RTTY JOURNAL

January 1979

VOLUME 27 NO 1

75 CENTS

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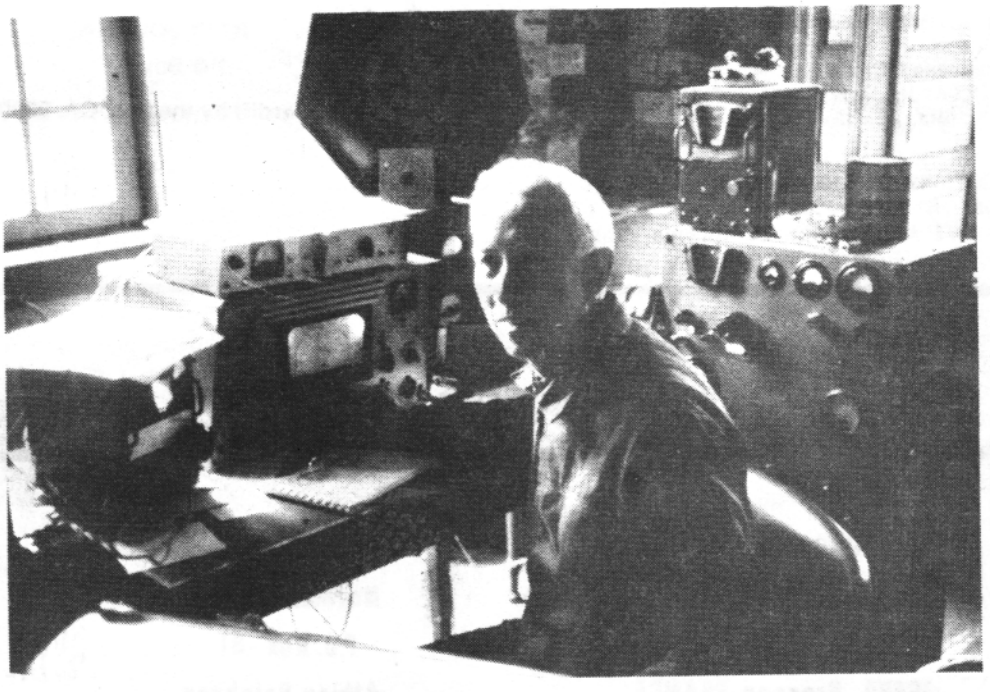

JEAN HURTAUD, F8XT

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Subscription Rates

RTTY JOURNAL

Dee Crumpton, , Editor & Publisher
P.O. Box RY
Cardiff by the Sea, CA. 92007

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US- $5.00 per year.
CANADA and MEXICO -$6.50 per year
Air Mail $7.50 per year.
FOREIGN $9.00 (thru managers) per year
FOREIGN AIR MAIL $12.00 per year.

Published 10 times per year, May-June July-August are combined issues.
Second Class permit Encinitas California 92024.
Subscription rates above.

Business Offices
1155 Arden Drive
Encinitas, California 92024

POSTMASTER SEND FORM 3579 to
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A duplicate of any back issue may be obtained from R. Wilson, 4011 Clearview Dr., Cedar Falls, IA. 50613. $1.00 pp. Reprints of all UART articles, $2.00 pp.

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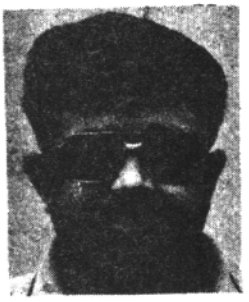

Greetings to all

I hope that everyone has sucessfully survived all of the parties, etc. of the holiday season.

GB2ATG changes to winter schedules October 29th. The date upon which the United Kingdom changes from British Summer time back to Greenwich Mean Time and from that date we shall change over to our winter schedules for our 14MHZ GB2ATG news bulletins. Our schedule for the winter will be as follows:

0830 Hrs GMT Beamed WSW (long path) to Australia, 1600 Hrs GMT Beamed Across Europe to Asia and Far East, 1800 Hrs GMT Beamed NW to North America and Canada.

IMPORTANT NOTE: Their 80 metre and 2 metre transmissions will not change but will go out at the usual times. K4YZV writes that XT2AV Pierre from Voltaic Republic is active. Pierre's QSL message is VE2DFR.

More from Bruce Frahm KOBJ. His address while on the windjammer will not be valid until the 10th of February. Bruce now has licenses, etc. KOBJ/C6A sometime between 10-15 February and possible again in December; KOBJ/VP2V sometime late April. VR6BJ will be late in April and CEO in mid-April. He still has hopes for FD7, HS, 9N and 8Q also 3D2. No other specific RTTY plans at present but as the ship schedule, sightseeing priorities, and licensing ease dictate, he may be putting others on from time to time.

He'll try to keep the guys in touch if and when I can get more specific about dates and calls. WSAK who was to be his QSL manager became a silent key the first week of December. Bruce thinks he has a QSL manager which we will publish as soon as we can get more up to date data to you.

Carl K6WZ writes that he finally got a QSL card from CO2 land for a QSO back in 1976 so don't give up on them. This was a direct QSL card so hang in there. Carl is waiting on a card from HB9AVK or I5GFS for WAS on 40 meters and he is looking for Africa on 10 meters for WAC on that band.

HB9AVK Paul is looking for someone that can run EME earth-moon-earth RTTY. Paul has the use of a 5 meter Parabolic dish at the technical University of Zurich. He would like to run off about 430 HMHZ. This would be another first if anyone would be interested.

From John W3KV some of the active stations this past month or so. UTSRP-Ukrania-on month so band reverse shift. EA6DW, EA6EV, EA8ID, QSL via DJ6QT, LXIJW, LXIAJ, LZ2EE, GJ3FKW on the Isle of Jersey. UK2GAX, UK2BAB, 9G1JX, QSL via DL7SI, FR7AN Phillipe. Reunion Island, SV1AB, SV1KC, possibly a pirate. G13GXP, G14AHP, G12TZF. 5N2AMT a sure thing if you speak Italian. TF3US, KV4AQ, OY1A, EI5BH, YN1CW is now YN/Z QSL Gunter Zanker, P.O. Box 5540 Managua, Nicaragua. 3D1BM (FIJI) picked up a TU from Dovetron in November and should be QRV soon. Robbie A4XFW sends his QSL's via K6QX world QSL kuro. Al WA6QF-N/3D6AD/S8AHC also visited Hank at Dovetron before returning to Africa. XE1MKW Mauriciao, P.O. Box 2438 Mexico, DF Mexico. YV3R YV2BZ. KC4AAD Siple Station, Antarctica. PY4AL, PT2ZY and PY2ZCF. The Volta contest started off very well for me moving to 10 meters almost at the start of the test but after several hours it seemed like someone pulled the big switch and could now do very well at all.

Helene VK7HD and Peter VK7NPR were guest over the weekend so spent most of mytime with them. I think also that we will see more VK7 activity on RTTY.

Awards for this month are as follows: WA6CQW George Hammond WAC all on 20 meters dated 1 Dec. 1978. Number 6F Kurt Wustner DLSWLDOK 005 Number 1694785 WAC all on 20 meters dated 1 Dec. 1978, Number 68. Carroll Westphall K0HSC WAC all on 20 meters dated 15 Dec. 1978 Number 69.

I5WT earned 140 endorsement to his DXCC-#17 award.

I8AA received 110 and 120 endorsements on his DXCC #25 great work guys.

From Mac K7BV, he prints the following stations: 3D2BM, XT2AV, VK0BA, OD5JW, 4Z4KB, VK0KF, VU2KV, KH6ITD/G Ham, FC2CJ and C31MM. 73 de skip.

A GADGET

This gadget will put such luxuries as VOX for SSB ops and Break-in for CW ops in the hands of RTTY enthusiasts. The heart of the gadget is the charactor detector. A study of the loop circuit reveals only when a charactor is punched on the keyboard does full supply voltage appear across the loop terminals on the teleprinter. A neon bulb connected across the printer illustrated will flash each time a charactor is punched on the keyboard.

