

RTTY

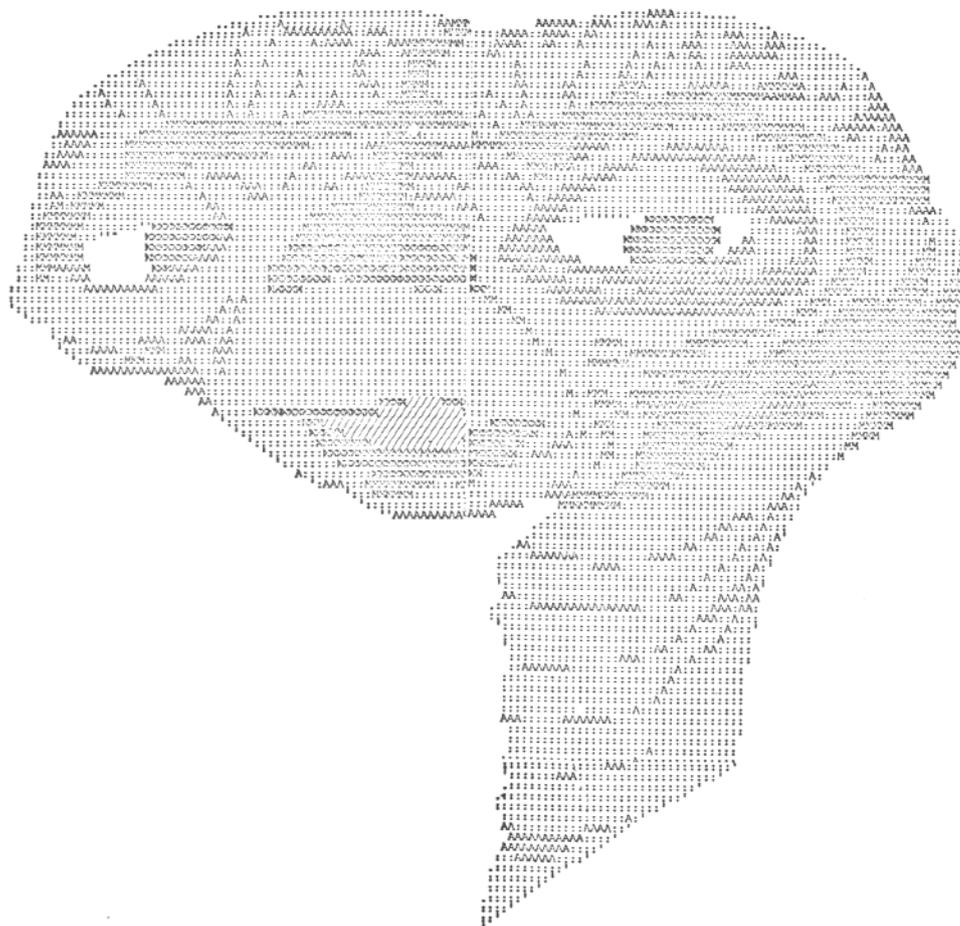
FEBRUARY 1983

Journal

VOLUME 31 NO. 2

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ORIGINATED BY DENNY WA3CHN, RECEIVED BY DALE, AG9H

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RTTY JOURNAL

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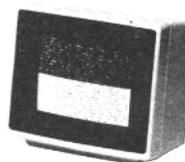
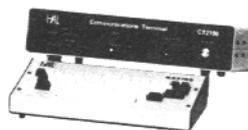
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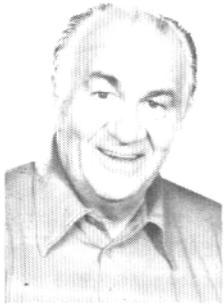
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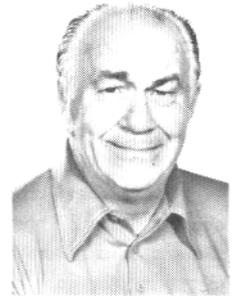
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DX RTTY

BY BILL

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



" I HAVE A BUYER FOR MY OLD RIG!"

"BUT I CAN'T PART WITH IT!"

If you really want to know what kind of a person I am, I suggest you read Andy Rooney's new best seller MORE ON ANDY ROONEY, when I read his little essays, I keep seeing myself on every page. Like the TV personality of 60 minutes, I hate to get rid of "old stuff around the house." And this goes for Ham gear also.

Recently I bought a new Kenwood TS-930S Transciever (with all the latest tinkles and toots); and thereby, for all practical purposes, retired my three-year-old TS-180S to a standby basis. It still sits majestically on the operating bench, but the AC cord is unplugged.

During a fit of housecleaning, I put an ad in the local Ham newsletter offering my prized 180 for sale. It only took a few days and there was a knock on the door. Jim, NØCOU, a fellow RTTY operator, wanted to see the rig I had advertised. After twiddling the dial and comparing it to the 930, Jim reached for his checkbook. I was panic stricken!

"I've some second thoughts about selling that old friend, Jim," I backwatered. "After all, that's the rig that got me RTTY DXCC number 43 from the ARRL and number 73 from the JOURNAL, and it was running barefoot too!" Jim slowly slid his checkbook back into his pocket and quietly left the shack. I think he could see I was caught in a crisis of no small proportion.

After he left, I took inventory of the "old rigs" sitting around the shack. No, I don't have them all, but I do have an HQ-129 receiver; an old home brew tuning unit for 850 cycles; and the first SW-3 receiver that I bought brand new for \$13.30 in 1933, one year after I had got my first license. (Gee, I have been a licensed Ham for 50 years. Doesn't seem that

long.) But now that Jim is out-of-sight, I am having third thoughts and I think I will call him and sell the rig. Well, perhaps...That TS-180S is a great back-up rig!

Another RTTY Dxer, who I shall not name, also kept his TS-130S as a back up rig, and recently has been using it. Seems he bought a Yaesu FT-one, at a very good price, directly from Japan. When it arrived he found the instruction book was in Japanese, with no handy translators available. So when the power supply section blew out--he discovered it had to go back to the land of the rising sun for warranty repairs, and so, his venerable TS-180S went back into service. So maybe I should keep mine after all.

I did have it back in service for a short spell, when the new 930 drivers filled the shack with smoke and departed from this earth. I was lucky, my warranty repair station was only one day away via UPS.

The good DX news for the last few weeks was the Juan Fernandez DXpedition. Carmen, CE3CEW, using the call-sign CEØCEW/Z, gave Mac, K7BV, his 209th country, and me my 122nd. We have all been looking forward to this DXpo and it happened just about on schedule. German, Carmen's husband, CE3CBG, with the call CEØCBG/Z, also was active from the island. The QSL information, according to Mac, is via Box 76, Santiago, Chile 010. The call book addresses apparently are not valid.

The bad news of the month was the DX-junket to Nepal. The group had been issued special call signs for three days to celebrate the King's birthday on December 28th. The sole RTTY operator, to my knowledge, was Nana, JA1VLV, a 19 year old YL from Japan. Because of poor conditions

on the bands had only 60 contacts as 9N1, but only worked a few European and no US stations. She is leaving Toyko February 8th and will operate for three weeks as 5Z4NN from Kenya. I understand Nana had troubles with her Tono in the early days of the expedition. When those troubles were fixed, geomagnetic storms wiped out the path between Nepal and North America during the hours she was active. The Japanese stations were able to schedule contacts without too much difficulty, but the rest of the DXers around the world will have to wait five years until they celebrate another birthday for the king. As K7BV says, "I wonder if I can make a RTTY contact with Nepal from a urn, cause that's where I'll probably be in five years!"

Of the European stations who did work Nana: ON4CK scored first, followed by Arthur, ON4BX. Arthur then alerted Jean, F8XT; however Jean was too late and he missed adding another new one to his impressive total. How the DXpedition fared on CW and SSB is a mystery to me, because I didn't hear them on either mode, although one of my local CW friends reported hearing a pile-up on 20 meters.

Jim, KS40M, filled a request we had in a recent column for info on QSL's from SP3KEY. We passed it on to the Ham who raised the question. Jim also mentions that Polish Hams should get caught up on QSLing during the enforced off-the-air period. That must be true, for the last batch of cards from the QSL bureau had a number of cards from Poland.

