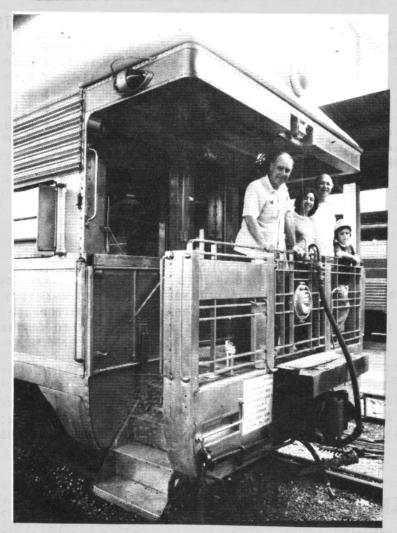
Journal

VOLUME 29 NO. 4

75 CENTS

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SEE - MAILBAG-OUT OF THE BLUE - COLUMN FOR THE STORY ON THIS PICTURE

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RTTY MICROCOMPUTING PREVENTING RFI CONTEST RULES

CONTEST RESULTS

RTTY JOURNAL

Dee Crumpton, KA6NYW Editor & Publisher P.O. Box RY Cardiff-by-the-Sea, California 92007 U.S.A.

John P. Goheen, KA6NYK Associate Editor

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• RTTY-DX •

Skip Prinsen, WB6CYA-3611 Merrimac, San Diego, CA 92117.(714)276-3182

Greetings to all.....

In last months article, I mentioned that Irv Hoff. W6FFC has written software for the Heathkit computer. Irv has given me permission to give this software to anyone wanting it. He only asks that the user not change the names of the programs that he has put many hours into developing. I only ask that you send me an S.A.S.E. with your disk for the software that is available. An S.A.S.E. business letter size (#10) type will get you a listing of the programs that are available. Checking into the A/S frequency on 14.0825 will also get you the information on what is available.

Do not forget that the DX HONOR ROLL will be printed again in the July-August issue of the JOURNAL. See back issues for what is required. The deadline will be the first of June.

KØBJ is on the move again, this time going to UP1 land. Bruce will be operating RTTY on 14.090 from the 26 to the 30 of March. QSL in will be listed in the next issue if you cannot get the information from Bruce at the time of the contact.

ZL3AFH/A still has not gotten on the air as of this writing. He is active on SSB from Campbell Island at the present time.

I wish to thank the following Amateurs for their inputs again this month: KØPJ/6, WA6CQW, WØLHS, W3KV, KØBJ and K9MD.

Following is a listing of stations that have been reported active in the past few weeks: CE3CEW, CT1SV, CT1KB, DU1HEL, DU1JMG, DU1POL, EA8FO, EA9FJ, EC4VH, E15Q, FP8HL, GD3YEO, GI4AHP, GM4BIT, GW4EVJ, HA5KJD, ISORUH, LU3EQ LX2LH, PA3ABE, SP3CMX, SP9BQJ, TI2WR, TR8WR, TU2JJ, T32AB, UK4FAD, UV3FD, UP2AW, YJ8TT, YV1AQE, Y39UO, ZL1BBR, 5T5JD, 5Z4TV, 8P6FX, 9H1FG, 9K2GR, and 9X5SP.

That's all folks

......73's de Skip

AWARDS SECTION =*=*=*=*=*=*=*=*=*=

DXCC #53 DATED 21 FEBRUARY 1981 W2PSU

KENNETH E. MABIE

**_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_

DXCC # 54 DATED 25 FEBRUARY 1981 SM6AEN LENNERT H. BJUREBLAD

**_*_*_*_*_*_*_*_*_*_*_*_*_*_*

K7BV, E.W. "Mac" McGinley has received DXCC sticker # "180".

GARTG 12 Apr 81 Apr 81 Alexander Volta2-3 May 81 Eur-Afr Flash 23-24 May 81 Jan 81 Vk/Zl/Oceania 6-7 June 81 coming GARTG 13 June 81 Apr 81 SARTG 15-16 Aug 81 coming GARTG 30 Aug 81 Apr 81 WAEDC 14-15 Nov 81 Apr 81 GARTG 17 Oct 81 Apr 81 Oct 1981 coming Australia-Oceania and Asia Giant Flash January 1982 comina BARTG March 1982 coming

CONTEST RULES

16th ALEXANDER VOLTA RTTY DX CONTEST

Saturday May 2nd 1200 GMT to Sunday May 3rd, 1981 1200 GMT.