The neon bulb in this unit was glued directly on the face of the photoconductive cell, and the assembly mounted inside a 35mm film can which is bolted onto the circuit board. When the neon flashes, the resistance of the photocell drops applying sifficient voltage to the base of Q1 that it conducts. When Q1 is conducting, the potential at the base of Q2 is O, allowing the 10ufd capacitor to charge through the 1.2K resistor and the diode. This raises the potential applied to pin 3 of the LM741 I.C. above that which is on pin 2, and the output swings from negative to positive. Q3 then conducts pulling in the relay, and placing the transceiver via the PTT line in the transmit mode. In a T.U. without antispace, a second set of contacts on the relay holds the loop supply reliably closed. When the last charactor is typed, the capacitor begins to discharge through the pot at a rate determined by the setting of the pot. As the potential on pin 3 of the LM741 drops below the potential on pin 2, the output of the I.C. swings negative again turning off Q3. The relay drops out, and the transceiver returns to the receive mode. The drop out time is adjustable up to about 20 seconds.

The photocell in use is of junkbox variety with dark resistance of approx 10K ohms and light resistance of approx 400 ohms. Different photocells may require different values of R1.

The unit has operated reliably, and makes break-in RTTY possible, especially

J.R. Eadie VE3DCX
RR #1
Thomasburg, Ont.
KOK-3HO

HAM HELPS

GARY SIEFER WD0COY, 1078 E. Clevelan, Route 2, Fruita, Colorado, 81521 needs information on a Northern Radio Company Model 2 Deul F.S. Tone keyes. It is a type 153 serial number 2910. Can anyone out there help Gary.

While on the subject of helps. When writing for assistance please include an SASE with extra paper for your answers. I will answer all inquiries as soon as they come in, otherwise they end up in the corner for things to do later — THANKS.

1978 BARTG RTTY CONTEST RESULTS

CALL	POINTS	COUNTRIES CONTINENTS		QSO's
1. W3FV	447,678	WAC	39	261
2. SM6GVA	440,578	WAC	26	297
3. I3FUE	432,066	WAC	36	315
4. W2NZ	403,374	WAC	37	249
5. F9XY	401,980	WAC	31	282
6. I5WT	380,482	WAC	35	261
7. WIGKJ	365,904	WAC	28	252
8. ISKPK	345,000	WAC	32	244
9. I5MYL	338,142	WAC	28	240
10. HB9AVK	325,686	WAC	33	197
11. K8NN	323,520	WAC	31	221
12. I20LW	308,180	WAC	39	214
13. K0PJ/6	304,192	WAC	27	200
14. VE5RG	288,470	WAC	26	201
15. DM3XSO	269,642	WAC	28	214
16. I0LVA	252,504	WAC	34	172
17. W4CQI	249,642	WAC	32	193
18. I5HZZ	233,460	WAC	31	150
19. VE2QO	221,336	WAC	25	185
20. WB6CYA	201,280	WAC	19	128
21. W0HAH	193,104	5	29	169
22. WA2000	187,180	WAC	22	153
23. VE2JR	180,200	WAC	30	145
24. WA6WGL	177,408	WAC	19	117
25. SM6ASD	174,344	5	28	135
26. YV5GU	165,200	5	21	136
27. K6WZ	162,792	WAC	20	125
28. OH6YI	159,900	5	27	146
29. WA0YDJ/4	156,840	5	28	163
30. W6JOX	155,490	WAC	19	103
31. G3RED	152,656	WAC	29	152
32. WA9AKT	151,872	WAC	24	152
33. W3KV	147,400	WAC	31	104
34. K4RN	142,688	WAC	28	138
35.SM5EIT	142,560	WAC	33	101
36. OE5BRL	140,220	WAC	31	126
37. VK3KF	136,800	5	27	128
38. IC8POF	134,168	5	22	122
39. ZS6BLV	131,010	WAC	24	119
40. G3RDG	116,208	WAC	27	101
41. I8JRA	113,792	WAC	23	92
42. VE7DTA	111,100	5	21	102
43. JA7ML	104,092	5	23	98
44. 9H1ET	102,120	5	29	124
45. G2PB	92,664	5	26	79
46. DT2EDL	92,624	4	23	87
47. W9RY	87,128	4	21	107
48. WA2GCL	85,554	5	23	81
49. VK2NM	85,064	5	21	76
50. LX1JW	83,790	5	28	71
51. SM7BGE	81,664	WAC	22	68
52. EA3AZX	80,180	WAC	27	91
53. DJ9IR	75,084	WAC	21	60
54. DL1OY	74,160	5	19	68
55. WA2VAQ	72,234	5	19	73
56. UA9PP	71,370	5	24	83
57. OZ1AKD	70,840	5	22	61
58. CG6CL	70,072	5	17	86
59. 9M2CR	67,260	5	26	77
60. W5HEZ	64,750	5	14	75
61. GW3IGG	59,660	5	20	59
62. G4EEV	59,422	5	21	67
63. DM5NN	58,978	5	19	61
64. DM5XNN	54,834	4	27	63
65. LA3YU	54,600	5	21	50
66. K0BJ	49,830	5	18	51
67. SM7ACN	45,360	3	19	79
68. ZS6AKO	45,360	5	18	52
69. DL6WZ	37,944	4	21	44
70. SM6CAL	37,314	4	17	59
71. WB2QFE	35,112	4	12	47
72. VK5QX	33,318	4	16	46
73. SM0IIB	33,060	3	14	62
74. DJ9WJ	32,300	5	16	30
75. DJ8BT	32,074	4	16	37
76. WB2WZX	31,698	4	13	39
77. WA8GVK	30,590	5	11	33
78. OE5OA	29,280	4	19	43
79. W2KHQ	28,800	4	15	40
80. VE2ATS	27,850	3	16	53
81. WD8CQN	26,750	3	16	47
82. G8LT	26,664	5	15	22
83. W9BTQ	26,050	3	13	45
84. VK5WV	25,608	4	12	38
85. W71E	23,840	4	8	40
86. GI4AHP	23,540	3	17	47
87. VE6ALR	23,040	3	11	36
88. ZL4GJ	22,750	3	12	31
89. F6BIO	21,340	3	17	37
90. G4FLM	20,664	3	17	44
91. OK2BJT	19,500	5	14	30
92. G3HJC	19,136	5	14	22
93. W7CBY	18,190	4	9	27
94. K2RYI	15,532	2	8	33
95. SM7BUN	14,840	4	14	26
96. VE2AIT	14,100	3	7	34
97. OZ8GA	13,440	5	8	12
98. PA0YZ	10,400	3	9	20
99. G4EDR	9,156	2	12	28
100. KZ50D	8,400	2	3	20
101. WB6DEB	8,176	2	5	20
102. DJ2YE	7,868	2	9	25
103. VE7DLX	7,840	1	2	29
104.W8TCO	6,840	2	3	17
105. DM4CE	6,816	2	10	20
106. WB2VTD	6,720	2	8	16
107. W61WO	5,000	2	3	10
108. VE1AHG	3,120	2	3	12
109. WB9GOJ	1,350	1	1	7
110. DT3GL	720	1	3	4

MULTI OPERATOR

1. DL0TS	329,910	WAC	34	212
2. OK1KSL	293,920	WAC	35	219
3. I1COB	281,554	WAC	37	203
4. A4XGB	271,320	5	30	220
5. G3ZRS	268,268	WAC	35	182
6. G3UUP	234,600	WAC	31	160
7. DK0OW	228,140	WAC	34	154
8. LZ1KDP	211,720	5	29	168
9. VK2SG	168,210	WAC	32	151
10. DM3GM	136,144	5	29	108
11. G3IIR	62,160	5	25	57
12. OZ2CJ	58,460	4	19	78
13. YU2HDE	42,380	5	21	63
14. G3FJE	39,624	2	19	64
15. DM5LG	9,196	1	12	30

SWL

NAME/CALL SIGN	POINTS	QSO's
1. H. Ballenberger DL-SWL	417,452	246
2. Barry Niendorf G-SWL	391,310	241
3. IV3-1308	363,744	232
4. W. Geller DL-SWL	343,402	235
5. I1-50071	326,604	234
6. P. Menadier USA SWL	219,384	177
7. H1/474882 DL-SWL	218,550	197
8. OK1-11837	154,234	131
9. Kurt Wustner DL-SWL	100,096	116
10. T. Musson BRS 27262	71,988	73

RTTY CONTEST CALENDAR

11th Giant RTTY Flash Contest (2 dates)
1st — 15:00-23:00 GMT Jan. 13, 1979
2nd — 0700-15:00 GMT Jan. 21, 1979
RULES IN THIS ISSUE (JAN)

BARTG Spring RTTY Contest 1979
0200GMT Sat., March 24, 1979 until 0200 GMT Mon., March 26, 1979.
RULES IN THIS ISSUE. (JAN)

DAFG held a 10 meter contest last year during May and Aug. and I sincerely hope that they will do so again this year. 10 Meters has definately become a very popular band.