A nice note from John, ON4UN, tells us he now has a total of 127/103. New ones are A22BW, DJ6QT/CT3, A4XJQ, ZB-2BL and XT2AW. John is planning on adding a new Dovetron TU and hopes

DX COLUMN CONTINUED****

to get it started in AMTOR this spring.

THOUGHT FOR THE MONTH: Why don't they eliminate that line "CWID FOLLOWS" from software. It's just a little redundant. While on the subject, is it necessary to send the date, time and all that stuff during every transmission?

Eavesdroppings: ".I'm retired now, spending my daughter's inheritance on Ham radio". "Due to a shortage of trained trumpeters, the end of the world will be postponed three months" ".If you want to talk to a non-typer --I'm your man!". "Had our office party last night (BUUURRP)!". "Please QSY up and keep this frequency clear for our mailbox.". "Hope Santa Claus will bring you a lot of new countries for XMAS.". "I was getting tired of those short meaningless QSO's on CW". ".I have to fight my son for this VIC-20, he wants it for games"...I have a message in his MSO, but try as I might, I can't access it!". "I am a newcomer and the rig here is a Rowboat!". "I don't go on SSB, I want to enjoy Ham radio, not fight it!". "Would like to put up a log-periodic antenna, But the XYL says no!". "SSB has lost its charm, but not its QRM". ".I used to spend my DX time as a lid control station on CW"...I traded my Rolls Royce for a house, a Mercedes and a Signal One". "I type with the help of crutches--lots of buffers!". "I use the PEEK and POKE method of typing". "Built my own satellite system, and right away I overdosed myself on porno stuff"...:If it were not for split-screen I would not be on RTTY". "Forget about hamming and antennas in a Florida condo--there is always a resident retired lawyer with nothing to do but bug you". "The only constructive thing our president has accomplished so far is to get a free set of dishes for the white house". "I'll sing with you now..I mean sign"... "I'll QSL via the burro--that means slower than pony express!

If you still need the Azores Island you must not have been operating during the Christmas holidays. About one year ago, John, CT2AK, made a very brief appearance on RTTY using a

TRS-80 which had been brought to the island by CT1ASQ for experimental purposes. John borrowed it for a couple of days. By the time he got the thing going, the owner stopped by to take the computer gear back to the mainland. So he only worked a very few DXers. I was one of the lucky ones, but I didn't realize it until I got his QSL card.

Well, one afternoon when I was looking over ten meters for DX, I heard a station running up-side down and testing. I gave him a call to tell him he was not transmitting properly. It turned out to be John again with the same borrowed RTTY machine. With the help of Mac, K7BV, we got him right-side up and operating. So for the next two weeks John filled the air with QSO after QSO from the Azores. According to John, W3KV, this is the only operation from the island since 1970 when CT2AA was active briefly from the US Airforce base there.

A note about QSL's from CT2AK--If you send your cards via the bureau, the CT bureau only sends cards to the ARRL about twice a year, so it does take a long while to get your answers. John is OK in the callbook or John Raposo, Box 143, Ponta Del Grada San Miguel, Azores.

VP2MJL, Joe, made a second appearance with a MSO from Montserrat. QSL is via N3JL.

In an earlier column I mentioned there is a good possibility that W3JF might show up from Egypt. He is there on a two-year assignment, and has been verbally promised a license by the granting authority. I had a good rag-chew with his QSL manager, Tony, WB3HAZ, right after Tony had finished an overseas phone call with John in SU land. Apparently John was not granted permission at the last meeting of the licensing commission, but hopes to have the ticket by the end of January. I want to thank WB3FIZ for putting me in touch with Tony.

9Y4VU, Frank is back on RTTY after an absence of nearly 10 years. He is now looking for DXCC and WAS. Worked him on twenty about 0300Z. Another Trinidad and Tobago station is 9Y4NP, Nick who is active on fifteen. QSL

via W3HNK.

Here's a comment about the Nepal DXpedition heard while eavesdropping: "looks like they sent a little girl to do a man's job. I know that had it been a mature RTTY DXer, HE would have been up at all hours of the day in order to accomodate the various parts of the world." (ED:Chauvanist)

I'm still looking for that first QSL card from Venezuela. After working many YV stations, and never getting an answer to my cards, I was telling Camille, KA5CQJ, about my plight. At that point YV1BTN broke in and offered to solve my problem. So far I have not received his card, but I am looking forward to getting it. When I do, I will publish his QTH and thank him publically.

Mac, K7BV, indicates that ZS2MI is due to operate from Prince Edward and Marion Island. This counts as a separate country from ZS land.

Heard and worked on 15 meters: FG7-XE, 1800Z; FY7BC, Gerhard, 2215Z; GM4AGS, 1730Z and TI2CC, 2400Z. On 20 meters: HR1RC, Rolando 1400 and 0015Z; EA8AHJ, 0030Z; V2AW, Dorothy, 2300Z; YS70B, Oscar, 2300Z; and HB9-AQA, 1600Z.

QSL INFO: SV1IW, Box, Athens. KP4-BJD, Gabriele, Box 373, Puerto Real, Puerto Rica 00740; and EA9JZ, Box 330 Mellilla.

Last month I told of the beacon program taking place 14.1 MHz. It is a great way to tell if the band is open or not. Recently, I tuned in on the freq to check for band conditions. There, banging away on RTTY was a US station, apparently unaware of the beacon program. I thought I might wait him out and then inform him to avoid that frequency if possible. Well, before I could get him, a CW station came dead zero with him and started CQ. So I jumped in, called the CW station, and had him QSY off of the 14.1 frequency so we could QSO. Well, it turned out that the CW station was trying to QRM the RTTY station, so he would get off the beacon QRG. He was mad that the typer was smack dab on the beacon and was going to drive him away by intentional QRM. That reminds me of those early days on 40 meters when we were

DX COLUMN CONTINUED

running 850 shift and the good old CW men were doing their best to knock us out of the box. So, fellow RTTYers I guess it would be to our best interests to avoid 14.1 at all times, and not precipitate a range war. The beacon program runs 24 hours a day and is a useful DXers tool.

W3KV, John, sends news that FR7AT is again active from Reunion Island, and that A22BW has been heard from Botswana.

K1LPS, Larry, writes that "wonders will never cease!" He got a card from KG4AH! I'm not going to divulge Larry's strategy, but it is an interesting yarn to say the least. We're proud of you Larry!

Larry is looking for a good Collins 75A-4. Perhaps someone out there in RTTY-land has one they would be willing to part with, if so, contact him.

K1NVY/7 is back in Seattle for a while. Fred has been operating maritime mobile from the ships he works on as a Radio Officer. He reports working CT2AK and CE0CEW for 121 worked. Fred also is building a new amplifier especially for RTTY. It will be operated Class C so he can output 700 watts on the typing mode.

While monitoring the operation from CT2AK I learned a simple lesson. Stick around for while even if the DX station doesn't answer you right away. For example: one W6 called the CT2 station for about 45 seconds. When John did not reply right away, he apparently gave up and left. About two minutes later John came back to him, but the W6 was nowhere to be found. So John called another CQ and picked up another station. The moral is this: don't give up the ship!

W2LFL, Bud, recently worked Adnan, 9K2KA and XT2AU, Enno. I want to thank Adnan for the print-out QSL card he sent me recently. It is about four feet long, and the type is about the fanciest I have seen from a computer printer. Included on Adnan's QSL were a calendar and some classy art work. He apparently is having a barrel of fun with his computer. Adnan's regular QSL card is a nifty cartoon, worth trying for.

I1JXE, Gabriele. got his QSL from CO2FRC, But is waiting for one from Guantanamo. A number of stations have reported getting cards from Cuban club station recently. (Me too.)

For those of needing Delaware, well Bernie's call is really WB3BXC. It was left out accidentally last month. N3BJT is another Delaware RTTY convert. Both were reported by KA5CQJ.

JAIACB, Gin, recently worked HS8ALO/MM who passed along the info that all amateur activity from HS land has been banned. Some kind of political upheaval I would assume.

As usual I would like to acknowledge the input of many Hams other than those listed above. Thanks to JA5TX, FBXT, WA5UWJ, W1BNK, W0HAH and all those unsuspecting people that I did a little eavesdropping on.