BANDS- 3.5, 7, 14, 21 and 28 MHz Amateur bands.

CLASSES- Single operator, Multi-operator with single transmitter, SWL's. Names and call signs of all operators involved must be listed.

EXCHANGE POINTS- All two-way RTTY contacts between stations of the same Country are not valid. (count for zero exchange points, zero multiplier and zero QSO). All two-way RTTY

contacts with stations in own zone will count two points. All others will count points in accordance with the exchange points table. The two-way RTTY contacts made on 3.5 or 28 MHz are worth double. Stations may not be worked more than once on any one band. Additional contacts may be made with the same station if a different band is used.

MULTIPLIERS- A multiplier of one is given for each country contacted. The same country may be claimed for extra multiplier if a different band is used. Extra multiplier for each intercontinental country worked at least in 4 bands.

SCORING- Total exchange points times the total number of multipliers times the total number of QSO's.

COUNTRY LIST- ARRL Country List. Each USA, Canadian and Australian District will be considered as a separate country.

MESSAGE- RST, QSO number and zone.
LOGS AND SCORE SHEETS- Use one log
per band, and logs must be received
by June 20,1981 to qualify (it is advisable to air mail). Logs to contain
Band, Date, Time GMT, Call signs, exchanges sent and received, points and
multipliers. Enclose a summary score
sheet (comments always appreciated).
Send to: G. Vulpetti,I2VTT, P.O. Box
37, I-22063 Cantu, Italy.

SWL's Use same rules for scoring, but based on stations and messages copied. Awards to the top stations in each class.

DAFG/GARTG 10th ANNUAL RTTY CONTEST

GENERAL— There will be a shortwave and VHF contest. Both of them will be scored separately. The contest is split in 5 contests within a year. After the 5th single contest the winner in each classification will be announced.

SHORTWAVE: 1300-1800 UTC Sat. Feb 21 0700-1200 UTC Sun. Apr 12 1200-1700 UTC Sat. Jun 13

0700-1200 UTC Sun. Aug 30 1300-1800 UTC Sat. Oct 18

continued on page 7

BY: Paul Johnson, K∳PJ 3425 Gurnard Court San Diego, CA 92124.

Transmitters, receivers and microprocessors often do not mix well, due to RFI. The enclosure is a major factor effecting the RFI level, both to and from a microprocessor.

A metal enclosure is the best solution, but due to the size and shape of some microprocessors, the cost is prohibitive. For example, the Heath-kit H89 which includes a built-in CRT is quite large.

The next best solution is application of a conductive coating to the inside of your plastic enclosure. There have recently been developed several different conductive coating

paints, using a variety of metals, from gold, to nickel as the conductive pigment. A nickel pigment paint is the most economical paint and works quite nicely.

The product I have found is called XECOTE (trademark) and was developed by the Metex Electronics Shielding Group. Due to the nature of this paint, great care must be taken in handling it, and good quality spray paint equipment must be used for application of it. This paint is quick drying and will air cure in approximately 24 hours. One gallon will cover 270 square feet of surface with a coating of .002 to .003 inch thickness.

This thickness will give approxi-

mately 60 DB of shielding, with a one ohm per square resistance. It has been applied successfully to a variety of plastics without the use of a primer. (Acrylics, plexiglas, lucite, polycorfornate Etc.).

Using one pint, (cost approximately \$35.00) I sprayed a Heathkit H89, H19 and H8. No RFI problems from or to the above equipment has been detected since the coating was applied.

Possible sources of this product are: Metex Corporation, 970 New Durham Road, Edison NJ 08817 Tel:201-287-0800. OR: Cal-Metex, 20437 S. Western Ave., Torrance, CA 90501. Tel:213-320-8910.

XECOTE is a registered trademark of the Metex Corporation.