RULES

1. Contest Dates:
1st 1500 - 2300 GMT January 13th 1979
2nd 0700 - 1500 GMT January 21st 1979

2 Bands:
3.5 7.0 14.0 21.0 28.0 MHZ Amateur bands and via Oscar.

3. Country Status:
The ARRL Countries list will be used except that the W call areas WO to W9, the VE call areas from VO to VE8 and VK1 to VK8 will be considered as separate countries.

4. Messages:
Messages will consist of:
a) Call sign
b) RST
c) Zone number (Example WB6CYA-599-03)

5 Exchange Points:
a) Each two way RTTY contact with stations in one's own zone will receive 2 exchange points.
b) Each two way RTTY contact with stations outside ones own zone will receive points in accordance with the exchange points table.
c) Each two way RTTY contact via OSCAR will receive double points. NOTE:

Stations may not be contacted more than once on any one band but additional contacts may be made with the same station if a different band is used.
6. Logs and Score Sheets:
Use one log for each band. Logs to contain: Data Time (GMY), Call Signs, Countries, RST and zone numbers sent and received, Multipliers country, Points and final score. All logs must be received by not later than FEBRUARY 28th 1979 in ORDER TO QUALIFY. Send them to:
PROF. FRANCO FANTI
VIA A. DALLOLIO 19
40139 BOLOGNA, ITALY
7. Multipliers:
A multiplier is given for each country worked. A separate multiplier may be claimed for the same country if a different band is used. The operators own country does not qualify for a multiplier, count zero point and zero ZSO numbers.
8. Scoring:
Total exchange points times the total number of multipliers times the total number of QSO's.
9. Handicap:
World Championship holders; less 12% of the total final score.
Winners of 5 or more contests; less 8% of the total final score.
Winners of 1 to 4 contests; less 4% of the total final score.
Contestants with a previous contest placing 2nd to 10th place; less 2%.
10. SWL's
This contest is also open to SWL RTTY ers. For the SWL's the same scoring rules are valid. A separate results table will be made for these entries. The logs for SWLS must contain; date, time (GMT), call sign of station heard, RST and Zone number sent by station heard, multiplier countries, points and final score. The same station is only valid once on each band.
11. Awards, Medals and Free Subscriptions.
The contest committee will compile two separate lists.
a) General classification
b) Short wave listeners
In each of these classes the following awards will be made:
1st Gold Medal
2nd Silver Medal
3rd Bronze Medal
4th to 7th Will receive a 12 month's subscription to the CQ Elettronica Magazine. There will also be awards for all of the operators and SWL's that send logs.
12. World RTTY Championship table for 1978/1979 Points and Positions achieved will be valid for inclusion in the World RTTY championship table of 78/79. Giant is the last contest for consideration for the championship for the year 1978/1979.
13. Rules of Behavior and Penalization
The logs must be compliled in accordance with the rules listed in(6). The contacts must be made by means of the RTTY mode and it is not permitted to use other modes of transmission either before, during or after the exchange of messages by Radio teletype. During the contest it is expected that amateurs will observe the fundamental rules of courtesy and good operating during contacts.
The contest disqualification criteria of the ARRL are valid for this contest. Failure to observe any of the above rules will result in the exclusion of the entry from the final results and any such logs received will be considered as check logs. All logs received become the property of the IATG and will not be returned.
The decision of the organizing committee in any dispute will be final and any subsequent controversy cannot be referred to the Civil Court.

Bart Spring Rtty Contest 1979

WHEN:
0200 GMT Saturday, March 24th until 0200 Monday, March 26th 1979.
The total Contest period is 48 hours but not more than 30 hours of operation is permitted. Times spent in listening count as operating time. The 18 hour non operating period can be taken at any time during the contest, but off periods may not be less than 3 hours at a time. Times on and off the air must be summarized on the log and score sheets.
WHO:
There will be separate categories for single operators, Multi operator Stations and Shortwave listeners.
BANDS:
3.5 7.0 14.0 21.0 and 28.0 MHZ Amateur bands.
STATIONS:
Stations may not be contacted more than once on any one band, but additional contacts may be made with the same station if a different band is used.
COUNTRY STATUS:
ARRL COUNTRIES list and in addition each W/K, VE/VO and VK call call area will be counted as a separate country. (But W/K, VE/VO and VK counted once only for QCA purposes).
MESSAGES: Message exchange will consist of:
a) Time GMT. This must consist of a full 4 figure group the use of the expression "SAME" or "SAME AS YOURS" will not be acceptable.
b) RST AND MESSAGE NUMBER. The message number must consist of a 3 figure group starting with 001 for the first contact made.
POINTS:
a) All two way RTTY contacts with stations within one's own country will earn two Points.
b) All two way RTTY contacts with stations outside one's own country will earn 10 points.
c) All Stations will receive a BONUS of 200 points per Country worked including their own. NOTE, any one Country may be counted again if worked on another band but continents are once only.
d) Proof of contact will be required in cases where the station worked does not appear on any other contest logs received or the station worked does not submit a check log.
SCORING:
a) Two-way exchange points times total countries worked.
b) Total countries times 200 multiplied by number of continents worked.
c) Add (a) and (b) together to obtain your final score.
Sample Score.
(a) Exchange points 302 x countries 10=3020
(b) Countries Points (10) X 200 X continents (3), (a) and (b) added together to give a score of 9020 points.
LOGS AND SCORE SHEETS:
A separate sheet for each band and indicate all rest periods. Logs to contain: Date, Time GMT, Call sign of station worked, RST report and message number as sent, RST report and message number as received, exchange points claimed. The summary sheet should show the full scoring, the times off the air and in the case of multi operator stations the names and call signs of all operators involved with the operation of the station.
ALL LOGS MUST BE RECEIVED BY MAY 31st 1979 IN ORDER TO QUALIFY.
Send your contest log or check log to:
TED DOUBLE 89 LINDEN GARDENS
MIDDLESEX ENFIELD ENGLAND
The judges decision will be final and no correspondence can be entered into in respect of incorrect or late entries and all logs will remain the property of the British Amateur Radio Teleprinters Group.
Certificates will be awarded to:
The leading stations in each of the three classes, the top stations in each Continent and each W/K, VE/VO and VK call area.
ADDITIONAL NOTES.
a) If a contestant manages to contact 25 or more different countries on two way RTTY during the contest, a claim may be made for the Quarter Centuary Award issued by the British Amateur Radio Teleprinter Group and for which a charge of 3 dollars US or 15 IRC's is made. Make your claim at the same time as you send in your log. Holders of existing QCA Awards will automatically have any new countries added to their records. However in view of the high volume of work which the contest Manager has to deal with, it will not be possible to prepare and send out new awards or up date existing awards until final results of the contest have been evaluated and dispatched.
b) If any contestant manages to contact stations on two-way RTTY with all six continents and the B.A.R.T.G. contest manage receives a contest or check log from all of the operators in those six continents, a claim may be made for the WAC award issued by the RTTY Journal. The necessary information will be sent on to the RTTY Journal who will issue the WAC Award free of charge.

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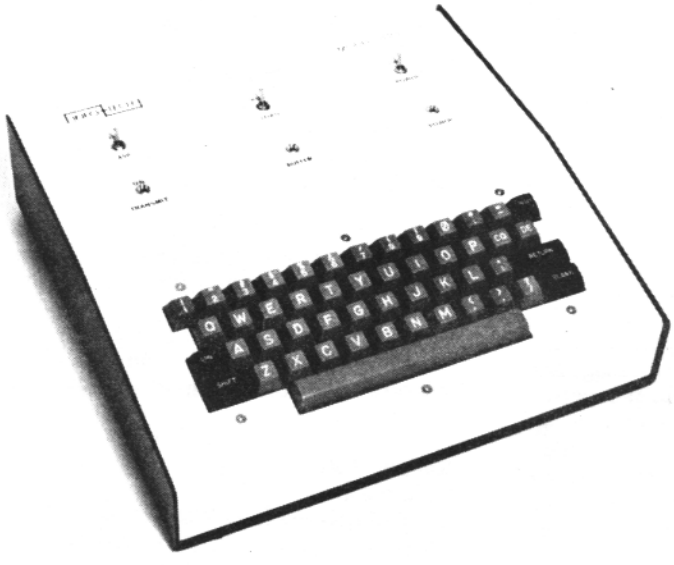

A Microprocessor Controlled WHO ARE YOU

by Andrew B White K9CW

Introduction

Everywhere we look these days we find manufacturers advertising new products controlled by one of the many inexpensive microprocessor chips available today. Even in amateur radio, applications exist for these versatile new devices. They are employed in RTTY/morse code keyboards repeaters, and contest duplicate QSO checkers just to list a few areas. Recently I became interested in the use of a microprocessor as an advanced VHF RTTY repeater controller. While the microprocessor can simply replace the discrete logic elements necessary for repeater operation, the local intelligence provided by the micro-computer permits several complex functions not before possible. This article presents a novel interactive RTTY message handling system currently in operation at the author's QTH. Instead of listing microprocessor programs in detail, I shall describe the operation of the system for others to use as background in their own program development. In conclusion, I shall review some of the characteristics of a successful message handling system.