Send me your worked/confirmed score for next month's Honor Roll. I must hear from you to be listed. If you hear me on the air give me a jingle.

From Argonne Amateur Radio Club W9-QVE comes the info that their special event station was a success on RTTY, December 6, 1982. They report there was 103 RTTY contacts on 20 meters and 23 contacts on 2 meter RTTY. They believe that they were the first special event station to be on RTTY. I doubt they were but don't have the facts on the subject right at hand. Any comments? At any rate, it is pleasing to hear that they had so many contacts from RTTYers.

Also from the Argonne Radio Club... On December 2nd some club members had a most unusual national hookup of repeaters coming thru locally on 145.15 CFAR..The speaker was K4PA of Reston, VA. speaking on the state of the art RTTY data communications...It ended with a Q & A period with questions comming in from all over the country. This Teleconference Radio Net is sponsored by the Honeywell Amateur Radio Clubs of Minneapolis & Phoenix. Another will return on March 3rd on another subject." Sounds interesting to tune in to if we had the right frequency??

73, good hunting and "dit dit."

AWARDS

- DXCC-RTTY # 74 W8JMG Raymond Owen
- DXCC-RTTY # 75 JR2TZL Junchi Nishiyama

ARMED FORCES DAY COMMUNICATIONS TESTS

This year's observance of Armed Forces Day marks the 34th anniversary of communication tests between the Amateur radio fraternity and military communications systems. Since 1950, this event has been scheduled during the month of May and has emphasized a continuing climate of mutual assistance and warm esteem. Saturday, 21 May 1983 has been designated as the 34th Annual Armed Forces Day.

A featured highlight of the nationwide celebration will be the traditional military-to-amateur cross band communication tests. These tests give Amateur operators an opportunity to demonstrate their individual technical skills and to receive recognition from the Secretary of Defense or the appropriate military radio station for their proven expertise.

Special commemorative QSL cards will be awarded to Amateurs achieving a verified two-way radio contact with any of the participating military radio stations. Those who receive and accurately copy the Armed Forces Day CW and/or RTTY message from the Secretary. Interception by Short Wave Listeners is not acknowledged by QSL cards, however, anyone can qualify for a certificate by copying the Secretary's message.

CROSS BAND CONTACTS-The military-to-Amateur cross band operations will be conducted from 21/1300 UTC (Universal Time Coordinated) to 22/0245 UTC May 1983. East coast stations commence operations at 21/1300 and west coast stations commence at 21/1600 UTC. Military stations will transmit on selected military frequencies and listen for Amateur stations on those portions of the Amateur bands indicated below. The military operator will announce the specific Amateur band frequency to which he/she is listening. Duration of the contact should be limited to 3 minutes.

Air Force-2045th Communications Group Andrews Air Force Base, Washington, D.C.

military freq.	Emission	Amateur bd.
4025 KHZ	LSB	3800-4000 KHz
6995.5 KHz	CW	7025-7150 KHz
7315 KHz	LSB	7225-7300 K
13997.5 KHz	CW	14025-14075 K
14389 KHz	USB	14275-14350 K

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CW automatically tracks over a speed range of 5 to 50 words per minute and RTTY modes offer nine selectable standard speeds of transmission. 12 volts DC is required.

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ARMED FORCES DAY CONTINUED...

Navy- HQ Navy-Marine Corps MARS Radio Station, Cheltenham, MD

Military Frequency EM Amateur Band
7385 KHz RTTY 7090-7100 KHz.
13975.5 KHz SSTV 14225-14250 KHz

NMH- US Coast Guard Radio Station Stockton, CA.

4040 KHz CW 3500-3650 KHz
7346.5 KHz LSB 7150-7300 KHz
14440 KHz RTTY 14080-21450 KHz
20937.5 KHz USB 21270-21450 KHz

NPG US Naval Communications Station, Stockton, CA

4008.5 KHz LSB 3800-4000 KHz
4010 KHz CW 3650-3750 KHz
6970 KHz CW 7025-7150 KHz
7301.5 KHz LSB 7250-7300 KHz
7365 KHz CW 7025-7150 KHz
13827.5 KHz RTTY 14080-14100 KHz
13927.5 KHz CW 14025-14075 KHz
14470 KHz USB 14200-14350 KHz
20950 KHz USB 21360-21450 KHz

NPL US Naval Communications Station San Diego, CA

7380 KHz RTTY 7090-7100 KHz
14385 KHz SSTV 14225-14250 KHz

NZJ Marine Corps Air Station, El Toro CA

7375 KHz RTTY 7090-7100 KHz
14480 KHz USB 14275-14350 KHz

WAR HQ US Army MARS Radio Station, Fort Meade, MD

4028.5 KHz LSB 3775-4000 KHz
6997.5 KHz CW 7000-7150 KHz
13992.5 KHz USB 14200-14350 KHz
14403.5 KHz (see operating schedule below.

20995.5 KHz USB 21270-21450 KHz
14403.5 operating schedule
RTTY 1300-1500, 1800-2200, 0100-0300
Amateur band 14080-14100 KHz
CW 1500-1800, 2200-0100
Amateur band 14025-14075 KHz.

CW Receiving Test- The CW receiving test will be conducted at 25 WPM. The broadcast will be a special Armed Forces Day message from the Secretary of Defense to any Amateur or SWL operator desiring to participate. A 10-minute call for tuning purposes will begin at 22/0300 UTC. The Secretary's message will be transmitted 22/0310 UTC from the following stations on the listed frequencies:

AIR- 2045th Communication Group Andrews Air Force Base., Washington,DC
Frequencies : 6995.5, 13997.5

NAM US Naval Communications Area Master Station, Norfolk, VA
Frequencies: 4005, 7645, 14400.

NAV-HQ Navy-Marine Coprs MARS Station Cheltenham, MD
Frequencies: 7385, 13975.5

NPG-US Naval Communications Station Stockton, CA
Frequencies: 4010, 7365, 13927.5

WAR- US Army MARS Radio Station Fort Meade, MD
Frequencies: 4028.5, 6997.5, 14403.5

RADIOTELETYPEWRITER RECEIVING TEST
The Radioteletype RTTY receiving test will be transmitted at 60 WPM. Radio station "AIR" will transmit using 850 hertz (wide) Shift. All others will transmit using 170 Hertz (narrow) shift. A 10 minute call for tuning purposes will begin at 22/0335 UTC. The special Armed Forces Day message from the Secretary of Defense will be transmitted at 22/0345 UTC. This test is to exercise the technical skill in aligning and adjusting equipment by the Amateur Radio Operator. Transmission will be from the same stations and frequencies as previously listed for the CW receiving test.

SUBMISSION OF TEST ENTRIES
Transmissions of the CW and/or RTTY receiving tests should be submitted "as received". No attempt should be made to correct possible transmission errors.

Time, frequency, and call letters of the military station copied as well as the name, callsign, and address (including zip) of the individual submitting the entry must be indicated on the page containing the message test. Each year, a large number of acceptable copies are received with insufficient info or the necessary info was attached to the transcription and was separated, thereby precluding the issuance of a certificate. Entries must be postmarked no later than 28, May 1983 and submitted to the respective military commands. Stations copying AIR send entries to: Armed Forces Day Test, 2045th CG/DONJM, Andrews AFB, D.C. 20331.

Stations copying NAM, NAV or NPG SEND TO: Armed Forces Day Test, HQ, Navy-Marine Corps, MARS, 4401 Massachusetts Ave, NW, Washington, D.C. 20390

Stations copying WAR send entries to: Armed Forces Day Test, Commander. 7th Signal Command, ATTN:CCN-PO-OX, Fort Ritchie, MD 21719



COMPUTERS FOR THE RADIO AMATEUR by Robert Blumenkranz N16R

First there is the computer, next a rig, plus a modem (if you want to get into the systems) and you are in business. All you have to do is hook the modem up in the half duplex mode at lets say 300 baud and by feeding the speaker wires from the rig into the speaker at the same time, tap off a little audio for the modem. Now the modem needs to also be tapped into the mic input of the rig. Most modems have three wires, audio in, audio out and ground. This is usually input in the computer through the RS 232 serial interface. Another way is to install through a phone patch which will allow audio to go into and out of the computer (with some minor modification). A simple hookup with temporary clip leads can take about five minutes and it works. Now that you have decided to send some programs over the air we can choose a frequency which is available, The reason for using half-duplex at first is so the typed and transmitted data will go on your screen at the same time that it goes out over the air. In a telephone hookup you would have an "echo" or return data in the full duplex mode. For the more experienced it will be possible to use two bands such as 144MHz plus 450 MHz. This crossband operation will allow a full duplex mode and you can then transmit and receive at the same time. Just the same as over the phone lines. It ties up two rigs but it does give that added bit of live interaction between 2 stations which is just the same as if you could talk over say the "Source" in the "Chat" mode. This would cost about \$5.00 per hour. This is one way Amateur radio really pays off. It allows you to sit back and "read the mail" or really get into the act and send a program you might have written to "ALL" at the "SAME TIME". You cannot do that by phone.