FROM THE MAIL BAG-RIGHT OUT OF THE BLUE

It's spring and the rest of the country is awakening from its long winters' nap to find out what Californians have known for months—— that is, when the weather warms up activities gear up (look at all of contests going on). Our violets were perfuming the air back in January and now the fruit trees and roses are in bloom....On the other hand, perhaps there is something to be said for the colder climes— no lawns to be mowed nor gardens to be attended to during the winter. Guess we can't have it both ways. So I'll take California.

The mail has been coming in by the sackful lately and John and I have been trying to keep up with it, as we must have the next issue of the JOURNAL in the mail before leaving for Dayton on the 23rd of April. The RTTY group will be meeting in the same hotel as usual gathering in the Kings room for socializing. I would tell you the name of the hotel except for the fact that it is lost somewhere in the shuffle of paperwork going on in the effort to get the JOURNAL ready for the printer, and the packing cases of our newest gear. The Kenwood TS 130S sits next to me along side of our old 2 meter rig and their supplies. While over my left shoulder is our new Heathkit H89.

Itis on a desk with the Hallicrafter rig and not on my shoulder HI!.Instruction books for the Heath. directions for the Cushcraft A-3. A74 and Ringo Ranger and books on antennas are piled on the chairs and floor and in the dining room and patio are the antennas, partially put together. Somewhere amongst all of this good debris is a registration form from the Hamvention giving us the name of the hotel for RTTYers. It is something ----North. Look for us at any rate on Thursday, Friday, Saturday and Sunday. We'll be off to Philadelphia from there to see Johns' relatives and the following week to Chicago to see some of relatives. Along the way we plan to see a few Hams and talk beedle-beedle with them.

Received a letter from Gwen Burnett and another from the ARRL both asking for info about helping someone in Rhode Island with a model 15KSR. Gwen VE3AYL is secretary of CARTG, wrote that there are few Amateurs living close to Rhode Island so perhaps some of our own RTTYers can help out? The daughter is deaf and her mother wrote to the Asbury Park (NJ) Press to obtian aid. John Sheetz called us the other day and I asked him to look into the matter. John, K2AGI attends to such matters in the New Jersey

area but could never the less use additional help for problems such as this one. Seems to me that the ARRL should have the information needed for matters pertaining to the TTY and TTD machines already on hand. ARRL are you listening??

OFF SOAPBOX- On this months cover you will note a very nice picture of the rear end of a train and some nice people on it. The people are: Hank Scharfe W6SKC.Luz de la Maria de la Rosa, Art Cohen and 9 year old Bobby Scharfe: Seems that Hank has a new toy (and I thought my new Heath toy was the ultimate in toys). Last year Hank bought the Rock Island's President's Business car (85 feet long and weighing 80 tons). Now Art has bought another business car and the two of them are outfitting them as complete RTTY stations. So someday says Hank there will be a two way RR car to RR car QSO on the green keys. We did hear about Hank and Bill Henry's (Hal Communications) trip to New Orleans from other sources. Seems they left Chicago to take Bill home to Urbana. Illinois in style but after arriving in Urbana, Bill jumped off the train, kissed his wife and jumped back on and continued on to New Orleans, and they say John and I are nutty for taking on the JOURNAL.....Dee,KA6NYW



George Hammon WA6COW 14215 Pecan Park Lane SP 73

El Cajon, CA 92021

FROM THE MAILBAG



I purchased, as usual, a new league handbook from Ham Radio. I purchased the 1981 edition for \$3.50. I make it a point to stop by the Ham Radio Publishers Group booth at a conven-· tion and buy one every year. I just can not imagine someone paying ten dollars for a copy. I paid \$3.50 in January at SAROC, wonder what they will be selling for in Dayton? (Publishers note: I'll let vou know George since the JOURNAL will be there this year). I really enjoyed Lew McCoy, W1ICP comments on the 1981 ARRL handbook at SAROC. Lew, holding a handbook (1981) stated, "This is a crock" Lew pointed out many problems with the new handbook. Any Amateur who gets the chance to hear Lew McCoy speak should certainly not miss it. The new handbook has an RTTY section (see pages 14-24 to 14-28). One thing that caught my eye was, "periodic publications are available which are devoted exclusively to Amateur RTTY. OH well, it took over twenty years for the league to recognize that there are two Germanys, maybe some day they will recognize that the RTTY JOURNAL exists.