WHO ARE YOU?

You may be curious why I have called this system a Who Are You or, simply, WRU. The term orginated long ago in connection with an automatic answer-back sequence called the "Who Are You" or WRU key. It is actually a combination of two Baudot characters sent sequentially; FIGS then D. (1) When a user wished to send a teleprinter message to another location over a switched wire communications network, the user would first establish a connection with the remote site and then transmit the WRU code. Upon receipt of the FIGS-D combination, the called teleprinter would respond with a preprogrammed message or identification number. The person who initiated the contact then knew that the remote machine was energized, that the correct destination was connected, and that the communication line was satisfactory. The caller could proceed with the message and have some assurance it would be received without requiring the presence of an operator at the remote teletypewriter. From this point forward, I shall use the term WRU to mean an entire answer-back system, not just the specific Baudot code I have mentioned.

For amateur RTTY communications, a modified WRU type of operation has been used for many years. Special decoding devices continuously monitor the RTTY demodulator output searching for selected sequences of characters. For example, a ham might arrange for a bell to sound whenever his call is received to signal him to come look at the printer. Even today the decoding function is performed by a set of coded bars or levers in the teleprinter machine "stunt box" (1,2,3). A particular sequence of characters causes a switch to close which will ring a bell or turn on the printer or begin some other local function. Modern decoders or sel-cal units (4,5) use TTL logic devices and memories to replace the coded levers in the mechanical machine. Now, we can use the microprocessor to perform this task.

The Microprocessor Based WRU

The microprocessor will have a significant impact on RTTY in general and RTTY repeaters in particular. Through special computer programs or software, new operations are feasible for the first time. For example, it is possible to provide an automatic message for testing, a "bulletin board" with items of general interest, or even a message storage/retrieval service. The testing function is particularly important when a new RTTY terminal simulator program is being debugged or when someone is adjusting a new machine. The message handler allows one to leave a message for someone who may have his machine turned off or tuned to another frequency. The microprocessor based message service provides more efficient and reliable person to person communication, which is one of the main purposes of amateur radio.

Using the microprocessor in a RTTY keyboard or video display is not new, in fact many factory built units are currently available. In addition, a micro-computer controlled repeater status directory shoudl now be in operation in southern California (6). However, using the microprocessor for RTTY repeater message handling may be a different application in which the operation of this interactive WRU is directly controlled by the user.

Typical WRU Operation

To illustrate typical WRU functions, let me describe the operation of one existing WRU system. To gain access to the system, one transmits "WRU? DE W9XYZ K" on the repeater input frequency. The microprocessor recognizes this access sequence and enters the WRU program. By requiring the ". . . DE (call sign) K" the microprocessor can determine who requested access to the system. After a short delay to allow the other station to go into receive mode, the microprocessor generates an acknowledge message such as the one shown in figure 1, and waits for the first command. If the user is unsure what options are available, he can transmit "HLP" which causes the microprocessor to send the list of active functions. The QBF option is the usual Quick Bronw Fox message for testing, and the INF option presents general interest information concerning new WRU features or other news. Finally, NNN, a shortened version of the standard commercial disconnect code, terminates WRU interaction and returns the repeater to the normal mode. Note that the same simple message signals the user to transmit the next command each time.

The MSG option transfers the user into the message handler shown in figure 2. Upon enterring, the microprocessor transmits a list of the stored message titles and waits. Sending "HLP" here produces a different set of options only valid in the message section. The user can read, write, or delete either of these messages with the proper command.

To read message B, "RDB " IS SENT BY THE USER. The micro-computer transmits the message title and text just as they were stored. To write message A, "WRA" is sent and the microprocessor responds as shown in the figure. Only after the first $ is received does storage of the title begin. The message handler permits titles of up to 32 characters and messages of up to 256 characters due to current memory limitations. One unique feature of this storage routine is that the Baudot BLNK or NULI character is interpreted as a back space character thus permitting a user to edit his mistakes directly. The system will prevent the accidental over writing of an existing message oy requiring the user to first delete the old one before writing the new one.

Once finished with the message handler, the user can return to the first section of the WRU with the BCK command or exit the program completely with NNN. Figure 3 summarizes all the currently available options on the K9CW/RPT WRU.

System Hardware

The WRU I have described is a program that runs in less than 3K bytes of random access memory (RAM) on the home made 8080 based microprocessor system shown in figure 4. All WRU functions can be controlled locally through the system ascii keyboard. While the real time clock for the WRU could be derived from a clock chip, this system uses a single 12 bit CMOS binary counter to divide the 60 Hz line frequency by 3600 and interrupt the processor once each minute to increment a software four digit clock.

Concluding Remarks

After writing and testing this WRU program, I have a few recommendations for others wishing to establish such systems on their own repeaters. First, the prompting messages should be kept as short as possible because at 60 words per minute text takes a while to transmit. Second, information about available options should only be sent if requested. Frequent users will know the options after a short while. Third, the access commands should be two or three letters long and should be easy to remember. Finally, and perhaps most important, the WRU must provide a useful service not otherwise easily available and should be easy to both learn and operate. Be certain to ask for user opinion. A system that is difficult to use, will not be used.

As more people experiment with microprocessors on RTTY, I am certain more functions to include in WRU programs will surface. For example, one can imagine a system that automatically changes shift or baud rate. Message systems can be designed that notify a user of any pending messages. A remote data base for microprocessor user programs could be provided. The applications are limited only by the programmer's imagination.

I hope that this article provides new directions of thought for people using microprocessors on RTTY repeaters. I wish to express my thanks to Dave Marshall, K9ZHQ, for his assistance in the design and testing of this WRU, and to Sally, WD9GXL, whose enthusiasm encouraged me to get a teletype station running in the first place.

WRU? DE WD9GXL K
WD9GXLDE K9CW/RPT
WELCOME TO THE WRU 2155 UTC
(HLP/HELP) YES? **HLP**

OPTIONS: HLP/HELP NNN/EXIT WRU
INF/INFORMATION
MSG/MESSAGES QBF/TEST
(HLP/HELP) YES? **QBF**

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG 0123456789 /
(HLP/HELP) YES? **INF**

THIS IS THE ON LINE BULLETIN BOARD. GENERAL INTEREST INFORMATION AND NEW WRU FEATURES WOULD APPEAR IN THIS SECTION.
(HLP/HELP) YES? **NNN**

EXIT WRU AT 2203UTC
73 WD9GXL DE K9CW/RPT, URBANA, IL. (cw id follows this message)

(FIGURES 1,2,3 and 4 were not provided by author.)

FIGURE 1. Typical operation of the K9CW/RPT WRU is illustrated. Characters transmitted by the user are in bold. Note that the same message is employed each time the system is waiting for the next command.

WRU? DE WD9GXL K

WD9GXL DE K9CW/RPT
WELCOME TO THE WRU 2209 UTC.
(HLP/HELP) YES? **MSG**
MSG TITLES AT ½½?& UTC:
A) (NO MSG)
B) HELLO!
(HLP/HELP) YES? **HLP**
Options: HLP/HELP BCK/REENTER WRU NNN/EXIT WRU
RD#/READ WR#/WRITE DL#/DELETE
I.E. TO READ MSG B, SEND RDB
(HLP/HELP) YES? **RDB**

HELLO!
THIS IS THE TEXT OF THE TEST MESSAGE B. UP TO 256 CHARACTERS ARE ALLOWED IN TH MESSAGE TEXT, AND UP TO 32 CHARACTERS ARE PERMITTED IN THE MESSAGE TITLE.
(HLP/HELP) YES? **WRA**

STORE A MSG IN THIS FORM: $ TITLE $ TEXT #

$TEST MESSAGE A$THIS TEXT WILL BE STORED IN MESSAGE A#

MSG TITLES AT 2216 UTC:
A) TEST MESSAGE A
B) HELLO!
(HLP/HELP) YES? **DLB**

MSG TITLES AT 2217 UTC:
A) TEST MESSAGE A
B) (NO MSG)
(HLP/HELP) YES? **NNN**

EXIT WRU AT 2219 UTC.
73 WD9GXL DE K9CW/RPT, URBANA, IL. (cw id follows this message)

Figure 2. Typical operation of the K9CW/RPT message handler is shown. The characters transmitted by the user are in bold. Notice that the options available here are not the same as in the first section of the WRU.