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At IRL, we believe that the RTTY ham should be limited by his skill as an operator—not by his demodulator. The FSK-1000 and FSK-500 were conceived and specifically engineered for use on the crowded HF ham bands, to give the serious DXer, contest operator, or MARS station a competitive edge when the QRM gets rough.

CHECK THESE OUTSTANDING FEATURES!

FSK 1000 TERMINAL UNIT

- Unparalleled selectivity achieved with sophisticated true limiterless design
- Ultra sharp active filters
- Tuneable shift (80-1000hz)
- Selectable bandwidths (100/55hz)
- Three mode autostart
- Positive dynamic range indicator
- Extruded aluminum enclosure
- Rugged commercial quality
- Adjustable "mark hold"
- Keyboard activated transmit
- Optional AFSK keyer
- Internal loop supply
- RS232 or TTL
- Full one year warranty

FSK 500 TERMINAL UNIT

- Superior selectivity
- Selectable bandwidths
- All standard shifts
- 3 shift AFSK keyer included
- Narrow shift I.D. included
- Preselector included for QRM suppression
- Economically priced
- Fully wired and tested
- Compact size
- RS232 or TTL
- Full one year warranty
- Optional loop supply

Both the FSK-1000 and FSK-500 are easily interfaced to your APPLE, TRS and HEATH computer.

Call for further details.

CLASSIFIED ADS

30 WORDS \$3.00, ADDITIONAL WORDS 5¢ EACH. CASH WITH COPY—DEADLINE 1st of month for following month.

FOR SALE: BRAND NEW Info-Tech M-600 multimode code receiver. Used less than 20 hours. In warranty. Claude Sweger, W5SHC, Box 1842, Ft. Stockton, TX 79735. \$675.00 Firm.

BARGAINS IN ALL TELETYPE machines & allied items. 28's, 33's, 35's. Tel-ex's, TWX's & a few 15's & 19's. Much misc. SASE for prices. CB Goodman, 5454 South Shore Dr, Chicago, IL 60615

ULTIMATE RTTY DEMODULATOR: Dovetron MPC-1000R E-series demodulator with all extras including solid-state cross display, TSR-5000 up-down electric speed conversion, 200 character buffer memory, Keyboard-controlled word correction, KOS-100 keyboard operated switch, DAS-100 digital autostart, variable character rate, TD inhibit and blank diddle, TID-100 CW ID and triple tone AFSK keyer, as NEW. This is the Cadillac of RTTY demodulators \$1300 PPD. Also, model 34ASR \$495 plus shipping. 34ASR with above demodulator will provide ultimate in 60-67-75-100 WPM RTTY page and tape sending and receiving. Lawrence Pflieger, K9WJB, 2600 S. 14th St., St. Cloud, MN 56301. 612-255-9794

RTTY FOR SALE: 28KSR, 28 keyboard typing reperforator, 28 self-contained TD, 34ASR, 33KSR, 35KSR, Model 15, Model 19, Dovetron MPC-10000R demodulator, as NEW, ST-5 demodulator, 3-speed 28RD compact printer, 28 underdome typing reperforator for 28ASR, RTTY video display, 19" video monitor-TV, MORE! Send SASE for list and prices. Lawrence Pflieger, K9WJB, 2600 14th St., St. Cloud, MN 56301. 612-255-9794.

FOR SALE: NEW HAL DS-3100 ASR with all cables, manuals etc. This unit has been used a total of 20 minutes. If interested call Ben, KR6E at 213-667-0158 for details. Price \$1600.00.

FOR SALE: Mint condition 28ASR w/typing re-perf, solid-state driver, and complete set of Navy manuals. Also Drake "C" line inc. R-4C, T-4XC, AC-4, MS-4. Call Mark, W6JOB @ 213-821-9185, 4038 Moore St, LA, CA 90066.

INFO-TECH M200E-Tri-mode converter-converts Morse, RTTY & ASCII to video and/or printer; speeds: 60, 66, 75, 100 WPM; shifts 170, 425, 850. \$275.

Wm. Cabeen, 330 Via de la Paz, Pacific Palisades, CA 90272. (213) 459-2192.

NEWS-NEWS-NEWS-Amateur Radio's Newspaper "WORLD RADIO". Year subscription is \$9.00. Send to WORLD RADIO, 2509-F Donner Way, Sacramento, CA 95818.

HAM RADIO MAGAZINE. The no nonsense state-of-the-art technical magazine. Subscribe now and see for yourself. 1 year \$19.50 US..Canada and foreign surface \$21.50. Europe, Africa and Japan \$28.00. Ham Radio Publishing Group, Greenville, NH 03048.

YOU NEED YOUR "RTTY JOURNAL", you will also need +The window to Europe+ the RTTY magazine, published 6 times thru the year by the German Amateur Radio Teleprinter Group (GARTG). Order your sample copy now! Surface \$3, Airmail \$5, special reduced rates for 1981 issues! Contact: W. Puenjer, DL8VX, POB 90 11 30, D-2100, Hamburg 90, West Germany.

FOR SALE: NEW HAL DS-3100 ASR with all cables, manuals etc. This unit has been used a total of 20 minutes. If interested call Ben, KR6E at 213-667-0158 for details. Or write 853 N. Alexandria, Hollywood, CA 90029.

ST5 AND ST6 KITS still available from HAL. We still have the original HAL ST5 and ST6 parts kits available. The ST5 kit is complete with autostart, AKI AFSK oscillator, and mini-box for cabinet (no drilling or screening) \$125 ST6 parts kit has 3 shifts with XTK100 crystal AFSK oscillator and screened and drilled HAL cabinet \$275. Purchase from a HAL dealer or direct. HAL Communications P.O. Box 365, Urbana, IL 61801. 217-367-7373.

WANTED: SOFTWARE and Hookup for IBM Personal Computer to handle RTTY from HAL ST-6000 demodulator. Robert Milligan, KA4PNG, 6608 N. 18th St, Arlington, VA 22205. 703-533-0650.

FRED SAYS, "CASH IN those teletypewriter parts." Send list or UPS them for offer. Ask about personal visit to pickup. Send SASE for list of Teletype parts, supplies, paper, tape, gears for sale or trade. TYPETRONICS, Box 8873 Ft. Lauderdale, FL 33310. Fred Schmidt, N4TT, 305-583-1340.

WANTED: MOTHER BOARD, power supply board and tech manual wanted for DEC LA-34 terminal. B.A.Thunman, W8ISG, Rt. 1, Augusta, MI 49012. 616-731-5600.

REBATE-REBATES-REBATES Even greater discounts on INFO-TECH RTTY-CW Equipment. Purchase the M-500ASR, M-200F demodulator, and M-300C keyboard at substantially reduced prices! Call or write: DIALTA Amateur Radio Supply, 212 - 48th St. Rapid City, SD. 57701. 605-343-6127.

WANTED-INFO ON INTERFACES for RTTY to computers. All computer types needed. Apple, TRS-80, IBM, Zenith, Wang, Sinclair, Timex, Franklin, Epsom, Hewlett-Packard etc. Send to RTTY JOURNAL, POB RY Cardiff, CA 92007.