TOPOGRAPHIC MAPS

The United States Geologic Survey has available topographic maps. You can obtain an index to maps of your state by writing to the following: East of the Mississippi River-Branch of Distribution, U.S. Geological Survey. 1200 South Eads Street. Arlington, Virginia 22202.

West of the Mississippi River-Branch of Dostribution, U.S. Geological Survey, Box 25286 Federal Center, Denver, Colorado 80225.

PHOTOS

Would you like photos in your newsletters?? The problem with photos is in getting them "screened" that is, broken down into black dots of various intensities for the printing process to work. If your club has such a need contact: Tania Miller, WB9TKC, Eleven N. Richland, Freeburg, Illinois 62243.

ARRL SURVEY

The March QST has a fine article on survey of Amateur Radio 1980. This survey was conducted by the Institute of Social Research of Florida State University on contract to the ARRL. The area of interest to RTTYers is as follows. One of the questions asked in the survey was. "How interested in the following areas of Amateur Radio activity are you?" The answer was interesting. Let's take a look.

Presently plan to:	Active
Personal computers	11%
Amateur satellites	2%
(RTTY)	(4%)
Digital Data	
Communications	3%
Microwave experiment	3%
Narrow band Voice Mod.	2%
Slow scan TV	1%
Moonbounce	1%
Fast scan TV	1%

From the above chart you can see that 36% were interested in RTTY. I hope the league takes a long look at this figure and also the personal computers figures. I know the league is aware of the money being spent in these areas.

The code free license has again reared its ugly head. I feel that this is a terrible mistake. The leaque needs members in a most desperate way. The ARRL dues jumps to \$25.00 per year July 1, 1981. I feel there may be a spurt of life members but a big picture will show a drop in overall membership. Incentive licensing was a diaster. The code free license is a provocative temptation to fill up the membership hopper. The same survey revealed to the league an overwhelming support of Morse Code retention. The USA Amateur (61%), and the Canadian Amateur (66%) stated it was absolutely the essential thing to keep. Never-theless this will be proposed. Will the league never learn to listen to its own members rather than the dictates of some "power" groups??? So long for now.....

George, WA6CWQ

SEE YOU IN DAYTON IN THE KINGS ROOM?

WHERE THE RTTYERS GO. TO MEET RTTYERS

be active	interest	int.
15%	26%	48%
18%	36%	44%
(11%)	(21%)	(64%)
11%	23%	63%
8%	24%	66%
7%	28%	63%
8%	23%	62%
6%	25%	68%
6%	19%	74%

WITH REGRETS

THE JOURNAL HAS TRIED T₀ KEEP COSTS DOWN BUT PRINTING, SUPPLIES AND NOW POSTAL RATES HAVE ALL GONE SKY HIGH. ΙT IS WITH REGRET THAT WE MUST INCREASE STARTING OUR PRICES. MAY 1,1981, RTTY JOURNAL WILL \$7.00 COST PER YEAR. FOREIGN COSTS HAVE APPRECIATED ALSO \$13.50.

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RTTY MICROCOMPUTING by Clayton Abrams,K6AEP 1758 Comstock Lane San Jose, CA 95124

Since my last column I have been very busy developing software for my new TRS-80C Color computer. Prior to the TRS-80C all of my computers have been the homebrew variety. It is certainly a different experience with packaged units. So far I have a TRS-80C slow scan television software keyboard completed and will have a RTTY program by publication of this column. I have found one thing in common between the packaged computers and homebrew systems and that is that the interfacing to the outside world is the same.

In my last column, I discussed methods of developing RTTY bit patterns. To review this subject, they can be generated by hardware or software. The hardware approach has simpler software, however, the costs tend to be higher. The software approach is more flexible and very simple to duplicate after the software has been developed.

If you analyze a RTTY signal you will find that it is only a series of two states (on/off) conditions with varying durations. The shortest duration is called a data bit, the longest is a stop bit. Since, I have chosen the software approach to RTTY generation, let's see how this is accomplished.

In the following timing diagram a character pattern is shown. This pattern could be ASCII, Baudot or any commonly used pattern. In all cases let's assume the pattern is transmitted serially, from left to right in time.