K9CW/RPT — First Section WRU Options:

HLP. . .Provide a list of the available options
INF. . .Present general interest information (bulletin board)
MSG. . .Enter the message handler section of the WRU
NNN. . .Exit the WRU and terminate interaction
QBF. . .Generate a Quick Brown Fox message for testing

K9CW/RPT — Message Handler Option

BCK. . .Leave the message handler return to the first section
DLA. . .Delete message A
DLB. . .Delete message B
HLP. . .Generate a list of the current message options
NNN. . .Exit the WRU entirely
RDA. . .Read message A
RDB. . .Read message B
WRA. . .Write a new message A (if no message is stored in A)
WRB. . .Write a new message B (if no message is stored in B)

Figure 3. A summary of the current K9CW/RPT WRU options is provided. All other letter combinations are ignored. In addition, the options are only valid in one section so that QBF, for example, is ignored in the message handler

Figure 4. The K9CW/RPT 8080 based microprocessor control system that supports the WRU described in this article.

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HITS & MISSES

From The Editor and his Mail

CHUCK EDWARDS W6MNO

4726 Barbarossa Drive -

San Diego, CA 92115

Here it is the new year already. And we have hardly recovered from Thanksgiving and Christmas. Seems like the older one gets the faster that the time flies.

I received some letters from readers of my discussion in regard to ARRL disregarding RTTY in all respects, except for their WIAW broadcasts.

One letter was from ARRL headquarters, Jerry Hall KITD. He says and I quote — "I was greatly interested in the November "Hits and Misses" column of the RTTY Journal. Difficult as you may find it to believe, it is true that essentially no articles are being submitted for QST publication on the subject of RTTY. I am unable to explain why, as we frequently solicit articles from active RTTY'ers. Let me suggest that you are "beating the wrong drum." Letters from RTTY enthusiasts saying that QST of late has had nothing for this group will be telling us something that we already know. Instead, how about putting in a small plug for readers of the RTTY Journal to submit material for QST consideration." — unquote.

Well golly, Jerry, all I can say in answer to that is that we have, and we have had, one heck of a lot of excellent articles in the journal and we state right in the Journal that anyone can use any of the material at any time, any where. All we ask is that ya give us a small plug when you do lift it out and use it for publication in your, or any popular magazine, such as QST. We again invite you to do so at any time. Your coverage is so much greater than the Journal. And we actually would welcome further distribution. I enjoyed your letter Jerry, and hope that some of the fellows get with ya and put in some RTTY stuff. I am a life member of ARRL and I, for one, would enjoy reading QST alot more if it had occasional RTTY information in it. One thing that would be very interesting is a DX contest with ARRL prizes to go with it. That stimulates responses to RTTY better than any thing that we know. Let us know and we'll help!

I want to apologize to Pete Bertelli W6KS. He had given me some information on some parts that he was going to stock for the "AZSD" article that we previously had published. These parts were mostly special matched resisters and other hard to get items for that project. I had planned to put it in my column here but some how it got left out or was lost at the printer. Anyway, look for this information in the classified or else where.

We received a letter from Hank W6SKC "Mr. Dovetron" saying that he has developed a "solid state CRT" for his Dovetron. He is using a special L.E.D. arrangement that will effectively be the same size as his 3 inch tube and will provide the same or better results and able to be seen from a much greater distance than a regular phosphor type glass envelope CRT and is said to last at least ten times as long. You might want to look into this wonderous display for other uses if ya don't have a Dovetron. I'm sure he plans to distribute it as a separate item as well as standard in all his new model Dovetrons.

I see where the VHF gang got the purple shaft again on their 220 band. In some back room bargaining the Marine Communications interests convinced the government to relinquish it's 216 thru 225 MHZ for Maritime Mobile as the sole user of this band within the American region. Starkly this meant the the 220-225 MHZ band was completely eliminated for use by the Ham! Fortunately there was some real fast action behind the scenes from some unknown (Margarite White, we believe) organization that finally after a lot of work managed to get our portion of the 220 band reinstated.

What this all means, and it is scary, if it is so easy to take away a very active amateur frequency—think what will happen when the forthcoming W.A.R.C. convenes and what they can do to us and make it permanent!

I sure don't know what it is about our 220 MHZ band that is so attractive to so many. Seems like every Tom, Dick and Harry is out to do us in. First from non-use, then the CB'ers and now the Mariners! Who will it be next!

Frightens me to think that we are as vulnerable as Wayne Green says in his 73 Magazine column. Maybe even more than he says! Anyway, we will do our best to keep you informed — especially, if you will please do your part to keep these robbers off our back. You can bet the RTTY Journal is doing its part!

By the way, don't forget Dee, our publisher, has agreed to give free subscriptions, from one year to five, for articles of sufficient caliber to be included within our RTTY Hand Book. This will not only be nice from a publicity stand point, but free subscriptions are not too shabby either. Hmmmm wonder if I can write one and get a free subscription?

The San Diego Teleprinter Society is now over one year old. They have bought and paid for, their own 220 Repeater, a set of the best Phelps Dodge Cavities, a Station Master Antenna and a beautiful site on top of a local mountain that gives coverages up to 250 miles away. This is one of the fastest growing RTTY Clubs in the West and we are proud of them. This group even has ideas of becoming a national RTTY Club. In fact, at the present time they invite check-ins to their low band net from anywhere. The time is 1900 local time, on approximately 36075KHZ every Wednesday evening. Soon it is expected they will be on ten meters and twenty just to show the old USA and the world that RTTY is here to stay!!

At the time of this writing Arny K6PXA is in the hospital with Cushmans disease which has something to do with the Pituitary gland. He is having that gland removed. Arny, remember, we are all with you and recover quickly so you can write and tell us all about it in your column.

BEST WISHES FOR THE NEW YEAR
73
CHUCK — W6MNO

Rtty and Traffic
ARRL
D. Paul Gagnon, N6MA
SCM Santa Barbara Section
3800 S. "J" Street
Oxnard, Ca 93030

Traffic men and RTTY men are generally in two unique areas of amateur radio operation. This shouldn't oughta be folks! A traffic man picks his mode and does his thing. An RTTY man puts together the necessary mass of gears and machines and commences to hunt and peck. RTTY is really quite inefficient as a means of simply talking. The real advantage of RTTY is in transmission of record traffic. Wouldn't it be great if we could convince some of the RTTY men to become involved in traffic handling? Or some traffic handlers to get equipped for RTTY?

Granted, there are limitations on the use of RTTY for traffic handling. QRM must be less than that required for CW. The amount of traffic is another factor. If only 4 or 5 messages are to be passed on a schedule it isn't worth the extra effort to use the RTTY mode. But how about mass quantities of traffic that are originated

from fairs and celebrations and special events? How about mass quantities of health and welfare traffic after a local disaster? How about point to point traffic relaying such as back in the Vietnam refuge era? A perfect application for RTTY.

RTTY has been very useful at this station to clear masses of traffic generated at annual fairs and celebrations. A 20 meter asked cleared it very quickly to clearing stations who then put it on local nets in their area. Expand the size of the event and the quantity of the traffic is going to increase accordingly. Alaska originated 1000 messages in 2 days from a fair. They expect 2000 for Christmas this year. The use of RTTY needs to be expanded to cover these operations.

