now in progress by a group in Ventura County (W6PNM, WA6SSN, and WA6BIV) in converting a Motran for use by the RTTY repeater. The new system, including a new TU and control system (a la WA6SSN), is expected to be finished and installed by 1976 MAR. This will undoubtedly give very solid communications over a two hundred mile span from San Diego up to Santa Barbara as well as Los Angeles and Orange Counties

"The SCATS Club now has meetings month at alternate locations in Los Angeles and Orange Counties. Those interested in becoming members are cordially invited to contact myself or monitor the WR6ACA repeater (146/100/146/700 MHz) for details on meeting locations - time is always 1 PM."

Paul Rinaldo, K4YKB, sent several items for publication, mainly for next month's column, but one item needs mentioning now. The 1976 ARRL Mobile Communications Technical Symposium will be held 1976 MAR 24, 7:30 PM at the IEEE Vehicular Conference, Statler Hilton Hotel, 16th & K Streets, NW, Washington, DC. "This symposium, coordinated by the Amateur Radio Research and Development Corporation (AMRAD), will cover: Land Mobile to Satellite Communications, Close (frequency) Spaced VHF Repeaters, Automatic (CW) Identification and Controls Techniques, and other interesting related topics." More information can be obtained from NOVARC, P.O. Box 682, McLean, VA 22101.

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Dave Chapman, W9DPY es WB8QKU, has some interesting observations from the Chicago area: "Regarding the VHF Column in RTTY for 1976 JAN, there was a comment by W9OEQ of Mokena regarding the lack of activity on 144 MHz. There is definitely a lack of activity but it is not due to Selcals as there are only three stations using Selcals that I know of in the entire area. The whole two meter picture is fragmented to such an extent that operation is almost nonexistent.

"Originally, there were several stations on two meter AM AFSK back in the 50's. Then as FM became readily available, most of the fellows moved to 146.700 MHz, standard shift, 60 WPM. It was no unusual to find half a dozen stations on in an hour. The first bad thing, the RACES services started up on 147.06 MHz, narrow shift - a very bad choice particularly for two meters - and this meant usually two machines and two terminal units. And with weather machines in several hundred schools, the service they offered was valuable. This fragmented the operation.

"Now in the last couple of years, the Milwaukee RTTY repeater is running narrow shift on 146.700 MHz and wipes out the whole north area of Chicago. This is particularly bad when a couple of fellows in Great Lakes who are only a few blocks apart insist on using the repeater for long contacts. The other thing that has helped kill operation is a repeater in Westchester, a voice repeater that has a terrible lot of spurious radiation and while not right on 146.700 MHz, when some mobiles are using the repeater, the thing has components 20-30 kHz from the main carrier, making the west and southwest sections of Chicago unusable to marginal RTTY signals. In addition to this, another group has turned up on 147.900 MHz at 100 speed, again fragmenting the operation.

"With this as a picture, it seems to me that the future of VHF RTTY on two meters, particularly, is not very bright. The problem is - how to get everyone on one standard, and, in general, to use one frequency so a reasonable number of contacts will be available. ...Possibly these comments will throw some light on the problem and serve to get the fellows together a little more."

Well, that's it for this month. Thanks so much for all the information. How many readers are interested in a detailed discussion of bandwidths?

73, ES CUL, RG.

RTTY-DX

JOHN POSSEHL - W3KV
Box 73 Blue Bell, Pa., 19422



Hello there. . .

The post office department is apparently trying to simulate conditions as they were 200 years ago in this Bicentennial year of 1976. It took eleven days for certified mail to travel from Virginia to Pennsylvania and as a result this most important item missed the last issue.

Plaque Nr. 19 for 100 RTTY DXCC
TO

Cliff Pittelkau W4CQI

Cliff was first licensed in 1938 as W7HDF and held that until getting the present call in 1954. The Extra Class license was received in 1965. RTTY operating commenced in 1964 with about 50 countries worked by 1968. At about that time Cliff went to Greece in connection with his work and operated as SVØWO from 1969 until mid 1972 giving many, if not all of us, the first RTTY contact with that country. We recall that Cliff used to operate with one hand on the keyboard and one hand on the variac to compensate for the sudden excursions of the line voltage. After returning to the States he concentrated on getting the remaining countries for DXCC and this was accomplished on 10 December 1975 with a card from H18XRM to put him over the top at 101 confirmed.

The available time for amateur activity is divided between DX, ragchewing, and working on new projects, the latest being a home brew video display, solid state keyboard, and UT-4. We congratulate Cliff on his DXCC and to set the record straight his was the last to be issued in 1975.

It is with equal pleasure that we announce the opening days of 1976 brought an application and packet of QSL's from the Federal Republic of Germany for. . .

