

RTTY

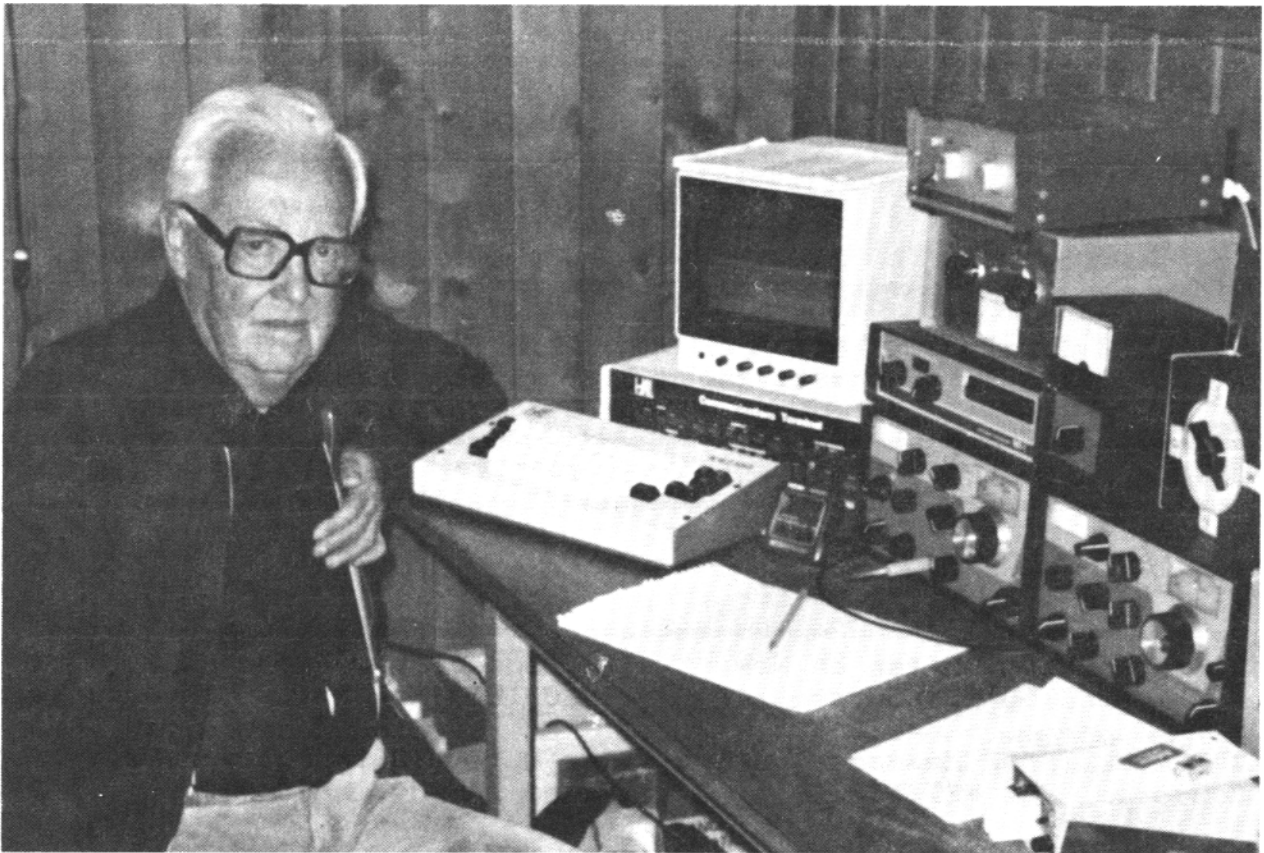
EXCLUSIVELY AMATEUR RADIOTELETYPE

Journal

VOLUME 32 NO. 1

JANUARY 1984

ONE DOLLAR



HB0HK "Willy" on DXpedition in Liechtenstein

Contents

**NO SAYS FCC TO NO CODE
SOURCE OF TELETYPE MANUALS
NEW RTTY PRODUCT FOR THE VIC-20
RELAY SWITCHING REVISITED
VIC-20 WITH RTTY MADE SIMPLE**

by GEORGE

HITS & MISSES

GEORGE HAMMON, WA6CQW
14215 Pecan Park Lane Space 73
El Cajon, CA 92021

PR DOCKET 83-337

The ten year Amateur Radio License begins reality on October 6, 1983 when the Amateur renews his license the new ten year license will become effective. The grace period also was extended to two years.

84 OLYMPICS

During the period of July 1, 1984 to August 31, 1984, California Amateurs will have the option to use special call signs. The six in California call signs can be replaced with "23" or "84". This will apply only to Amateurs living in California. Thus, my call could become WA23-CQW or WA84CQW. This should make QSL printers and prefix hunters happy.

ARTICLES

The RTTY JOURNAL needs articles, pictures and news of your RTTY activity. Your project can be just what the green key gang needs. Write it up and send it in to the JOURNAL to share with our readers.

YEARS END

The years end generally brings an index of the year past. While most magazines will list an index with RTTY given its own section. The ARRL chooses to let you look thru the whole index to find that specific RTTY article. You would think that their computer could index this.

220 MHZ

I have written in the past on this subject. The 220 band is still very attractive to a multitude of potential non Ham users. Waterway Communications Systems Inc. is still urging the petition RM-4560 be passed by the FCC. Thereby taking this band away from the Amateurs.

ARRL

The ARRL will hold its third Amateur Radio Computer Networking Conference on April 15, 1984. Technical

papers on all aspects of Amateur Radio are solicited. Contact Paul Rinaldo, W4RL for information at ARRL headquarters.