In order to even the traffic load and not put a burden on any one individual, many stations from many areas of the country should copy traffic at the same time and acknowledge receipt for their particular area. The Region level of the National Traffic System is a reasonable breakdown. The NTS regions are broken down into twelve regions across the US. This is detailed in "Public Service Communications" published by the ARRL. It is free and obtainable from ARRL or your local Section Communications Manager (address page 8 QST). From Region level it could be desiminated into section nets. This would require a dozen RTTY stations across the country. In summary the system would work like this:

a) maintain a list of 12 stations (plus backups) one in each of the 12 NTS regions.

b) When bulk traffic origination is planned, such as from a fair, an exhibit, a trailer show or an emergency occurs, the regular NTS official would contact his regional RTTY operator.

c) The operator would notify the others in the network of the traffic, time for sked and the frequencies. If specific point to point communications were needed only those stations involved need be notified.

d) The NTS operator and the RTTY station work out a method to relay traffic to the RTTY station.

e) The RTTY station cuts tapes by traffic destination by region.

f) The sked begins with all RTTY stations on FREQ.

g) Each regional station copies and acknowledges (QSL's) for his traffic.

h) The RTTY station on the receiving end then contacts his local NTS operator who then takes it and delivers it to nets within the region where it goes on to delivery.

Admittedly, there are a number of things to work out but the NTS operators are very anxious to assist in the effort, and RTTY and traffic men can be hooked together in each area.

How about it folks? Can we find an RTTY station in each of the 12 regions to volunteer to be on call? The first step is to compile a list of RTTY volunteers. You don't need any prior experience in traffic handling. The necessary info will be provided. If you are equipped and interested or know someone who is please let me know. If you have any suggestions on the operation please contribute.

The contest manager gratefully acknowledges receipt of check logs from the following stations DM4VCN, DM4JM, DJ4KW, DT2BRN, DT4ER, G3FSN, G6JF, G8CDW, OK1MP, SM6FTA and WB6PMV.

Owing to serious delays with overseas surface mail contest logs from K4CG, W1MX, W7M1 and WA9BOW arrived too late for inclusion.

Sincere congratulations to Barry, W3FV for his efforts which put him in top place this year. This was the result of much hard work and also no doubt too much encouragement from John, W3KV, who until recently was the DX editor of the RTTY Journal and who knows what it is all about. SM6GVA in second place was able to improve on his previous years placing of seventh and I3FUE moved up from twentieth to third.

It is very nice to see F9XY well up in the listings as in the past French stations have not featured with the high scoring stations. It is also interesting to note that almost half of the top 20 places are occupied by W and VE stations which gives some indication of the support which the BARTG contest is receiving in that part of the world.

Associated with the general improvement in propagation conditions in the past year, there was a very marked change in the pattern of hand utilizations with much improved conditions on 21 and 28 MHZ. Fifteen proved especially useful to the W and VE stations who managed to push up their country multipliers. Both the upper bands assisted the Far Eastern and Oceanic Stations. In marked contrast, the 80 metre band was rather disappointing possibly due to a very high noise level, especially on the Sunday evening when so many operators tend to move to the band to pick up the last few countries multiplier points.

Similarly the 40 metre band was in poor shape which is reflected by the fact that many entries from the more active stations show no contacts at all on this band. As usual 14MHZ carried most of the DX traffic but with 21MHZ becoming a serious rival — the next few years should be worth watching.

The number of stations who managed to work all six continents is about 40% up on the previous year with South America, surprisingly being the difficult one. The fine work by KV5GU, supported by CE3EX saved the day. As far as Europe was concerned UA9PP and A4XGB were the best bet as not many JA stations worked into Europe. Quite a selection of VK stations no doubt taking advantage of the decision to count each VK call area as a separate country, were available and another welcome call from the Far East was that of Colin 9M2CR. The African Continent was represented by several FS6 operators and also 5T5JD was very active but unfortunately no log was received from that station. Two other calls worthy of mention are SM011B, a Novice Class Licensee who put in a very good first entry and WD8CQN a YL operator by the name of Mary Anne—welcome to the ranks of the RTTY gang.

Favorable comments have been received concerning the increased activity by VK stations with GI, GM and GW all in evidence. It was also rewarding to see a number of UK logs sent in—when it comes to the point of other stations making claims for awards etc., a G contact can be just as vital as any other. Discounting call area prefixes, there were at least 56 different countries active during the contest.

In general the entries were of good standard although several stations were penalized for errors in recording the call sign of the station worked—one entrant lost something like 70,000 points for this reason alone! Another point overlooked was the need to use a separate log sheet for each band. The reason for this is to try to lessen the workload of those checking logs as it is always a problem to segregate contacts in the various bands when these are all listed on one sheet—you probably know how you hopped about among the bands but we don't.

The adjudication effort has received some extra assistance this year and I would like to place on record my grateful thanks to Dave G8HQL for his interest and practical help in some of the log checking which has made it possible to get the results out within a reasonable time. Also my thanks to Eric, G3IIR for the excellent publicity via GB2ATG. Thank you all for your interest.

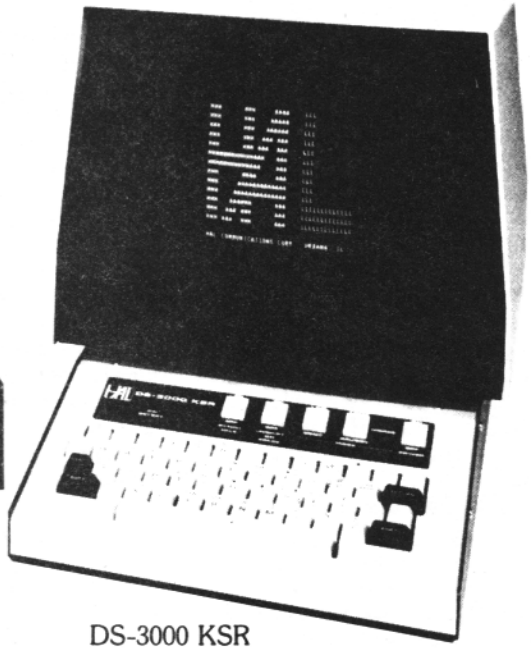
TED DOUBLE

PRINT NO EVIL

YOU ASKED FOR IT-

BOTH MORSE AND RTTY

ST-6000



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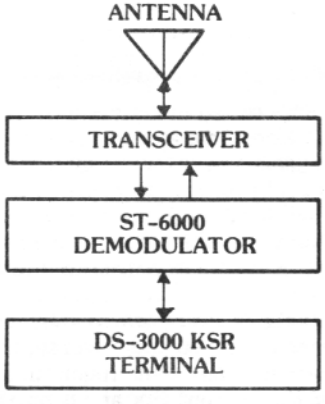

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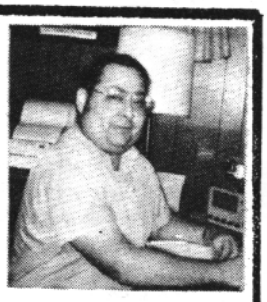
VHF RTTY NEWS



Arny Gamson, K6PXA, 8034 Gentry

N. Hollywood, CA 91605

Looking back at the end of the year for RTTY, I see lots of RTTY-Amateur Radio demos and seminars. Also lots of growth in Clubs and RTTY activity. Am happy to see the progress of the Chicago Area RTTY Repeater System (CARRS). The Chicago Group should finally have their 10/70 exclusive RTTY Repeater operational after fighting for its "right" (see July-Aug. '78 JOURNAL). In addition they sponsored a very successful demo and seminar; from Gary-K9HDU (President).

I was amazed to hear "We lost repeater privileges" Larry-W1GSH reports in the Hartford, Conneticut-Springfield, Massachusetts area. The 147.75/15 Rptr. was shared with fone like many. However it seems impractical limitations were eventually demanded such as voice I.D. and a 5 minute timer (talk about harrasment). Those in the area interested in RTTY simplex-rptr. autostart on 2 or 1¼ Mtrs. contact Larry at 215 Suffield Village, Suffield Conn. 06078.

The British A.R. Teleprinter Group (BARTG) have had a successful VHF contest though entries were down from last year particularly from the "Continent." They also report a large attendance National Convention-exhibition: Ralley. Over 37 stations, mostly on autostart, were logged in a 2 month period in the London area on 145.3 MHz. Simplex. This is a respectable RTTY showing for any large Metropolitan area.

Back home on the South-West Coast, Chuck-W6MNO a San Diego Teleprinter Society (SDTS) is moving their 220 MHz. Rptr. to a more convenient, wider coverage site from Mt. Palomar to Mt. Otay. It is hoped many of Los Angeles-North area gang 200 miles to the North will be able to join in; still on 223.22/224.82. This year they are shooting for the century Membership mark; they'll need it-choice rptr. sites are not cheap.