Serial transmission

ADELAY + DELAY + +DELAY +

ON OFF

TIME TIME 2

As you can see from the diagram, transmission is nothing more than a series of on/off conditions, where up is on and down is off. To accomplish this transmission at time 1 you turn on a bit on a port. This is accomplished by sending the bit to a port by a machine language instruction. This instruction will force an electrical signal to go positive on an IC on the output port. If you delay the correct amount of time, you can turn off the bit by another instruction at time 2. A delay in computer technology is a count down from a number initially loaded in a part of a computer called a register. If you subtract one from this number on each pass through this small portion of the program the register will eventually reach zero. This operation causes a program delay. If you change the number initially loaded in the register the speed of the RTTY can be changed. The number of delays determine if you are transmitting ASCII (8) or Baudot (5). To generate the actual RTTY signal, the output bit on the port is connected to a RTTY modulator ot T.U.

This is the same technique which I have employed in my software. For the TRS-80C Color computer, the output port is the RS-232 connector on the rear of the unit. This signal is attached to a single bit of an 8 bit port (MC 6821 IC). To turn the RS-232 output on all you have to do is load into the computers accumulator a byte with a single bit on. You next store the accumulator to the memory mapped address of the port. The process uses 6 bytes of machine language code and takes about 8 microseconds of time.

As you can see the use of software development for RTTY timings is very attractive. In the case of a computer like the TRS-80C, if the software approach is used, all you have to do is load a program from cassette tape. Connect a TU to the RS-232 output and you are on RTTY. The most attractive thing about this approach is that the complete computer is low cost, and no modifications are required to the computer. In my next column I'll discuss how to receive RTTY with a general computer. This is the reverse of transmission.

CONTEST RULES CONTINUED G.A.R.T.G.

VHE: 0800-1300 UTC Sun. Feb 22

0800-1300 UTC Sun. Feb 22 1200-1700 UTC Sat. Apr 11

0700-1200 UTC Sun. Jun 14 1200-1700 UTC Sat. Aug 29

0800-1300 UTC Sun. Oct 18

BANDS- 80 and 40 m VHF; 2m & 70 cm CONTEST CALL- CQ GARTG CONTEST. After each QSO the station having called last keeps the QRG. The previous holder should make QSY.

EXCHANGE-Shortwave: RST. QSO number, name, QTH. VHF; Same as shortwave & in addition QTH-locator.

SCORING-Each station may be worked once per band. Each complete QSO counts 1 point on 80 and 40 meters. VHF:Each complete QSO on 2 meters and 70 centimeters counts one point per kilometer worked. Contacts via repeaters are NOT VALID! Final score: total of QSO points.

CLASSIFICATIONS-

Class A: Shortwave stations with more 200 watts input.

Class B: Shortwave stations with up to 200 watts input.

Class C: SWL stations

Class D: VHF staions.

LOGS TO CONTAIN- a) Call, name, QTH, (complete address) b) Classification c) Time in UTC, Call, name, QTH, station worked, transmitted and received message numbers, band used. d)Final score (logs without final score will count as check logs). VHF:a) to d) same as shortwave. e) QTH-locator sent and received. SWL: For points and scoring confirm above. The same station may be reported only 2 times. Instead of message received the SWL should report of partnerstation (worked).

RESULTS- The results will be published in GARTG newsbulletin RTTY-NEWS and in club magazine RTTY subscription is 40 Deutsch Marks per year.

DEADLINE- Logs to be received not later than 20 days after closing of each single contest.

YHF NEWS

BY: John R. Cunningham, WA9WJG.....Rural Route 2, Box 91....Covington, Indiana 47932......

First things first, I am very happy to have the opportunity to write this column for the JOURNAL.

Let's get acquainted, name and QTH are above, age is 40. The location here is one mile east of the Illinois and Indiana State line, three miles north of Interstate 74. I can see Danville, Illinois, six miles away, out of the window.

I have been licensed since 1967, currently holding an Advanced Class. I do work HF RTTY also, when I cannot find anyone on VHF.