QEX

"QEX, the ARRL newsletter for experimenters is being edited by Paul Rinaldo, W4RL. This newsletter has some fine articles on RTTY and computers. QEX is published monthly and the cost is \$12.00.

CONTESTS

The fun way to get your feet wet in RTTY is with a contest. I notice more and more contests or QSO parties are offering an RTTY option. The Michigan YL QSO party being held January 29, 1984 to January 29, 1984, and the Vermont QSO party to be held from February 4, 1984 to February 5, 1984. Details on the Michigan YL QSO party contact Carol Hall, W8BDQG, and for the Vermont QSO party contact D. Nevin, KK1V. Send SASE for details. This is a really quick way to get that worked all states certificate from the RTTY JOURNAL.

I will close out my column for this month. I hope you will write that RTTY article. send that black and white photo or drop a note to say hello with your comments. I wish to thank all of you who took the time to send Christmas greetings via Amateur Radio. The New Year has started, so let the JOURNAL hear from you. Remember our RTTY JOURNAL Contest on February 25, 1983 also.

So long for now, George, WA6CQW....

oo



WANT ADS CONTINUED

DOVETRON MPC-1000 \$295. Schaff, 807 Sunbeam, Oneida, WI 54155. Tel:414-434-2938.

FOR SALE: irl 1000. \$250. POB RY, Cardiff-by-the-Sea, CA 92007. N6ELP...

HIGH QUALITY TTY PRODUCTS

	WAS	SALE
DM-60 TU (ONE SHIFT ST-6 ON ONE PC BOARD) BOARD & PARTS.....23-1712	\$49.95	\$39.95
DM-60 PC BOARD ALONE.....11-1712	9.95	7.99
DM-30 TU (PHASED LOCKED LOOP) KIT PC BOARD AND PARTS.....23-1719	\$25.95	\$17.95
DM-30 PC BOARD ALONE.....11-1719	6.95	4.95
BAUDOT TO ASCII / ASCII TO BAUDOT MICRO CONVERTER KIT.....23-1815	\$89.95	\$79.95
BAUDOT SPEED CONVERTER KIT.....23-1816	89.95	79.95
PC BOARD ALONE FOR ABOVE.....11-1815	19.95	17.95
IF60 GENERAL TU INTERFACE KIT WITH INSTRUCTIONS FOR VIC 20 AND OTHER COMPUTER/TU HOOK UP'S.KIT.....23-1722		\$13.95
AF60 ACTIVE FILTER BANDPASS FILTER KIT FOR IMPROVED RTTY COPY.....23-1718		\$ 9.95
BP-60 TOROID BANDPASS FILTER KIT FOR BEST RTTY COPY.....23-1704		\$12.95
AG-60 CRYSTAL CONTROLLED AFSK GEN. PLUG IN 4-1/2 X 6 KIT.....23-1710		\$31.95
PLUG IN 2-1/2 X 5 KIT.....23-1717		\$29.95
TU/LOOP POWER SUPPLIES (4 TYPES) ALL HAVE PLUS 5 & 12 AND NEG. 12 V		
PLUG IN 4-1/2 X 6 KIT.....23-2135	\$35.95	\$33.95
ABOVE WITH LOOP SUPPLY.....23-1725	57.99	53.95
ABOVE LOOP SUPPLY ONLY.....23-2025	32.99	29.95
PLUG IN 2-1/2 X 5 SUPPLY.....23-1716	29.95	27.95
SINGLE VOLTAGE SUPPLY KIT.....23-0512		14.95
RS232 LINE MONITOR PROVIDES VISUAL INDICATION OF LINE STATUS.....23-1707	\$19.95	\$17.95
VIC20 3-CART POSITION EXPANDER KIT.....23-1722	\$19.95	\$19.95
ABOVE BUT ASSEMBLED AND TESTED.....23-1722B		29.95
ROM BOARD KIT FOR VIC 20 FOR 232/64.23-1723		\$ 9.95
QUALITY PRINTED CIRCUIT BOARDS		
CW ID IDEAL FOR REPEATERS.....11-1721	\$ 8.95	\$ 3.95
RTTY ID GENERATOR.....11-1720	\$ 6.95	\$ 1.99
COMPACT LOOP SUPPLY.....11-1715	\$ 1.99	\$ 1.00
LOGIC MONITOR/TU CATCHER.....11-1706	\$ 2.99	\$ 1.50
TU POWER/LOOP SUPPLY.....11-1725	\$ 8.95	\$ 4.95
UT4-D SPEED CONVERTER.....11-1805	\$22.95	\$12.95
UT2 SPEED CONVERTER.....11-1809	\$14.95	\$ 9.95
XBS UART RTTY SPEED CLOCK.....11-1705	\$ 8.95	\$ 3.49
RTTY CW ID TONE GENERATOR.....11-1714	\$ 4.95	\$ 1.99
IF-60 INTERFACE PC BOARD.....11-1722	\$ 8.95	\$ 4.95
AG-60 AFSK GENERATOR BOARD.....11-1710 4-1/2 X 6	\$ 3.49	\$ 2.49
AG-60 AFSK GENERATOR BOARD.....11-1717 2-1/2 X 5	\$ 2.49	\$ 1.99
AF-60 ACTIVE FILTER BOARD.....11-1704	\$ 4.95	\$ 4.95
BP-60 TOROID FILTER BOARD.....11-1704	\$ 4.95	\$ 4.95
PS-60 POWER SUPPLY BOARD.....11-1714	\$ 4.50	\$ 4.50
RS232 LINE MONITOR BOARD.....11-1707	\$ 4.49	\$ 4.49
SINGLE VOLTAGE SUPPLY BRD.....11-1703	\$4.49	\$ 2.99
ALL PC BOARDS COME WITH COMPLETE ASSY. INSTRUCTIONS.		