NEW ELECTRONIC KITS

<p>ALL IN ONE RTTY DEMODULATOR KIT FEATURES: ON BOARD POWER SUPPLY, AFSK GENERATOR, PROVISIONS FOR LOOP SUPPLY, ACTIVE FILTERS OR OPTIONAL TORROID FILTER, AUTOSTART, ANTIFSK PCB KIT NO. 23-1778 \$B 60 \$159.95</p> <p>RTTY SPEED CONVERTER CONVERTS 60, 75 & 100 WPM BAUD CODE TO 100 WPM CODE FOR BAUDOT MACHINES REVERSES SAME FOR SENDING. FEATURES: SELCAL, BUFFERING AND INTERFACE FOR BAUDOT PTR. PCB KIT 23-1816 \$89.95</p> <p>BAUDOT/ASCII CONVERTER MICRO BASED RTTY CONVERTER CONVERTS BAUDOT TO ASCII FOR RECEIVE, ASCII TO BAUDOT FOR TRANSMITTING. FEATURES: SELCAL, BUFFERING AND INTERFACE FOR 110 BAUD PTR. PCB KIT 23-1815 \$89.95</p> <p>AUTO CW-ID KIT FEATURES: ON BOARD TEN MINUTE TIMER WITH TTL PLUS/INHIBIT INTERFACE AND UP TO 32 DOTS DASHES OR SPACES. PCB KIT NO. 23-1721 4-1/2X6 \$29.95</p> <p>TU BANDPASS FILTER ACTIVE FILTER AF60 PCB 23-1718 \$ 9.95 TORROID FILTER BF60 PCB 23-1704 \$12.95</p> <p>ONE KC SOURCE KIT PCB 23-1733 \$ 3.95</p>	<p>ONE AMP POWER SUPPLY KITS BELOW 3 KITS 22 EDGE CON 4-1/2X6 TU/LOOP SUPPLY PCB 23-1725 \$89.99 + 8 12V @ 15 PCB 23-2125 \$35.99 LOOP SUPPLY PCB 23-2025 \$35.99 BELOW 2 KITS NOT ABOVE FORMAT 1 & -12V @ 15 2 1/2 X 5 FOR PULL TU 15 PIN EDGE CONN. PCB 23-1716 \$29.95 + OR - 5 TO 24V (SPECIFY POLARITY AND VOLTAGE) PCB 23-0512 2X4 1/8 \$14.95</p> <p>RTTY DEMODULATORS DM-60 ACTIVE OR OPTIONAL TORROID FILTER, AUTOSTART, ANTIFSK, SINGLE SHIFT (UP DATED SET ON ONE BOARD) PCB KIT NO. 23-1712 \$59.95 DM-30 PLL TU DESIGN WITH ACTIVE FILTER FRONT END. PCB 23-1719 \$29.95</p> <p>AFSK GENERATOR FOR RTTY ROCK SOLID CRYSTAL CONTROLLED AFSK GENERATOR, VIRTUALLY DRIFT FREE. TWO POPULAR SIZES - SPECIFY SIZE PCB KIT NO. 23-1710 4-1/2X6 \$29.95 PCB KIT NO. 23-1710 4-1/2X6 \$31.95</p> <p>INTERFACE KIT OPTO/RS-232 XSTR LOOP TO TTL PCB 23-1722 \$13.95</p> <p>RS232 LINE MONITOR MONITORS 9 COMMON RS232 LINES W/LED PCB 23-1707 \$19.95</p> <p>INTERFACE KIT OPTO/RS-232 XSTR LOOP TO TTL PCB 23-1722 \$13.95</p> <p>RS232 LINE MONITOR MONITORS 9 COMMON RS232 LINES W/LED PCB 23-1707 \$19.95</p> <p>INTERFACE KIT OPTO/RS-232 XSTR LOOP TO TTL PCB 23-1722 \$13.95</p>
<p>LOGIC/GLITCH PROBE FREEZES HIGH SPEED PULSE OR LOGIC LVL PCB 23-1706 \$19.95</p> <p>AUDIO AMPLIFIER KIT PCB 23-1731 \$ 3.95</p>	<p>RS232 LINE MONITOR MONITORS 9 COMMON RS232 LINES W/LED PCB 23-1707 \$19.95</p> <p>INTERFACE KIT OPTO/RS-232 XSTR LOOP TO TTL PCB 23-1722 \$13.95</p> <p>RS232 LINE MONITOR MONITORS 9 COMMON RS232 LINES W/LED PCB 23-1707 \$19.95</p> <p>INTERFACE KIT OPTO/RS-232 XSTR LOOP TO TTL PCB 23-1722 \$13.95</p>

QUALITY LOW PRICED COMPONENTS

<p>CABINETS</p> <table border="1"> <thead> <tr> <th>Stock #</th> <th>W</th> <th>D</th> <th>H</th> <th>PRICE</th> </tr> </thead> <tbody> <tr><td>03-5084</td><td>4.0</td><td>2.5</td><td>2.0</td><td>\$5.50</td></tr> <tr><td>01-5008</td><td>4.0</td><td>5.0</td><td>2.0</td><td>6.20</td></tr> <tr><td>01-1012</td><td>4.0</td><td>6.0</td><td>1.0</td><td>7.99</td></tr> <tr><td>03-5016</td><td>6.0</td><td>2.5</td><td>2.0</td><td>6.95</td></tr> <tr><td>03-5020</td><td>5.0</td><td>7.5</td><td>2.0</td><td>8.29</td></tr> <tr><td>01-5024</td><td>4.0</td><td>3.0</td><td>4.0</td><td>6.75</td></tr> <tr><td>03-5028</td><td>8.0</td><td>6.0</td><td>2.5</td><td>2.85</td></tr> <tr><td>03-5032</td><td>5.0</td><td>6.0</td><td>3.0</td><td>8.99</td></tr> <tr><td>01-5016</td><td>4.0</td><td>3.0</td><td>6.0</td><td>7.47</td></tr> <tr><td>01-5016</td><td>10.0</td><td>5.0</td><td>3.5</td><td>10.45</td></tr> <tr><td>03-5044</td><td>5.0</td><td>5.0</td><td>3.5</td><td>13.95</td></tr> </tbody> </table>	Stock #	W	D	H	PRICE	03-5084	4.0	2.5	2.0	\$5.50	01-5008	4.0	5.0	2.0	6.20	01-1012	4.0	6.0	1.0	7.99	03-5016	6.0	2.5	2.0	6.95	03-5020	5.0	7.5	2.0	8.29	01-5024	4.0	3.0	4.0	6.75	03-5028	8.0	6.0	2.5	2.85	03-5032	5.0	6.0	3.0	8.99	01-5016	4.0	3.0	6.0	7.47	01-5016	10.0	5.0	3.5	10.45	03-5044	5.0	5.0	3.5	13.95	<p>UNIVERSAL CIRCUIT BOARDS</p> <p>THREE SIZES AVAILABLE AS SHOWN FOR ONE IC</p> <p>11-1700 \$.89 FOR 2 IC'S NOT SHOWN 11-1702 \$1.39 MORISE LAYOUT UP TO 4-14PIN IC'S \$1.29 11-1703 \$1.29</p>
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<p>DRY TRANSFER DATAMARK SETS</p> <p>TV AND HI-FI 21-0056 \$2.50 HAM RADIO & CB 21-0058 \$2.50 EXPERIMENTER 21-0060 \$2.50 TEST & INDSTR 21-0061 \$2.50 MARK & SWITCH 21-0062 \$2.50 ALPH & NUMBERS 21-0063 \$2.50 1/4 IN ALPHBET 21-0064 \$2.50 1/2 IN ALPHBET 21-0065 \$2.50</p> <p>TITLES FOR ELECTRONIC EQUIP. 21-9581 - BLACK TITLES \$9.95</p> <p>METER DIAL KIT 21-0968 \$9.95</p> <p>DATAMARK SPRAY SEALER GLOSS 21-4177 \$4.25 MATTE 21-4178 \$4.25</p>	<p>DAYTAPRO ELECTRONICS, INC.</p> <p>3029 N WILSHIRE LN., ARLINGTON HTS, ILL 60004 VISA 312-870-0555</p>																																																												

NEW UNIVERSAL M-600 MULTI-MODE, CRYPTO-DECODER



UNIVERSAL M-600 RTTY CODE RECEIVER

THE ONLY RTTY UNIT THAT DECODES —

- **BIT INVERSION**-method used for security and privacy by governments, business, press and others, automatic system opens up a new world of RTTY listening. Now you can copy those stations that defied copy on standard RTTY units.
- **TOR-SITOR**-Both ARQ and FEC modes used by Marine, telegraph, World Press, Coastal Stations and Government Services. This approaches error-free copy.
- **NON STANDARD SHIFTS**- Used by RTTY services to effect a form of security to their transmissions by the use of non standard shift of RTTY signals, quite common in commercial RTTY. The M-600 has a continuously variable shift capability over a wide frequency range.
- **WEATHER FORMAT**- Allows reception in straight text of many weather stations with the use of standard weather map symbols in everyday use around the world. This is very interesting to copy.