Plaque Nr. 20 for 100 RTTY DXCC
TO

Wolfgang Pungler DL8VX

In the absence of any biographical information on Wolf we will try to acquaint you with his present and future activities. For some time Wolf has been transmitting a "RTTY News Bulletin" at 0900z Sundays on 3585 khz. As you can

realize from the time and frequency it is mainly for the benefit of European RTTY amateurs and it is interesting to note that the transmissions are in French, German, and English. The text consists mainly of DX News, DX Honor Roll Standings, Contest Rules, and other items of interest to the RTTY amateur. In the months ahead he plans to make simultaneous transmissions on 7 mhz if permission is granted. Wolf says that he along with DK3CU, HB9AVK, and F6ALL, will be QRV on 7040khz at 2200-2300z and on 3590 khz at 0600-0700z every Friday, plus or minus QRM. They are also trying to encourage VK/ZL activity so here is an opportunity for you low band DX'ers to round out your WAC on these bands. Wolf will welcome all reports on reception of the bulletins and will be glad to transmit any information of interest to RTTY. Drop a note to. . .

Wolfgang Pungler
P.O. Box 90 11 30
D-2100 Hamburg 90 FRG

A group of German Amateurs will be making a 14 day tour of the USA in July and will also visit the ARRL National Convention in Denver Colorado, but more on that later.

Congratulations on the RTTY DXCC and the one that did it for Wolf was a QSL from VP2AR.

I am sure we will all agree that the recent DXpedition by Bob, WB8JEY/VP2S was a real smooth operation. Not only did it commence on the time indicated but the contest style of operating plus a beam putting out excellent signals to all points there is hardly any reason for any RTTY'er not to have St. Vincent in the log. During the final week of operation John, VP2SV, a permanent resident, tried his hand at operating while Bob was soaking up that last shade of tan on the beach. John did a very commendable job and has hopes of getting some gear going in the near future. With a QSL being the ultimate reward for a rare DX contact we can say that this chore was also handled in an excellent manner by Bob's QSL manager, WB8OBA. Just in case you missed

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it, his QTH is. . .

Melvin Hawse
433 W. Kanawha
Columbus, Ohio 43214

Mid January brought the anticipated activity from Barbados by Gordon, 8P6AY. Much of the credit in getting this station going was through the efforts of Ed, W3EKT, who made sure that a ST-5 AK-1 got to Gordon, and to Leo, K4AGC, for the many hours spent getting in getting Gordon on speed and shift by remote control from Florida. All has been resolved now and Gordon puts out an excellent signal with a SB-101 T/R, a Yaesu 2000 linear and a yagi beam. He was doing a good job in the Giant Flash Contest too. Tony, 8P6GC, is also getting setup and in fact has already been in QSO with a few of the boys. QSL's can go to.

Gordon Corbin
Rendezvous Terrace
Christ Church, Barbados West Indies

We had no sooner finished telling someone of the excellent prospects for RTTY DX in 1976 with the activity from the above stations so early in the year when another block-buster came upon the scene at about 1300z on 24 January. After the usual frantic adjustments trying to match speed and shift we printed the weak (stateside) signals of 5B4YK on the island of Cyprus. He was apparently S-9 in Europe and many of the boys had him logged during his first few hours of operation. Peter is running 200 watts to a dipole with a shift of 850hz and a speed of 50 baud. His home call is OH2BCA and he plans to be there for about 6 months. QSL's go to. . .

Peter Haber
P.O. Box 3709
Nicosia, Cyprus (Asia)

If we may, we would like to insert here a few words about "odd" shifts and machine speeds. DL8VX has word that the boys with the UN in YK land have declined to do any further operating on RTTY in the amateur bands. It seems that in almost every QSO they were told they were using the "wrong speed and shift", in this instance 425 or 850 Hz shift and 50 baud speed. It might well to keep in mind that the shift and speed we use as amateurs is "odd" to them since most of this rare dx comes from either military or commercial or wx station facilities and their equipment is set up for standard international RTTY, in most instances the shift is inverted (to us) also. So it may be well not to scare off this rare dx but better to try to accommodate to their practice, which is extremely easy to do.

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England and Northern Europe was swept by winds of hurricane force in late December and it raised havoc with the antennas of many of the boys in its path. In particular we know that Robin, G8LT, lost tower and beams. Robin is presently collecting the necessary parts to re-build and hopes meet you all again very soon.

A new station quite active from Portugal is Bert, CT1IW.

Here follows a few QTH's you may have wanted. . .

Roy Richardson, PJ3AR
P.O. Box 563 Oranjestad, Aruba

Dr. Anton Zeleznikar, YZ3EM
Jamova Cesta 29 E
61000 Ljubljana, Yugoslavia

Hermann J. Schemm, WA6HMA/KG6
Box 2077

APO San Francisco 96334

Ed, A2CED, now has two Creed printers with a ST-5/AK-1 in the making so look for him soon.

With Vermont on a tough one to find for WAS, Marty, WA1NVP, says he will be on Saturday afternoons and Sunday mornings (local time) for any contacts. KL7IBG has been a good catch for Alaska. In West Virginia it is K8BCF, and in Mississippi K5QBU and WA5DPO have made some of the boys happy.

de John

BARTG RTTY CONTEST

0200 GMT MARCH 27

0200 GMT MARCH 29

Details next month.