DON'T FORGET OUR CATALOG OF OVER 1200 ITEMS
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ADD \$2.00 SHIPPING / VISA/MC ACCEPTED - MUST HAVE NO.
AND EXP. DATE. / COD ORDERS ADD 1.90 EXTRA / ILLINOIS
RESIDENTS PLEASE ADD 6% SALES TAX / ORDERS SHIPPED UPS

Daytapro Electronics, Inc.
3029 N. WILSHIRE LN., ARLINGTON HTS., ILL. 60004
312-870-0555

BULLETIN

Today, December 15, 1983 the FCC declared that they will no longer pursue trying to get a no-code license for the Amateur Radio fraternity. Hope everyone will be pleased by this finally getting settled. There will be some that are very displeased and I hope this does not disappoint them too much. I for one am happy with the verdict.

See you all on Sundays at 2200 to 2400Z on 21.090 with LU4EGE.

We invite all Dxers to join us (Juan and Dee) for a two hour chat.

73 and look for you on Sundays DEE, N6ELP

MSO'S



by Dick Uhrmacher, K0VKH

INSTALLMENT # 2

In last months column, we rather casually defined what MSO's are. In this issue, we hope to provide more pertinent information about MSO's, so that you may start your own voyage into this new and exciting area. And, in this light, I think that it is important to begin with a review of a subject that needs to be stressed not only in RTTY operating, but Amateur Radio in general. Good operating habits!

One of the basic tenets of Amateur Radio down through the years is that the authorized spectrum we Hams occupy is for everyone's use, and no one person, group, club, system or activity has any more 'right' to use a particular frequency, than anyone else. Just because MSO's are crystal controlled on a certain frequency, and re-appear on that same frequency from day-to-day, doesn't imply in any manner that they have any more 'right' to use that frequency, than any other person or entity. Consequently, it is important for the REMOTE user to understand that HIS remote commands, when acted upon by the distant MSO, can in fact, cause a MSO to interfere with established communications on, or near, the MSO's transmit frequency. Using a MSO is no different than using any other mode in Amateur Radio, in that the REMOTE USER should insure that his actions do not cause interference to already established communications. What I'm saying is this.... LISTEN on the frequency for awhile, and if you hear activity on or near the frequency, DON'T activate the MSO until the frequency is clear. Equally important, ASK if the frequency is in use! Ionospheric conditions (skip) may not allow you to hear one side of a QSO already established on the frequency. However, if you ask if the frequency is in use, one (or both) of the stations may hear you, and

your courtesy in asking will most certainly be appreciated by all concerned.

Even though the FCC has recently relaxed standards for identifying RTTY stations, it is still a requirement that you properly identify your station. The MSO's automatically identify, but you must consciously identify your RTTY signals at the start, at ten minute intervals, and at the end of your transmissions. Many MSO SYSOP's have printers that copy all MSO activity. These printers are usually activated after receipt of the MSO Access Code, and sending your station identification during your first transmission after activating the MSO will insure that record of your activities are properly noted on hardcopy. Anonymity is great, but proper identification is a requirement!

Now let's talk a bit about where to look for the MSO's, how to insure that your equipment gets on, and stays on frequency, baud rates and Access Codes.

RTTY frequencies have, over the years, been identified by placement of the "Mark" tone. However, most modern Amateur Radio equipment with digital frequency readouts can show a variety of different frequencies, and the complexities can take pages to describe. Bill Henry, K9GHT, recently authored an excellent article on this subject in CQ Magazine. All MSO operating frequencies that I list in these articles will be referenced to the 'Carrier' frequency, and this simply means that in order for effective communications to take place between your station, and that of the MSO, YOUR 'carrier frequency' must coincide exactly with that of the MSO. (To determine the "Mark" frequency, simply subtract 2125 Hertz from the stated carrier frequency).

MSO's are almost without exception

crystal controlled. My experience has shown that they are extremely stable, and re-appear day after day, at the very same location, within one or two Hertz of their advertised frequency. Consequently, finding them is relatively easy, and modern transceivers with digital readouts make 'fishing expeditions' rare. It is very important to disable your R.I.T. controls! And, if your transceiver tends to demonstrate short-term frequency drift, re-zero it with the MSO frequently to prevent data loss, either data you are receiving, or data you are sending to the MSO. It has been my experience that a good RTTY tuning scope is essential in general RTTY operations, and even more essential when using the MSO's. Current RTTY demodulators have very narrow front-end filters, and unless your signals match those of the MSO's almost exactly, you will experience difficulty in using them.

At the present time, there are MSO's spread out across the United States, from the East coast to the West. They range from Apple and Radio Shack computers, to the INFO-TECH and HAL units. Their placement is such that even under the worst of band conditions, at least one can be heard and utilized. At last count there were forty-four MSO's available for use, the majority on 14 MHz, but with active stations on 10, 7 and 3.6 MHz as well. As propagation changes during the day, one can easily move from band to band, and still feel confident that MSO's can be utilized.

Baud rates differ on each MSO frequency, but usually, you will find that the baud rate on one specific frequency remains constant from MSO to MSO on that frequency. At the present time, 45, (60wpm) and 74 (100wpm) baud rates are split about even, and at least one station on 40 meters is now alternating days with

THE RTTY MAILBOX CONTINUED

ONE SOURCE FOR OBTAINING TELETYPE MANUALS

Baudot and ASCII. In the following partial list of MSO stations I will indicate what baud rate is being utilized.