PLUS — All speeds of BAUDOT, ASCII and MORSE (CW). M-300 keyboard plug-in for transmit. BAUDOT, ASCII, CW.

★ AMTOR when approved.

Partial List of Features of the New Revolutionary UNIVERSAL M-600

BIT INVERSION-5 level security bit inversion for baudot decoding from key pad. Decodes any combination of bit inversion being used for security.

TOR-SITOR-Both ARQ and FEC modes with full receive only function on these codes. Amtor when approved.

WEATHER TEXT-Weather Bureau symbols, arrows and other weather type uses. Key pad Controlled.

SHIFTS-Key pad selectable shift selection, 170, 425 850 plus variable space channel allows copy on many non-standard shifts being used as security mode. There is a separate demodulator for 150 through 1200 baud rate high speed RTTY.

ASCII-110, 150, 300, 600, and 1200 baud rates

BAUDOT-60, 66, 75, 100 and 132 WPM

MORSE-CW-AUTO-RANGE up to 60 WPM

SPEED READOUT-ASCII and BAUDOT

MULTIPLE SCROLL INHIBIT

UN-SHIFT ON SPACE

SELF-TEST SYSTEM-Allows check out of M-600 operation.

AUDIO INPUTS-4 to 600 OHMS .25V. P-P.

VIDEO OUTPUT-Composite video. 1.5V. P-P., negative sync.

PRINTER DRIVER-Isolated loop, Mil-188 or RS232 and optional parallel ASCII. All with handshaking available. Baud rates of 45, 50, 57, and 74 in baudot and 110, 150, and 300 in ASCII. The M-600 will drive almost any printer available at any of the input modes.

PRINTER MODE-Baudot 60, 66, 75, and 100 WPM.

PRINTER SPEEDS-ASCII 110-150 and 300-parallel ASCII.

PRINTER BUFFER-A 2K printer buffer allows reasonable down conversion and handshaking of printer.

LOOP SUPPLY-60MA/20MA auto adjusting loop supply available as an option.

STATUS LINE

OPTIONS-Built-in loop supply /parallel printer output

WARRANTY-115/230V 50/60Hz 25 watts

SIZE-16 3/8 x 3-1/2 x 10-3/4 in. deep.

WEIGHT-9 pounds - shipping weight 12 pounds.

PHONE: (614) 866-4605

UNIVERSAL ELECTRONICS, INC.
1280 Aida Drive
Reynoldsburg, Ohio 43068

PRICE \$799.95
Shipping Extra
VISA & MC Accepted



HITS & MISSES

by GEORGE

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

MAIL

Over the years I have been perplexed over the mail service to my house. I have felt for a long time that some of my mail was not getting thru to me. Dee, our publisher, mailed a package to me and three weeks later it arrived. The distance between our houses is about fifty miles--that's moving at about 2 miles per day. I recently received my September CQ Magazine from ITALY. I suppose some good soul wrapped it in cellophane and back it came. I hope the unknown sender reads this or my thanks is passed on.

NO FREE LUNCH

In my column last month I stated a few thoughts on a code free license. In the January issue of HAM RADIO, W9ZMR Ken Piletic, stated in part, "there are only two reasons why a person cannot learn the code 1) lack of interest (doesn't want to become a Ham or 2) laziness (would rather be given something than EARN IT)" "Sorry gentlemen, you're wrong on this one. If we wind up with a no code license, it will be due to publishers, manufacturers, and dealers, not because of their interest in Amateur Radio, but rather due to their pursuit of the almighty dollar."

Mr. Piletic gets a tip of the hat from this writer. I think in all matters where a controversial issue is at stake, the motives of each side must be carefully examined. I feel that those who wish to retain the code have the hobby of Amateur Radio as their motive. I see a lot of the same old familiar faces who told us how great CB radio would be. Well, we all know that that situation is hopeless. That time around we (Amateur Radio) lost a band (11 meters). What do they want now....the whole pie?? Those who oppose the code free license are called "horse and buggy" or emotional. We are told that the

present license structure is outdated and not with the times. I say rubbish to this. I personally do get emotional about my hobby of Amateur Radio. I value my hobby, my license and do not wish to see either cheapened. We have worked hard to EARN our licenses. They were not mail-order, but obtained by the high standards set forth. I believe that when each person reviews the motives of those who favor a code free license must agree, NO FREE LUNCHES for Amateur Radio is a must. (And this publisher agrees 100%..DEE)

A SLIP OF THE LIP

I hope everyone reads the January 1983 QST column FM/RPT by Richard C. Rhodes, KH6IO regarding talking about your plans could place your family's welfare in jeopardy. This article is a must. As an active law enforcement officer, I hope you will read the article and take it as a very good piece of advice. Don't be victimized by loose talk about your plans. Use common sense about your comments on the local repeater.

ARRL CLUB AND TRAINING

The ARRL Club and training department will provide your club with some excellent films, slide shows etc. There is no fee for this service. Why not have your club program chairman write Karl Townsend, ARRL Club and Training Department, 225 Main, Newington, CT 06111. This service is available to all ARRL affiliated clubs.

SCATS

The Southern Counties Amateur Teletypewriter Society, on November 28, 1982 demonstrated the capability of Amateur Radio and RTTY to residents of the Los Alisos Mobile Home Park in Westminster. SCATS explained how Amateur Radio operators perform public services. A specially prepared form was passed out, the messages

were perforated on tape for transmission while sender and other visitors observed.

SCATS operated 4 hours, originated 66 messages to 27 states and 2 foreign countries. 51 came to the ARRL National traffic system, they rest sent by RTTY directly.

SCATS mobile again did a super job. This portable station, owned and operated by SCATS is a rolling console containing a M28, a Z meter transceiver, FSK demodulator and M14 perforator.

I will close my column for another month as I leave for Las Vegas and SAROC tomorrow. My column next month will have an in depth report.

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

WANT ADS CONTINUED

RTTY-CW EQUIPMENT AT SPECIAL PRICES
All of your "HAL" RTTY-CW-ASCII equipment needs in stock, at special prices! Mention the "RTTY JOURNAL" and we will provide you with an even bigger discount! WE'll match or beat anyone's prices! Call or write: DIALTA, Amateur Radio Supply. 212 - 48th St., Rapid City, SD 57701. 605-343-6127.
SALE: REPERFORATOR TAPE 11/16" wide x 8" diameter, case of 40 rolls \$18.50; Case of 1" perforator tape (28 rolls) \$18.50; Teletype ribbons, box of a dozen \$7.00; M-28 TD stand alone type \$89; M-28 TD with 3 speed gearshift \$180; M-28 typing unit, sprocket feed as removed from equipment, complete less typebox \$49; M-28ASR Underdome Reperf-replace your keyboard operated perforator with a reperf while they last \$79; M-28 LARP, multi-magnet reperf complete with motor and hardware to mount above 28TD in ASR cabinet \$39; M-28 LESU, various types \$12; M-28 stock ticker strip printer uses 1" wide perf tape \$49. We carry a full line of Teletype machines and parts. All prices FOB Brooklyn, Call ED WA2FBY, Atlantic Surplus Sales 3730 Nautilus, Brooklyn 11224. 212-372-0349

B.A.R.T.G SPRING RTTY CONTEST 1983

WHEN-0200 GMT Saturday March 19th until 0200 GMT Monday 21 st 1983. The total contest period is 48 hours but not more than 30 hours of operation is permitted. Time spent as listening counts as operating time. The 18 hours of non-operating time can be taken at any time during the contest but off periods may not be less than 3 hours at a time. Times ON the air must be summarised on the Summary sheet.

WHO-There will be separate catagories for single operator, multi-operator and short wave listener stations.

BANDS: 3.5, 7.0, 14.0, 21.0 and 28 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.