*** ***

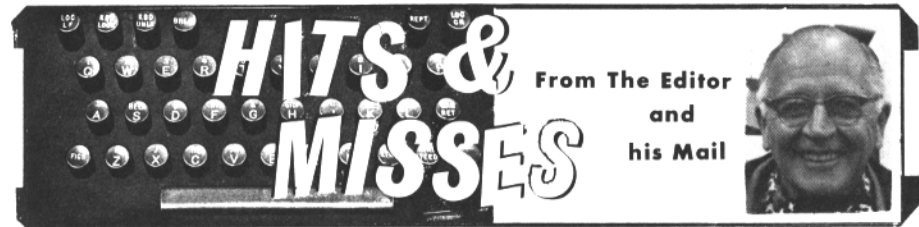
Beginners RTTY Handbook.

Price \$2.50 pp.

RTTY JOURNAL

PO Box 837

Royal Oak, MI. 48068



We will remember this as the winter of the double snow job.

First, we got back from Florida only to find our car covered with four inches of snow in the parking lot. This added to about another four feet which was never melted since first falling before Christmas, leaves the streets and sidewalks with big walls of snow on each side. I guess the silver lining on this is that merchants have sold out completely on snow blowers.

The second snow job was when we picked up our mail at the post office. We were literally snowed under again. We are shovelling away at it, but have patience if any answers seem slow. The silver lining in this is that we have a smart person coming in part time to help us and soon hope to be up to date and stay there.

We are out of binders again, they are ordered and have been promised for Feb. 20 shipment so should be in stock about the time you read this.

The Beginners Handbook has been a big success, the first 1000 copies have been sold and we are reprinting. There will be no changes (except notice of the price increase of the JOURNAL) as the material is still very current and up to date.

It is an old horse question, but WHY so little activity on 40 meters. Is it QRM/?, is it for lack of a definite frequency range to check or is it because everybody listens and nobody hears anything. Over a period of time various frequencies have been used, 7040--7090-- and 7140 plus or minus a few kHz.

With a minimum of sun spot activity 40 has been an excellent DX band as well as for long haul stateside contacts. Since W1AW is sending RTTY bulletins on 7095 we suggested that plus or minus 5 kHz of this frequency be used. This is only a suggestion, we will be happy to pass on other suggestions, in the mean time lets tune up on 40 and at least call a few

CQs. Stay near, but not on, 7095, who knows you might start something.

Results of the CARTG contest should be known by the next issue. Because of the Canadian mail strike the time for entries was extended to January 30.

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 30¢ 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.

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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.

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SALE; TELETYPE - REPERFS, TD, - Keyboard basket, - TX62 transmitter, Drake R4B, TX4B, VOM, Signal generators, etc. SASE for three page list. Ron Turnure, 206 S. Highwood Ave., Glen Rock, N.J. 07452.

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EXPERT REPAIR WORK. Any Teletype Corp. model. Repair work \$15.00 plus parts no matter how long it takes. Rebuilding by estimate. Write K9WRL or phone (312) 392-2358, ask for Neil, Chicago Area.

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WANTED - INOPERATIVE COLLINS R390A. Need for parts to repair and maintain my R390A. Ed Wagner, 1018 Birch Haven Cir. Monona, WI. 53716

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MODEL 28KSR SPROCKET FEED: Excellent condition, wiring diagrams included, No shipping. \$300.00. Phone 217-928-9809. WB9LUK, 607 Plum, Farmer City, IL 61842.

FOR SALE: 28KSR MK3, FLOOR CABINET, ACRLF, auto-non-overline, auto-ribbon reinker, 28 LPW paperwinder, automatic "WRU" utilizing 14 T.D. (T.D. included), XMT and RCV control relays built in, dark green cabinet. Immaculate condition. \$380.00. Prefer pickup or you pay crating and shipping. 28LXD table top T.D. with all covers and base in mint condition, light gray covers. \$135.00, you pay shipping. J. E. Fail, KL7GRF/2, 56B Steele Circle, Niagara Falls, NY 14034.

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.

SAVE YOUR RTTY VIDEO DISPLAY. Record it on a Video Tape Recorder. VTR has 2 audiotracks which could be used to record your RTTY sigs. VTR will record/ play color and can also be used for SSTV. ATV or the home; New \$250. Also have new B/W TV cameras for \$150. Send stamp to W6IVY, 5835 Herma St., San Jose, California 95123.

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QSL CARDS PRINTED 100/\$3.95--send copy and Remittance to: DT PRINTING, Dept. RJ, 390 Lincoln Ave., Newark, NJ 07104.

WANTED: SPROCKET FEED PAPER. Please advise cost and shipping charges. Bill Jones, WA8 SXQ, 541 Easy Street, Marion, Ohio 43302.

25th DAYTON HAMVENTION at HARA Arena April 23, 24, 25, 1976. Technical forums, exhibits, and huge flea market. RTTY Forum on the 25th. Program brochures mailed March 8th, to those registered within past three years. For accommodations or advance flyer, write Hamvention, P.O. Box 44, Dayton, Ohio 45401.

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