By Dave Hamilton
413 Seneca Ave.
Louisville, Kentucky

In the interest of brevity, I will not list all forty-four MSO's. Rather, I will list a few from each of the known MSO frequencies. I hasten to point out that due to many different circumstances, MSO's come and go on these frequencies. Some of them are there every day, day in and day out, and others, due to work commitments, travel, etc., appear only at times, and, the frequencies listed are only those on which it is known that MSO's are currently operating. Should you discover additional MSO frequencies, including VHF and UHF frequencies, I should enjoy hearing about them.

It seems from what I have seen in the JOURNAL and elsewhere, that most Hams do not know that they can get most parts and manuals from Teletype Corporation for 28,32,33,and 35 machines they have in the shack. It is true that they do not carry parts or manuals for the 12,14,15,19,24 and 26 machines any longer. Here is a copy of the summer 1983 publications list from them. Their address is:5555 Touhy Ave., Skokie, IL 60077. You do need to know which unit you have so you can determine which manuals you need. Most Hams believe that the machines are all the same, but that is not true. There are at least 5 different styles of transmitter distributors that were used in the 28ASR alone. Some had fixed heads, some climbing heads. There is even a pull back type (LFXD) for repeating the same tape and also some for multi-wire (parallel) output.

STATION CALLSIGN	STATE	ACCESS CODE	FREQUENCY	BAUD RATE
WB7QWG/9	IN	QWGZW	14.097.500	74
WA1URA/4	FL	:WA1URA	14.097.500	74
WA1IUF	CT	IUFZW	14.097.500	74
KA6CDC/4	KY	:KA6CDC	14.097.500	74
W1CDM/6	CA	CDMZW	14.097.500	74
KØVKH	SD	MSØVKH	14.087.750	45
W9CD	IL	MSØ9CD	14.087.750	45
K9KUW	IL	MSØKUW	14.087.750	45
WD4MTC	FL	MSØMTC	14.087.750	45
AJØX	MS	MSØAJØX	14.087.750	45
K4KØZ	FL	MSØKØZ	14.087.750	45
WB8ICL	OH	MSØICL	14.087.750	45
WB5NYA	OK	MSØNYA	14.087.750	45
WB5MXS	LA	:WB5MXS	14.080.000	74
WD5BJQ	LA	:WD5BJQ	14.080.000	74
<hr/>				
K8IF	MI	IFZW	10.145.00	45
<hr/>				
K4CZ	KY	CZZW	7.098.500	45
WB4ZQB	NC	MSØZQB	7.087.750	45/110A
<hr/>				
VE3KPK	ONT	KPKZW	3.635.000	45
K8KYR	MI	KYRZW	3.627.000	45
<hr/>				
WB8ZTV	WV	MSØZTV	147.400.000	45

Bulletin or manual #	Subject
216B D&T	28 page printer RO & KSR
217B A&L	28 page printer RO & KSR
235B A,L,D&T	TD (LXD)single cam fixed head
242B D&T	TD (LBXD) twin cam multi-contact
243B A&L	TD (LBXD)
244B D&T	28 multi-magnet (LARP) reperforator
245B A&L	28 (LARP) reperforator
246B D&T	28 typing reperforator (LPR)
247B A&L	28 typing reperforator (LPR)
248B A&L	Tape handling stand & reperf base
249B D&T	28ASR keyboard (LAK) & reperf (LPE)
250B A&L	28ASR keyboard(LAK) & reperf (LPE)
251B D&T	28 TD(LAXD) pivoted head multi-contact
252B A&L	28 TD(LAXD) pivoted head multi-contact
253B D&T	28 TD(LCXD) pivoted & fixed head
254B A&L	28 TD(LCXD) pivoted & fixed head
255B D&T	28 non typing reperforator (LRPE)
256B A&L	28 reperf (LRPE)
280B M Vol.1	35 ASR
280B M Vol.2	35 ASR
281B M Vol.1	35 KSR & RO
281B M Vol.2	35 KSR & RO
282B m	35 reperforator
284B M	28 compact KSR & RO (skintight)
295B M&P	motors for 15,19,28,35 etc.
298B M	28KSR & RO
1129B P	LPW paper winder
1149B P	28 KSR & RO
1165B P	28 TD (LBXD)
1166B P	28 reperforator (LARP)
1169B P	28 ASR
1172B P	28 & 29 non-typing reperforators(LRPE)
1182B P	28 TD (LFXD) pull back type
1184B P	33 ASR, KSR & RO
1187B P	35 ASR
1201B P	35 KSR
1201B	32 ASR, KSR & RO

This list represents less than half of the known MSO's that are presently active, and you may discover new stations from time to time. This network of expanding stations can only forecast increased communications reliability and flexibility for all users. If you find a new MSO, drop me a line and give me the particulars.

Next months edition will cover actual operating instructions for the MSO's. How to activate the systems, obtain listings of messages on file, read messages, and writing messages to the MSO. In the meantime, listen in on the MSO frequencies, and have a good time on RTTY!

DE: DICK, KØVKH



"HERE IS MY BEST COLUMN"

I had a big surprise last month: I worked C53EE, Bill, in The Gambia; and it was on AMTOR, not RTTY! Bill has a "chirping" sked with his home base in England on about 21100 MHz. With AMTOR, the first person to phase with the other station locks on and the QSO begins. If there are a number of stations calling, the first to be recognized by the computer wins. No breakers can cut in. It's that simple.