There are three RTTY repeaters in this area. The first one, the Urbana, Illinois repeater, is RTTY only. This repeater is on 147.60/.00. Though it is down for repairs at the moment. I heard from AL WB90IH, that it should be going again in the near future. Bill K9GWT, has his HAL DS 3100 ASR on this machine. He has the MSO storage option on it. If you have not worked one of these yet, why not get on and check it out ?? You are missing a lot of fun.

The second machine in this area is the Gridley, Illinois repeater, which is RTIY and fone. This fine machine covers a lot of area in the middle of Illinois and the western part of Indiana, and does it consistently. This repeater can hear my 10 watt, 8 element station, nearly 100 miles away most any time.

The third repeater in this area is the Indianapolis, Indiana repeater 146.28/.88 RTTY/fone. This repeater is not very high, it is located on one of RCA's buildings, but even so it reaches out 75 miles to here quite often. This repeater is operated by the RCA Radio Club and has some really neat features which I will be telling you about in a future column.

I would like to have some details on some of the repeaters out there. I will compile this information and then make it available to anyone wanting it to put together an RTTY repeater. What kind of equipment are you using in your repeater? How are you setting up the RTTY/fone system? How about your auto start or auto re-

sponse system, how is it set up? What is your local bunch doing on 6 or 2, how about 220? Do you use AM or FM, AFSK or FSK, mechanical clunker, spagetti factory style or latest state of the art????

Send me what you can about these systems, any and all info appreciated.

Got a question about RTTY? I may not know the answer (understatement) but I will bet I can help you find it. Send you questions in, someone else is probably wondering about the same thing. If you send an SASE I will answer direct.

With a little input from a lot of people I hope to make this an interesting column. If you see me at a Hamfest by all means say HI. If you hear me on the air you will not be forgiven if you don't call me...Hi Hi. If you see or hear me anywhere let's talk RTIY, VHF in particular. I want to hear about your VHF RTIY DX too, anyone ever get a WAS VHF RTIY?

Do you know that some people think that 2 meters will not work over 100 miles away?? Illustration, one Sunday evening last November I received a phone call from a fellow in Iowa. He said, "Was that really you I was working on 2 meters RTTY?" When I confirmed it he told me that he thought it might have been one of the locals having some fun with him on the air.

The point I wish to stress here is, that if you are not on VHF RTTY, why not??, you are sure missing out on a lot of fun.

After the previous administration, I hesitate to say this, but listen for my "peanut whistle", I'll be looking for you on VHF RTTY.

73 John.....

MORE

CONTEST

RULES

14th EUROPEAN DX-CONTEST WAEDC 1981

WHEN- 00.00 UTC Saturday, November 14th until 24.00 UTC Sunday, the 15th Single OP stations should not exceed 36 hours of operation. Take no more than 3 breaks for the off period please.

BANDS- Amateur bands 3.5 thru 28 MHZ.

CLASSES- Single OP-All bands, Multi-OP-Single TX, SWL-printer.

MESSAGE- RST/QSO-number.

POINTS— One point for each QSO, a station may be worked once per band, each confirmed QTC— sent or received—counts one point also.

MULTIPLIERS- Will be counted according to the EUROPEAN and ARRL Countries list, in addition each JA, PY VE/VO, 'VK,W/K. ZL, ZS, UA9-O call area. Contacts on 3.5 MHz may be multiplied by four, on 7 MHz by three and on 14/21/28 by two. (See also note: Special regulations for RTIY).

SCORING- Final score is total QSOplus QTC points multiplied by the sum of all band-multipliers.

QTC-TRAFFIC- A QTC contains time, call and QSO number of the station being reported, i.e. 1300/K7BV/134. A QTC should be reported only once and not to the originating station. A maximum of 10 QTC to the same station (all bands) is allowed only.Keep a list of QTC sent with series numbers i.e. QTC 3/8 indicates 3rd series containing 8 QTC.

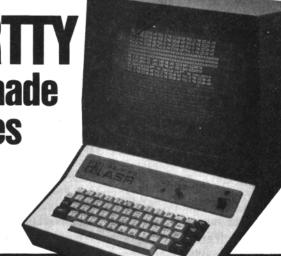
LOGS- It is suggested to use the official DARC log sheets. Send SASE for your copies.