Our So. California Teleprinter Group (SCATS) has been involved with demonstrations in conjunction with other radio clubs to many thousands of the public. Lots of fun and Ham good for both for those participating as well as the visitors. Strongly recommend that your Club show off our fascinating mode and Amateur Radio as well.

Both the Amateur Radio Research and Development (AMRAD), Washington D.C. area and SCATS Group prepared official Group responses to the FCC Notice of Inquiry regarding legalization of ASCII. Surprisingly the two independent responses basically agreed in their comments on standards in the 4 main areas;

1) Data Transmission Rate: limitations should be referenced to occupied bandwidths only.

2) Parity Bit: adopt the ANSI standard without reference to the use of a parity bit.

3) Synchronous-Asynchronous: adopt both modes.

4) Bit Order: adopt the common practice of least to most significant bit (LSB to MSB). Many hours of work were put into the preparation of these responses for all of us by Paul Rinaldo-W4RI President AMRAD and Dr. Bill Pala-WB4NFB Secretary and their "task force." Also George Boyd-WB6INV Treasurer-SCATS Club whose one man Committee of 3 consisted of "Me, myself and I-where's the inputs?" These two Groups responses represent several hundred collective opinions to the FCC; hope other individual group responses were sent, they count!

Looking forward to a Great year.

C U ENJOY ARNY

As owner of Nudata/Daytapro Electronics and from doing work on Teletype Corp. machines I have found that there is a great need for a loop transformer by many who are building their own tu's. For many I have talked to finding one is almost impossible. Even we have trouble locating one to carry for a reasonable price. There is a alternate however which may be a little heaver but in the end it will supply a few printers with the 60 ma required. This method is the two transformer method in which a seperate one would be used for the low voltage + 12 & - 12, while another would be used for the Loop supply. Finding the latter has been another problem. I feel I have a suggestion that may help. Teletype Corp uses a high voltage supply called a ghost supply in the model 32ASR. This is used to keep the contacts clean in local condition by putting 120 volts on the contacts rather than the 18 volts supplyed by Telex Machines in local. While the whole supply is not required the transformer is ideal for our uses. It is a 110 vac primary and the secondary is 240 Volts center taped. While this is a little lower that the voltage required for the Hoff loop supplies it is still within range, and by lowering the 2750 Ohm resistor we found the 60 Mil loop may be attained. IT may be ordered from Teletype Corp., 5555 Touhy, Skokie, Il. 60076. Its part number is 181733 and is priced at $8.95. I would suppose that a Dollar for shipping should also be included.

Considerable interest seems to be directed toward the automatic zero centering device (AZCD) — see articles by Bill King, W2LTJ in Sept. and Oct. 78 RTTY Journal. This low-cost mod for the ST-6 promises to give improved performance under fading signal conditions. HF operators, particularly the contest ops, have been quick to recognize the advantages offered by this relatively simple modification.

At present, widespread use of the device has been hampered by lack of a reliable and economical source for the Allen-Bradley 68K precision 1% resistor pack used to simplify construction. A phone call from Dick Manahan, WA3JTC, pointed out this need. As a result we have made arrangements to have these available in December. See Classified section in this issue.

Pete, W6KS

MODEL 28 "UNDERDOME" typing reperf set for mounting above TD in ASR, fully perforating, complete-with 60-75-100 wpm gearshift, $375, single speed, $275. Model 28 ASR's, KSR's, Stand-alone reperfs and TD's, gears and parts for Model 14, 15, 19, 28, 32, 33, and 35 equipment, ribbons, auto CR-LF kits for Model 28 printers, $12.75 ppd, answerback devices, more. Send SASE for complete list and prices. Lawrence R. Pfleger, K9WJB, 1715 E. McPherson St., Kirksville, MO 63501.

NEWS-NEWS-NEWS - Amateur Radio's Newspaper "Worldradio". Trail subscription Two Issues for one dollar. "Worldradio" 2509-F Donner Way, Sacramento, CA 95818.

Ham Radio Magazine - The no-nonsence state-of-the-art technical magazine. Dozens of exciting projects and an emphasis on quality unmatched by any other radio magazine. Subscribe now and see for yourself. 1 year..$12.00.. 2 years $22.00 and three years..$30.00. Ham Radio Magazine, Greenville, NH 03048.

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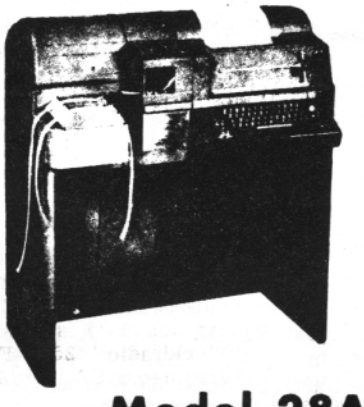

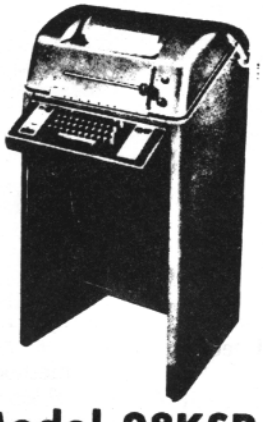

Model 28ASR Model 28KSR

WA6PMA DOUG

Classified Ads

30 words $2.00. Additional Words 4 c ea. *Cash with Copy - Deadline 1st of Month.*

THE DOVETRON SSD-100 solid state cross display replaces the conventional CRT and accociated high voltage power supplies as the tuning indicator in the MPC-Series RTTY terminal units.

In addition to "instant-on" operation and a predicted reliability in excess of 100,000 hours, the solid state display out-performs the original CRT in every instance.

The absence (or deactiviation) of the high voltage supplies and the resultant decrease in heat generation increases the MTBF (Mean Time Before Failure) of the terminal unit more than 10 times.

The display itself consists of high intensity (4 millicandelas), red, rectangular LEDs (Light Emitting Diodes) arranged in the traditional cross pattern and operated in a baragraph mode. The two LEDs that form the apex of the cross are tied into the terminal unit's logic in such a way that they extinguish if the TU is improperly tuned to the incoming tones, or if the incoming signal is up-side down in respect to the "sense" of the terminal unit.

A separate LED in the upper left quadrant of the cross display monitors the two input channels and flashes" in the presence of time or frequency dispersive multipath distortion, indicating that the MULTIPATH CORRECTOR should be turned on.

Separate LEDs in two other quadrants monitor the status of the internal loop, the Signal Loss circuit and the Send/Receive mode of the terminal unit, making the SSD-100 a convenient display center of the various functions.

A light sensitive photocell in the fourth quadrant monitors the ambient light conditions at the operating location and automatically adjusts the display's light output. Under normal conditions, the SSD-100 may be read comfortably from 75 feet.

The new front bezel contains an anti-glare optical filter and provides 30% more viewing area than the original CRT bezel.

A retrofit kit (SSD-100K) is available to update existing CRT-equipped terminal units in the field. Your inquiry will bring complete details by return mail. DOVETRON, 627 Fremont Avenue, (PO Box 267), South Pasadena, California 91030.

TELEPRINTER parts, manuals, gears, ribbons, paper, tape, converters; toroids. SASE for list. Wanted: TT, KL, parts, 2BP1 etc., tubes. Typetronics, Box 8873, Ft. Lauderdale, FL 33310 WA4N7F-N4TT.

NS-1A PLL Demodulator W/T $26.95 ppd. Complete kit $19.95 ppd. SASE for info. Nat Stinnette Electronics, Tavares, FL 32778.

Bandpass active filter 2125/2295 Hz. Easily tuned. Requires +12v. Complete kit $11.95, W/T $16.95 ppd. Nat Stinnette Electronics, Tavares, FL 32778.

UT-4 COMPONENT UPDATE. Uart-now only TMS6011NC available (new lower price) $5.00. FC33512DC Fifo $12, MC1408L-6 (MC3408L) $3.25, 74LS221 $1.25, MJE-340 $1.25. VE3CTP ASCII/Baudot/ASCII Proms and TVT-6 Scan or Decode Proms, $3.25 each. Resistor pack for AZCD (Sept/Oct 78 Journal) $2. Everything postpaid, courtesy airmail overseas. Peter Bertelli, W6KSS, 5262 Yost Place, San Diego, CA 92109. 714-274-7060.

32ASR, absolutely mint condition. Ready to go at 60 wpm. $500 or best offer. Call (213)888-8312 or write — Herb, N6TC, 23424 Kilty Place, Canoga Park, Calif. 91304.