When I heard Bill finish with his sked, I gave him a call, and instantly we locked together for a grans QSO. Bill is a doctor doing medical research on malnutrition deep in the heart of The Gambia. The nearest power utility is 40 miles away so he runs on generators at the research station. He is using an FT-101-ZD and an AMT-1 hooked to a BBC Microcomputer. The software is by a group in the United Kingdom. At the same station there is another operator: C32EW, Marc.

Bill says he works only AMTOR from there because he really doesn't enjoy the great pile-ups on RTTY. He also mentioned he likes AMTOR because he can chat with only one station at a time, and no breakers!

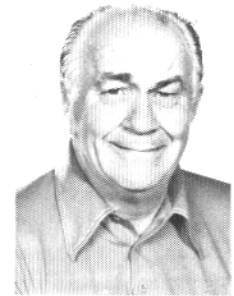
QSL to Dr. Bill Lamb, c/o MRC Laboratories, Box 273, Fajara, Nr Banjul, The Gambia, West Africa.

Beware of a station in AP2 who asks that money, equipment or other things be sent to him. You will be lucky if you get thanks for your efforts, and very lucky if you get a card. The Japanese RTTY DXers have learned from sad experience that IRCs and green stamps are down the drain when sent to the offending station. One late DXer in Japan finally got a QSL card by sending 40 dollars to him. So beware!

DX and AMTOR

by BILL

WØLHS SNYDER, 1514 S. 12th Street, Fargo, ND 58103



"AND IT IS ALSO MY LAST!"

I think all DXers should salute JA1ACB, Gin, in Tokyo, for the many contributions he has made to the DX chase! Gin's contributions are in the form of Tono RTTY machines. In the past he has placed Tono 7000/7000E/9000E computers with CT2AK, 4S7EA, VK9NS, 9Y4JW, ZL3AFH, 8R1J, 8R1T, VE1ASJ and CYOSPI, and there are two more coming in the near future that should delight all DXers!

According to JA1DSI, Minoru, the happiest group of Japanese DXers include JA1ACB, JA1ZF, JA1BIH, JA1DXV, JA1JDD and, of course, Minoru. They all succeeded in working 3X4EX, Arild with the great help of Luciano, I5FLN. Arild signals were worked via long path to Japan about 0700Z. Minoru also reports I8AA, Ros, and Luciano both worked LA2WW/9L1 who runs only 30 watts to a dipole.

Minoru continues his DX report by mentioning the Tono 7000E which normally resides in JA1BK's shack. JA1BK is a really dedicated DXer and Japan's leading CW/SSB/DX operator. He also has RTTY-DXCC, so he is a really all-round DX hound! Well, The Tono in Kan's shack is the one that I made the first US RTTY contact with Wallis Island, and the one with Nana, J1LLV took to Nepal and Kenya. To quote Minoru: "This Tono also gave many RTTYers great happiness from 9M6, VS5, FWO and CR9."

C6ANM, Tom, is now on RTTY with a home-brew interface and a TRS-80. He is running 100 watts out. His QSL address is Thomas Bethel, Box 1964, Nassau, Bahamas.

VP2ES recently gave Anguilla Island to many RTTY ops. QSL to Walt Amos, 4612 Woodland, Royal Oaks, MI 48073.

Many newcomers to Amtor have trouble with receiver recovery time

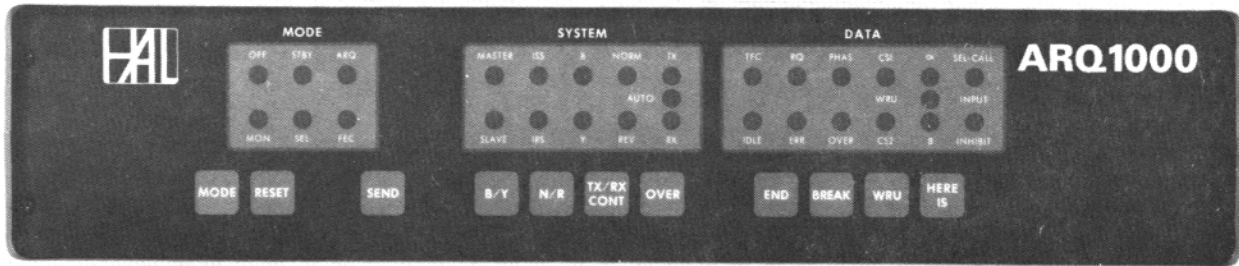
during two-way contacts. If you are using a TS-930, I have the modifications you need.

One of the great pleasures of writing this column has been the friendships that I have developed through these pages. One special friend is Joe, IØAOF. Joe is now at 184/170 and counting. Among his recent new ones are: C21BD, TR8YL, U05-OWS, J28DQ, EL2AT and UKØLAK. Joe now has 531 USA counties worked on 20 meter RTTY. In addition, he has recently received the first W-100-N award from Worldradio for RTTY contacts all on 14 MHz. Joe concluded his note with this comment: "As you can see, my fingers are very active on RTTY..made about 13,000 QSO's on the keys." Joe also holds ARRL DXCC #24, WAS #42 and comparable awards from the JOURNAL. Enclosed with his letter was my "Holy Year Award" issued by the Radio Amateurs of Italy. It is a really beautiful certificate.

For 16 years Ted Double, G8CDW, has been the chief person responsible for the British Amateur Radio Teleprinter Group's contest efforts. Ted is to be commended for the excellent job he has done in handling the contests. Now he is turning the job over to Peter, G6LZB. Peter's address is: Peter Adams, 464 Whippendale Road, Watford, Herts, England. Ted says thanks to all those contesters for the courtesies they have extended to him. We all say thanks to Ted for the magnificent job he has done all those years.