COUNTRIES: The ARRL DX COUNTRIES LIST will be used, and in addition, each W/K, VE/VO and VK call area will be counted as a separate country. NOTE: W/K, VE/VO and VK count once each only for QCA purposes.

MESSAGES: will consist of:

1. time in GMT. This must consist of a full four figure group and the use of the expression "same" or "same as yours" will not be acceptable.
2. RST and message number. The message number must consist of a three figure group and starting with 001 for the first contact made.

POINTS: can be claimed as follows:

1. All two-way RTTY contacts with other stations within one's own country will earn TWO points.
2. All two-way RTTY contacts with other stations outside one's own country will earn TEN points.
3. All stations can claim a BONUS of 200 points for each country worked, including their own. Note that any one country may be counted again if worked on a different band but continents are counted only once.

NOTE: Proff of contact will be required in cases where the station worked does not appear in any other contest log received or the station worked does not submit a check log.

SCORING:

1. TWO-WAY contact points times the total number of countries worked.
2. TOTAL country points times 200 times the number of continents worked (maximum of 6).
3. Add 1 and 2 together to obtain your final score.

SAMPLE:

Exchange points (302) x countries (10) = 3020
 Country points (10) x 200 x continents (3) = 6000
 1 and 2 added together to give score

3020
6000
9020

LOG AND SCORE SHEETS:

Use a separate sheet for each band and indicate all times on the air. Logs to contain: DATE, TIME GMT, CALL SIGN OF STATION WORKED, RST AND MESSAGE NUMBER SENT, TIME ,RST AND MESSAGE NUMBER RECEIVED AND POINTS CLAIMED.

NOTE; Logs received from Short Wave Listeners must contain Callsign of station heard, report sent by that station and callsign of the station being worked. Also date and time GMT that the QSO was logged. Incomplete loggings are not eligible for scoring and will be classified as check logs. The summary sheet should show the full scoring, the times On the air, address for correspondence, and in the case of multi-operator stations, the names and callsigns of all operators of the station during the contest.

ALL LOGS MUST BE RECEIVED BY MAY 31, 1983 IN ORDER TO QUALIFY.

SUMMARY AND LOG SHEETS are available from contest manager shown below and require: in the UK an (A4) large stamped, addressed envelope. All countries outside the UK require no envelope but need 2 IRC's to cover the cost of postage.

Send contest or check log to:

Ted Double, G8CDW
89 Linden Gardens
Enfield, Middlesex
England EN1 4DX.

The judges decision will be final and no correspondence can be entered into and all logs submitted shall remain the property of B.A.R.T.G.

Certificates will be awarded to the leading stations in each of the three groups, the top station on each continent and to the top station in each W/K, VE/VO and VK call area.

Additional notes: 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 CENTURY AWARD issued by B.A.R.T.G, and for which a charge of 3 dollars US or 15 IRC's is made. Holders of existing QCA awards should indicate and list any new countries to be added to their existing records. Make claim at time you sesnd log in.

Additionally, if any contestant manages to contact stations on TWO-WAY RTTY within each of the six continents and BARTG receives either a contest log or a check log from each of the six stations concerned, a claim may be made for the W.A.C. award issued by the RTTY JOURNAL.

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Remember the RTTY JOURNAL/73 Magazine sponsored contest on February 26, 1983 from 0000Z to 2400Z. Logs may still be obtained for a SASE from the RTTY JOURNAL office POB RY, Cardiff, CA 92007.

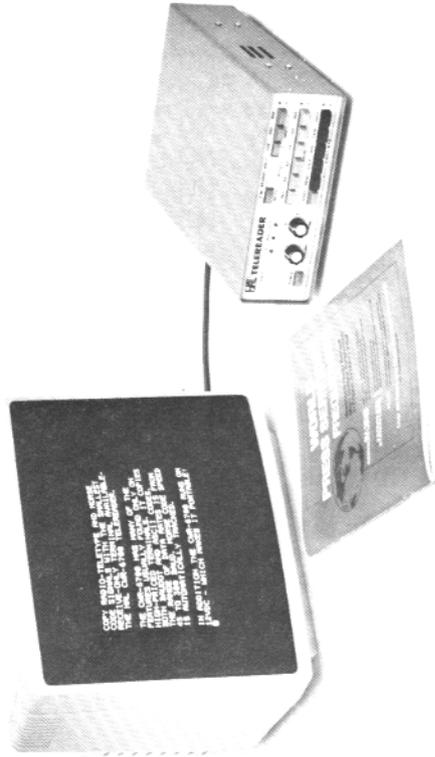
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HAM HELPS

H. Coker Jr, K5BN wants to know---- what modifications, if any, need to be done to his Ten-Tec OMNI-C for receiving? OMNI-C band pass filters have center frequency of 9MHz, and he is interested in 170 Hz shift on HF bands. He is working with a Collins 51J3 rig, but the OMNI seems to be the culprit.

Everybody seems to want to know more about the model 28 and 33 Teletype machines and where to find interfaces for RTTY for the various computers that are now on the market. If you have any information on any interface suitable to RTTY for any computer make please let the JOURNAL know, so we may help the many people that inquire daily about this problem. The JOURNAL will publish this information as it gets it. Of course, the JOURNAL is always looking for articles pertaining to RTTY.

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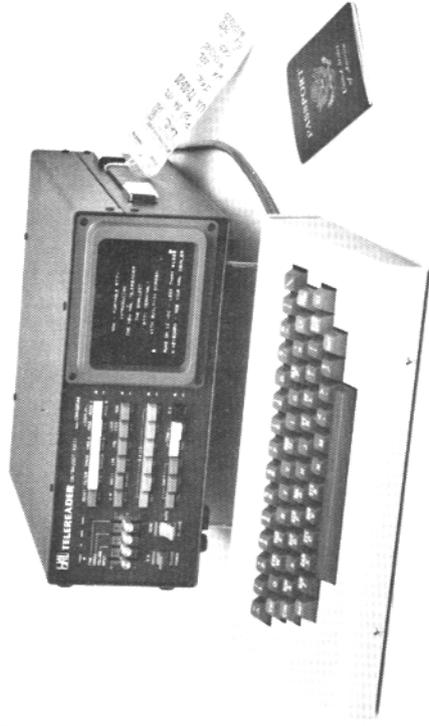
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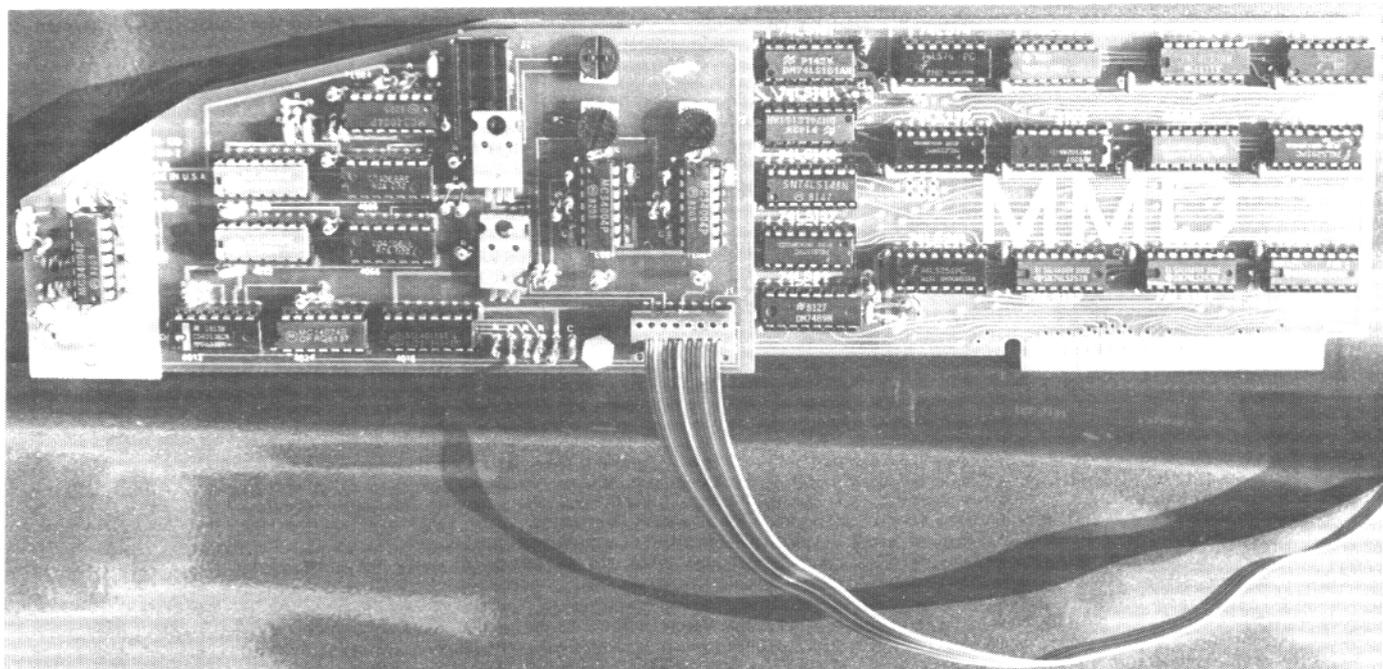
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ANNOUNCING MMD RTTY PACKAGE