Model 28 ASR; 60 WPM, K4EID "Mouse" stunt box, excellent condition. Included: manuals schematics, paper winder, 100 WPM gears, asking $550 WB4WCX, 105 Fairview Dr., Ozark, AL. 36360.

YOU NEED Information on Commercial RTTY Stations? News Agencies, Telex, Weather..on shortwave? I have up-to-date frequency, callsign, schedule, code lists. Write for details. Joerg Klingenfuss, Goethestrasse 14, D-7400, Tueingen 1, West Germany.

MODEL 28 ASR Teletypewriters $350-$375. RO Consoles $175. Paper winders $35. RO - 3-speed teletypewriters $175. Tape perforators $50, much more. State your wants. Sens SASE for partial list to: GOODMAN, 5454 South Shore Chicago, IL 60615, (315) 753-8342.

FOR SALE: Brand new 3rd edition of the list of RTTY stations in frequency order, now contains more than 2500 frequencies of commercial stations like press, weather, telex, etc. on shortwave. A section with more than 1500 abbreviations used in TELEX net is also included. This offset printed list is airmailed to you for $15,00 or 37 IRC from Joerg Klingenfuss, Goethestrasse 14, D-7400 Tuebingen 1, West Germany.

MODEL 28 ASR Teletypewriters $350-$375. RO Consoles $175. Paper winders $35. RO - 3-speed teletypewriters $175. Tape perforators $50, much more. State your wants. Sens SASE for partial list to: GOODMAN, 5454 South Shore Chicago, IL 60615, (315) 753-8342.

FOR SALE:

Hal 2010 Keyboard with memory and an extra main PC Board that is fully populated (worth $180) excellent condition $275 for everything.
W6MNO Chuck Edwards 4726 Barbarocssa Dr. San Diego, CA. 92115, 714-582-2739.

Mod 28 TD's Referfs and 28 typing units with fan paper roller only. Write Skip Prinsen 3611 Merrimac Ave, San Diego, CA 92117-For price quotes.

The DOVETRON Binary Bit Processor (BBP-100) provides high-performance axis-restoration in the TEMPEST Model MPC-1000T and BASEBAND terminal units. This plug-in assembly is now available as a retrofit kit (BBP-100K) and may be easily added to existing MPC Series terminal units. In addition to Selectable Bandwidth and Automatic Multipath Correction, the BBP-100 has shown error rate reductions on weak and noisy signals in excess of 30 times. Your inquiry will bring full details by return mail. BBP-100K: $145 postpaid. DOVETRON, 627 Fremont Ave., South Pasadena, CA., 91030.

The DOVETRON TBA-1000 Baudot-ASCII Code Translator is designed to interface Baudot and ASCII circuits. I/O may be low level polar (EIA RS232C or MIL 188C) or high level neutral (active or passive). Parallel ASCII is also available. A preloadable 192 character buffer prevents character over-runs when down-converting baud rates. ASCII Control characters may be used to command peripheral equipment and functions. Features such as Unshift/Space, LTRS Only, Blank Diddle, Variable Character Rate, LED Memory Status Indicators and TD Inhibit are standard. Baudot speeds of 45, 50, 57 and 75 bauds are front panel selectable. ASCII baud rates of 110, 150, 300, 600, 1200, 2400, 4800 and 9600 bauds are internally selectable via a BCD coded DIP switch. All baud rates are crystal controlled and programming instructions are etched on the PC board. The 3.5" x 9.0" x 17.0" package is self-contained and available as a table top or rack mount unit. Power requirements are 115/230 VAC, 40-400 Hz, 10 watts. A bypass option is available. Amateur Net: $295.00 FOB. DOVETRON, 627 Fremont Avenue, South Pasadena, CA., 91030.

SURPLUS TD Paper yellow and oiled
11/16 carton of 10 #3.00 Wt. 13,
11/16 carton of 40 $10.00 Wt. 47,
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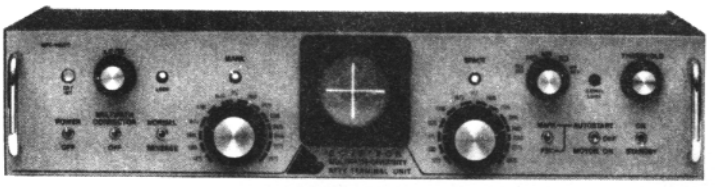
DOVETRON

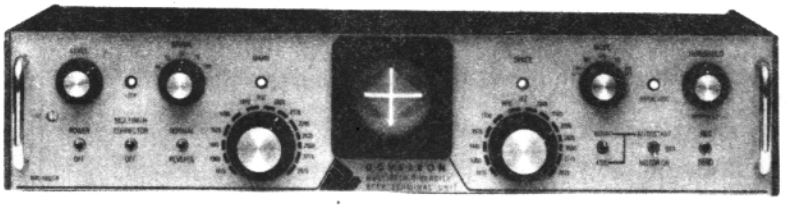


MPC-1000C

Multipath Correction
In-Band Diversity &
AFSK Tone Keyer

Amateur Net: $545.00

Standard features include CONTINUOUSLY tuneable Mark and Space channels (1000 Hz to 3200 Hz), Dual Mode (MARK or FSK) Autostart and internal high level neutral loop keyer (20 to 60 ml). Both EIA and MIL FSK outputs are provided for direct interface to microprocessor and video terminal peripherals.

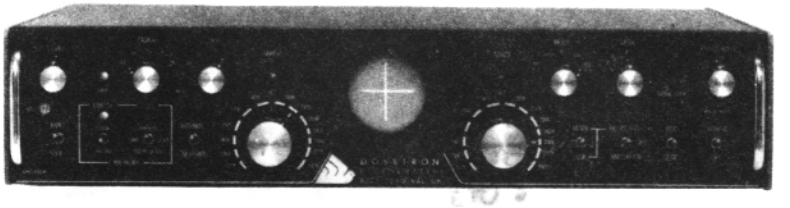


MPC-1000CR

Signal Regeneration &
Speed Conversion

Amateur Net: $645.00

A front panel switch permits internal TSR-200 Signal Regenerator-Speed converter assembly to electronically "gear-shift" between 60, 67, 75 and 100 WPM. All incoming and outgoing signals are regenerated to less than 0.5% bias distortion. Also available with DIGITAL Autostart (TSR-200D): Amateur Net: $695.00



MPC-1000R/-TSR-500

Dual UART Regeneration,
Speed Conversion, 200
Char. Memory, Word Correction & DIGITAL
Autostart

Amateur Net: $895.00*

The MPC-1000R/TSR-500 provides Preloading and Recirculation of the 200 character FIFO Memory, a keyboard-controlled Word Correction circuit, Variable Character Rate, Tee Dee Inhibit, Blank/LTRS Diddle, a Triple Tone-Pair AFSK Tone Keyer and a Character Recognition/Speed Determination DIGITAL (DAS-100) Autostart mode.

*The MPC-1000R is also available without a TSR assembly and functions as a MPC-1000C with a Triple Tone-Pair AFSK Tone Keyer. This "Basic-R" permits future expansion with a TSR-100, TSR-200, TSR-200D or TSR-500 by simply lifting the lid and plugging in the appropriate TSR assembly: Amateur Net (Basic-R): $595.00

Your QSL will bring complete specifications, or call: 213-682-3705.

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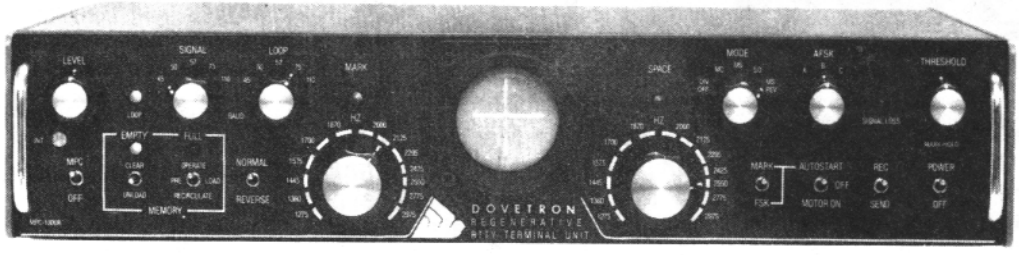

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The MPC Series is available in six different models to meet your exact requirements.

Complete specifications are available on your request, or call 213-682-3705.

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