W8GE, Dewey, reports being the first RTTY contact for TF3IB, Ingo. TU2DP was also pounding on the keys in Dewey's shack. He also reports receiving Ingo's card in less than two weeks from the day of contact! Ingo's QTH is I. Bjargumdsson, Hagamer, 26

AMTOR RTTY

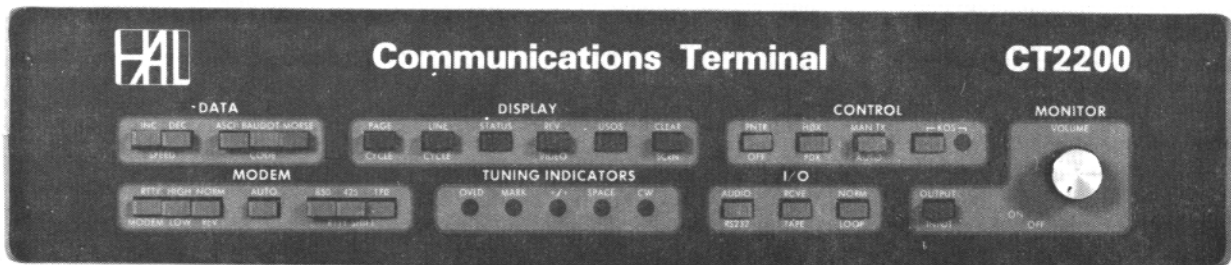


HAL is proud to announce the ARQ1000 code converter. This terminal not only supports the AMTOR amateur codes, but meets ALL of the commercial requirements of CCIR Recommendation 476-2. The ARQ1000 can be used with present and previous generation HAL RTTY products. In fact, any Baudot or ASCII full duplex terminal at data rates from 45 to 300 baud may be used with the ARQ1000. Some of the outstanding features of the ARQ1000 are:

- Send/receive error-free ARQ, FEC, and SEL-FEC modes
- Automatic listen mode for ARQ, FEC, and SEL-FEC
- Meets commercial requirements of CCIR 476-2
- By-pass mode for normal RTTY without changing cables
- Programmable ARQ access code, SEL-CAL code and WRU
- Programmable codes stored in non-volatile EEPROM
- Keyboard control of normal send/receive functions
- 30 Front panel indicators and 11 control switches
- Interfacing for loop, RS232, or TTL I/O
- "Handshaking" control for printer and keyboard or tape
- Self-contained with 120/240V, 50/60 Hz power supply
- Cabinet matches style and size of CT2200 and CT2100
- Table or rack mounting
- Built-in DM170 modem option available
- Encryption option available for commercial users
- 8 1/2" x 17" x 10 1/2"

The ARQ1000 is commercial-quality equipment that will give you the outstanding performance you expect from a HAL product. Write for full details and specifications of the ARQ1000.

BY POPULAR REQUEST



By popular request – the new CT2200. Our slogan is "When Our Customers Talk, We Listen" – and we have been listening. The CT2200 includes these often requested features:

- New AMTOR connections for use with ARQ1000
- Keyboard programming of all 8 "brag-tape" messages
- Programmable selective call code
- Expanded HERE IS storage for a total of 88 characters
- Non-volatile storage of HERE IS, "brag-tape," and SEL-CAL code
- 3 3/8" x 17" x 10 1/2"

All of the proven CT2100 features are retained. Some of these features are:

- Tuning scope outputs (a MUST for AMTOR)
- Built-in demodulator for high tones, low tones, "103", or "202" modem tones
- 36 or 72 character display lines
- 2 pages of 72 character lines or 4 pages of 36 character lines
- Split screen or full screen display
- Baudot or ASCII, 45 to 1200 baud
- Full or half duplex
- Morse code send/receive at 5 to 99 wpm
- Send/receive loop connection
- Automatic transmit/receive control (KOS)
- Audio, RS232C, or Loop I/O
- On-screen tuning and status indicators
- Clearly labeled front panel switches, not obscure keyboard key combinations
- Separate convenient lap-size keyboard
- Internal 120/240, 50/60 Hz power supply
- Attractive shielded metal cabinet

In addition, an update kit is available so that all CT2100 owners can update their CT2100's to include CT2200 features. The kit even includes a new CT2200 front panel! Rather than making a proven product obsolete, HAL put even more behind the buttons. Pick up a CT2200 at your favorite HAL dealer and join the RTTY fun. Write for our full RTTY catalog.



HAL COMMUNICATIONS CORP.
Box 365
Urbana, IL 61801 (217) 367-7373

DX COLUMN CONTINUED

107, Reykjavik, Iceland.

OA6BJ, Bill, is really W7TZW operating from Peru. Bill will be operating on 21 MHz evenings. He also can be found around 21300 on SSB at 2030Z handling phone patch traffic. He has been in Peru since 1967 and works for a large mining operation. Bill is in charge of 40 electronic technicians who service 400 mobile radios, 5 telephone exchanges, 2 AM broadcast stations, one FM station, 3 TV repeaters, plus 21 remote-controlled full-size locomotives. And Bill has radio for a hobby! He adds he enjoys flying as the other hobby.

CE3CEW, Carmen, logged HC1DK, A4-XGY, 9Y4SF, FG7CR, TR8YL, J28DQ, EA6JZ and IG9VT for new ones. There are rumors of another Easter Island DXpedition. Carmen and the OM, CE3CBG might be on it.