NEWEST RTTY PACKAGE FOR THE APPLE* COMPUTER

	MACROTRONICS	IRL	RADCOM	MMD.
INTERNAL UNIT ONLY	NO	NO	YES	YES
USE OF REAL TIME CLOCK	NO	NO	NO	YES
CRYSTAL CONTROLLED AFSK	YES	NO	NO	YES
ANY SHIFT FROM 21 TO 900HZ	NO	NO	NO	YES
80 COLUMN VIDEO**	NO	NO	NO	YES
USE OF EXTRA MEMORY > 64K***	NO	NO	NO	YES
DISK SAVE WITH NO LOSS OF DATA	NO	NO	NO	YES
ON-LINE EDITOR (KEYBOARD)	YES	NO	NO	YES
SEL-CAL-MAILBOX	WRU ONLY	NO	NO	YES
SELECTABLE TEXT WINDOWING RX/TX	NO	NO	NO	YES
VARIABLE BANDPASS FILTER	NO	NO	NO	YES
VARIABLE MARK TONE-21 TO 4500HZ	NO	NO	NO	YES
DIGITAL RECEIVE FILTERS	NO	NO	NO	YES

* APPLE IS TM OF APPLE COMPUTER

** 80 COLUMN VIDEO IS PROVIDED BY THE USE OF THE VIDEX OR THE M & R ELECTRONICS 80 COLUMN BOARDS

*** THE MMD RTTY PACKAGE SUPPORTS ONLY THE LEGEND 64K AND 128K MEMORY EXPANSION CARDS

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The case for 45 baud ASCII

Henry C.Hall, K4CZ
POB 4151
Lexington, KY 40544

&
Edward Trego, W9WKC
856 E. Washington St.
Hoopeston, IL 60942

We are all familiar with the fiasco of the ASCII code on the lower frequency bands. Like most hams we could not wait for the FCC's permission to use it, an interest which soon sputtered out when we found the bit pulses were just too fast for reliable communication. That is, at the standard speed of 110 baud which was the speed in general use. The idea began in the early summer of 1982 of slowing the code down to 45 baud ASCII. That would give us the flexibility of the full standard ASCII keyboard, plus letting us use a more leisurly words per minute speed of about 40 words per minute instead of our usual 60 WPM of 45 baud Baudot.

We believe the 60 WPM is a little fast for the average ham and cause him to "hump" to keep up with machine speed. We know in our own situation, and we both have been active in RTTY for over twenty years, that it takes a running head start on the buffer. If the QSO goes on long enough the machine catches up with us. While it isn't difficult to type at 60 WPM, we also during the time have to think of what to say, how to spell the words, correct for the inevitable transposition of letters, errors etc.

We both possessed the HAL 3100 ASR so that going to 45 baud ASCII presented no problem. All HAL equipment made since last spring have the feature of handling both codes at all baud rates, and the boys using computers can program that feature into them. But if you are stuck with only machines, there is a way to do it.

We decided to give 45 baud ASCII a thorough test and set up daily schedules between ourselves using 45 baud ASCII for about half of each QSO and 45 baud Baudot for the other half, as well as to send each ten lines of a test signal like QBF in both codes and then count the errors

in each test signal. As we all know, conditions this summer on the lower frequency bands have been anything but good. We used a frequency just above 1700 in case any Canadian hams wished to join in. At times VE3CM, Dick, using a computer joined us as did Lars, WD4HAL, who was using a HAL CWR 6850, which he had brought with him from Palm Beach to Ohio for his summer visit. They both reported the same results we had had; that there was virtually no difference between reception of the two codes at 45 baud.

Theoretically, the ASCII should not be as good as the Baudot since it takes more bits for any given character, but it did not work out that way under actual transmitting and receiving conditions. There is about 300 miles between our QTHs', a distance that is sometimes good and sometimes bad, so it should have provided a good check on the two codes at the same baud rate. Results are still nearly identical with both codes. When conditions were poor or some irate CW fellow, incensed at the invasion of his domain, decided to punish us, the codes were equally bad or under good conditions, were equally good.

It is nice to be able to figure baud rates in terms of words per minute. By definition, one baud equals one pulse per second, therefore, 45 baud equal 45 pulses per second. Then all that needs to be done is find out how many pulses there is in one byte. In the case of ASCII, there are seven information bits and one stop bit. The only rub comes because of the varying length of the stop pulse. Different manufacturers use different lengths. HAL uses a double width stop pulse (for 110 baud and slower rates) which gives us a total of eleven bits for the byte. Therefore, if we divide the eleven bits into the baud rate of 45 we get 4.09 which is the number of bytes per second. To arrive at the number of bytes per minute, multiply by 60 and that is 245.45. Since there are five letters in one word plus a space, divide six into the bytes per minute which comes to 40.9 or rounds

to 41 wpm for ASCII 45 baud. Similarly, 57 baud ASCII works out to 52 Words per minute, a speed which might be more acceptable to the ham fraternity. Most certainly, we intend to give 57 baud ASCII a good thorough test for it's reliability.

To accurately figure the words per minute for ASCII, it is necessary to find the length of the stop pulse for your particular equipment. If for instance, the final pulse is 1.4 times the information bit, the wpm figures out to be 43.27. Regardless of the length of the stop pulse, all machines are compatible.

If we can find an acceptable baud rate we can use, the ASCII code has a lot of advantages over the Baudot code. With the increased popularity of computers, ASCII works into a computer without the necessity of having to convert from Baudot to ASCII. Most of us today are buying computer type printers which require an ASCII signal. We can write letters on them in the normal way without having to make our letters all in upper case. We have a very complete keyboard which does not require our constant going back and forth from letters to figures in the case of Baudot and all letters can be in either lower or upper case.

HAM HELPS

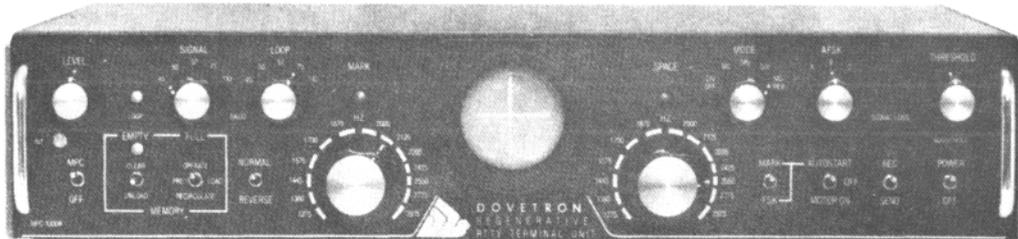
Emile Alline, 773 Rosa, Metarie, LA 70005 needs help, he had a TRS-80 but couldn't get it on the air so now has an IBM-PC needs help with getting it on the air. He also states that he has built the terminal unit described in the 1982 ARRL Handbook and says it won't work as shown. He has the "fixes" he will share for a SASE.

John Pendleton, WD4AYT, 6234 NW Miami Place, Miami, FL 33150 needs help in interfacing his ST5-A with the RS-232C line of the terminal. It gets nothing but random letters. John says it is programmable for 2 speeds of Baudot also 150 & 300 ASCII. The RTTY program is on it on an E-prom.

Please help these Amateurs-remember what it was like when you started in to radio and or computers???

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