WB4UBD, Jim, reports hearing European DX on 80, but his CPU does not like 3.5 MHz RF! Jim enjoyed working 3V8AS (QSL via DJ6QT) for a new one. Jim now has 103/84 with the recent arrival of 9K2KA, C21BS, OX3-FG and VK9NS cards. Jim has serious doubts about the validity of A6XJC. You're right Jim, see last month's Journal.

WB8YJF, Jon, makes me jealous when he reports receiving a QSL from YV5-AIE. Jon lists new ones on 15 as J28-DQ, FG7BG, A4XJQ, ZS3BG and FG0UG/FS. On 20 he caught Y08FR, UK3ACR, DL3EW/GU4 and ZS3BG. I'm still looking for a YV QSL after 30 years on and off RTTY.

If you are interested in awards, the Italian Ham group offer the Italian Islands Award. To my knowledge there are 13 islands or archepelegos that count towards the award. If you are interested in obtaining one, I suggest you send a SAE and IRCs to the I.I.A. Award Manager, A.R.I., via Scarlatti 31, 20124 Milano, Italy.

W3KV, John, watched I5FLN and I8AA work LA2WW/9L1. John says it was a real exercise in sorting things out. The 9L1 was using commercial gear with 425 shift, running up-side down, and on 50 baud. The 9L1 told the

Italian stations he could not copy 170 shift. John also mentions info from Lou, I5FLN about 3X4EX. He can be found on the VK9NS net on 14220 Friday and Saturday. John reports working 3X4EX, Arild, for a new one.

I have been wondering about RTTY activity on Oscar 10. In fact, I have a desk full of brochures describing rigs and antennas for satellite operation. With the decline of DX activity on the normal hi-frequency bands, I have been asking dumb questions of all my known Ham friends who operate through the Oscar transponders. Well, at last I know there is some RTTY activity there. K8VHM, Bob, sent me a print-out of a number of CQ calls from DG2SAH. Bob said he copied the station until he had to go and quit listening. The copy was made November 17th at 1601Z. Outside of a few hits, the copy was Q5? Bob wishes he has an up-link rig going, but adds that he is confused about equipment. You are not alone, Bob, I have been reading AMSAT stuff, manufacturers literature and magazines trying to sort it all out in my mind. W0EOZ, a dedicated satellite operator has a computer available, but he has yet to tell me of an Oscar contact on RTTY.

VK2TTY, the Australian group station, puts out a DX bulletin every Sunday at 0130Z. I have not been able to copy it for some time due to conditions, so Carl, K6WZ, forwarded a copy of one recent QST broadcast. The Aussie station informs us that besides Det, C21BD on Nauru, look for Kenny, C21KH, a newcomer to RTTY. QSL info is Box 214, Republic of Nauru.

AMTOR notes from down under Four Costa Rica stations are very active on the chirpy mode. ST2SA has been active from the Sudan. EA8RU is now chirping from the Canary Islands. Look for him around the Canary Islands. Look for him around 0600Z. PZ5GH has been reported from Surinam.

EAVESDROPPINGS--RTTY: "The name here is mud dud bud"... "Nice to be crossing wireless' with you"... "And now man has made his own Apple!"... "Best of luck to you and your fanny"... "Excuse if my English is Approximative"... "The amp is making beautiful fireworks inside"... "I feed

my antenna thru a balloon"... "Using a linear with 08 watts output"... "Using a rotten wire out the window"... "My XYL is in bed, red as a sausage, burned by the sun"... "I used a generic QSL to work Wyoming and it worked"... "I was with the CIA but now the IRS, don't know which one is worse"... "I need to set my buffer and my fingers"... "Condx are having a pity on us, I guess"... "It's as much fun as going to a faith healer's funeral"... "RTTY talk has no personality"... "I leave the gambling to the tourists lest I lose my rig"... "I'm new to RTTY so bare with me"... "I use the grunt and peck system"... "73 and soo you later"... "73 from Zig Zag, Oregon"... "Adios, Ciao, Sayonara, Danke, Bye-bye, So long, Cheers and Kwa herei, bwana!"

3V8AS, Walter, who is in reality DJ6QT, has been known to show up from exotic locations. This year it was for the WAE contest. Band conditions really took care of the midwestern part of the US. There I am listening to Hans, EL2AT, working Walter, only I couldn't hear a peep out of the northern African station. Frustrating to say the least.

I had a nice chat with ZS3APH, Gui. He can be QSL'd via WA3HUP.

I have been leaving my printer on random MS0 units in order to get an idea of what goes on during the course of a day. One Sunday I left it on a very popular RBBS station. After looking at the print-out, about half-inch thick, I was not surprised by all the "overhead" type stuff that gets printed. The amount of message traffic was very low, but the directories, instructions, etc., filled up most of the paper, and the station that dominated the frequency had a "beacon" which apparently filled in the activity gaps. The most interesting thing revealed in the printout, of 70 pages, was the transmitting station quitting right in the middle of a directory. Something must have blown out right in the middle of a 44 count message directory. Stations tried to activate it and even the SY-SOP could not be reached. I am more and more convinced that W1AW should put an MS0 into operation and eliminate the rest of the mailbox QST

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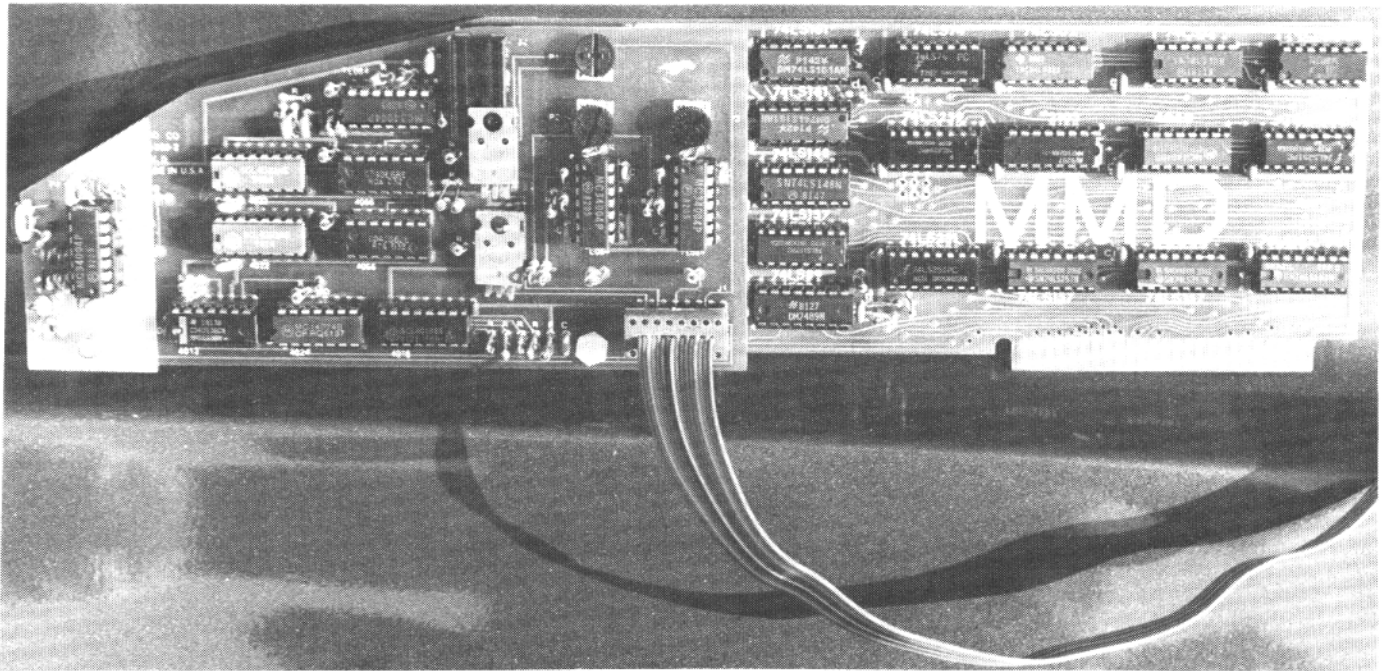
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Just when you think you have things figured out, someone goes and changes the rules! That is almost what happened to me this time. Shortly after my original article was published in the September 1981 issue of the JOURNAL, I received a letter and diagram from Terry, WB4FXD. The original diagram in the article was handy, but required the hard-to-find, 'make-before-break contact pair on one relay. The diagram sent by Terry, does NOT have this requirement, but there is one catch to his circuit also, but, a much easier to live with catch. His circuit calls for relay coils that are rated at HALF of your supply voltage. Two 6V relays if you have a 12 V supply, two 12 V relays if you have a 24 V supply, etc. That is not too hard to live with, and most of us can live with this 'catch'.

The circuit is handy for Transmit/Receive applications, remote On/Off control of a reperf or T.D., Amplifier In/Out of circuit, Amplifier On/Off, Enable/Disable of garage door opener etc. One friend of mine, Jim, WA8SEL, used this circuit for On/Off control of some outdoor lighting in his back yard, using heavier relays to operate the lighting load. If you have ever tried to wire up a light control system that could give you control of the light from 3, 4 or 5 more locations, you know how frustrating it can be. (It can be done, but if there are more than two control points, the 3rd, 4th and 5th etc., need to be of a different type than the typical "three way switch" used for an upstairs/downstairs light control.) So if you want to be able to control a yard light or outside floodlight from the front door, back door, kitchen, basement and maybe the garage, just fix this circuit up, parallel all of the 'On/Off' buttons and the job is done. (Be sure to remember the National Electric Code for

115 VAC portion of the circuit. Anything less than 48 volts for control purposes is up to you, but do use common sense about wire routing and rating.)

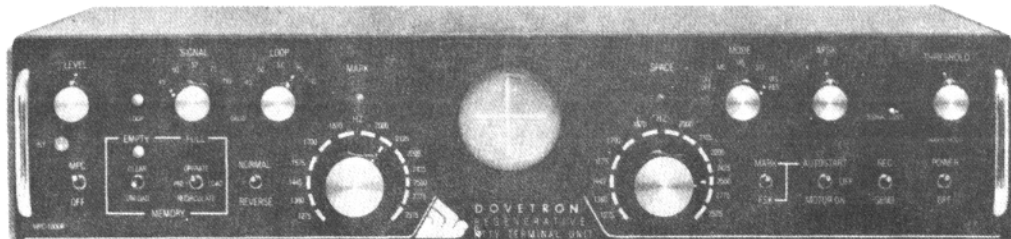
One other thing: Be sure that the push button you use is a normally open button. If a normally closed button is used by mistake, K-1 will energize as soon as power is applied, and stay energized until the button is pushed, then K-2 will be energized alone. If either of these two situations happens for too long, the relay coil may overheat and be damaged since the full (double) voltage will be across the coil for as long as the button is closed. Of the 20 or so buttons in the junkbox, the one I grabbed to try Terry's circuit was a n.c. type, and I was a little confused about the heat that was coming from the K-1 coil.

CONTINUED NEXT MONTH

See schematic also next month.....

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