NOTE- Special regulations for RTTY (rearrangement)- In the RTTY section of WAEDC, contacts between all continents and also one's own continent are permitted. Contacts within the same continent count a multiplier of ONE per band, including 80 and 40 meters. QSO as well as QTC-traffic with one's own country (call area)

continued on PAGE 11

UNSURPASSED RTTY

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- Storage buffers for 150 lines of RX storage and 50 lines of TX storage
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- The EAROM allows power-off storage of 2 "Here Is" messages and terminal operating conditions
- Programmable WRU answer-back and selective-call features
- Separate CW identification key for RTTY operations
- Automatic TX/RX control with KOS plus 4 keyboard controlled accessory switches
- Internal real time clock keeps 24 hour time plus date
- Newly developed CW receive circuitry and programs give superior CW reception
- New green, P31 phosphor display screen gives clear, eye-easing viewing
- On-screen status indicators give continuous display of terminal operating conditions
- Word-Wrap-Around prevents splitting of words at end of display line
- Continuous, line, and word modes offer flexibility in editing transmit text
- Attractive streamlined metal cabinet gives effective RFI shielding from transmitters

Here Are More DS3100 ASR Specifications that Give You State-of-the-Art RTTY Operation:

QBF and RY test messages = Loop and RS 232 RTTY I/O = Plus or minus CW key output = 25 pin EIA modem connector = Half or full duplex = Upper-lower case ASCII = All ASCII control codes = Optional line printer for all codes = Selectable ASCII parity = 110 to 9600 baud ASCII = 45 to 100 baud Baudot = 1 to 175 WPM Morse receive and transmit = UnShift on space for Baudot = SYNC idle for RTTY and Morse = Break key for RTTY = Tune key for Morse = Automatic CR-LF = 120/240 v, 50/60 Hz power = Custom labeled key tops show control operation = Copy receive text into transmit buffer = TX flags allow segmenting of TX buffer = One year warranty = Price \$1995.00

HAL

HAL COMMUNICATIONS CORP.

Box 365 Urbana, Illinois 61801 217-367-7373

For our European customers, contact: Richter & Co. D3000 Hannover 1 • I.E.C. Interelco, 6816 Bissone/Lugano • Radio Shack Ltd., London NW6 3AY • Erik Torpdahl Telecom, DK 3660 Stenlose Denmark

CLASSIFIED

A D S

30 WORDS \$3.00.ADDITIONAL WORDS 5¢ EACH_CASH WITH COPY--DEADLINE 1st of month for following month.

TELETYPE, KLEINSCHMIDT, REPAIR PARTS wanted, unused. (M 14 thru 40). Possibly can pick up at your QTH. Cash or trade for any quantity. Write Typetronics, Box 8873, Ft.Lauderdale, FL 33310 or phone 305-583-1340 after 10 PM EST. Send SASE for list of parts, gears, ribbons, supplies, toroids, Fred Schmidt N4TT ex-W4NYF.

FOR SALE: 6th edition of the "LIST OF RTTY STATIONS IN FREQUENCY ORDER", now contains 1717 frequencies monitored in 1980-81 of commercial stations like press, aeronautical, weather, telex, military, diplo, maritime etc, on shortwave. Schedules of 82 news agency stations on 641 frequencies and 178 special abbreviations are also included. This offset printed list is airmailed to you for \$17.00 (check or cash) from Joerg Klingenfus, Panoramstrasse 81, D-7400 Tuebingen 7, West Germany.

THOUSANDS OF COMMERCIAL RITY STATIONS are active between the Amateur shortwave bands. Many of them can easily be printed with your existing equipment. (Take care of legislative restrictions if applicable!) If interested, you need "software", compiled from nonstop monitoring the complete shortwave spectrum. I have up-to-date frequency, callsign, schedule, code lists on press, military, diplo, telex, aeronautical, weather etc. stations. Write for details. Joerg Klingenfuss, Panoramstrasse 81, D-7400 Tuebingen 7, West Germany.

FOR SALE: "LIST OF NEW RADIO REGULA TIONS DECIDED AT WARC 1979". containing the original texts of those new Radio Regulations (RRs) which are of essential interest to Radio Amateurs. They cover: terms and definitions; designation of emissions (completely revised!); frequencies, callsigns; broadcasting service; Amateur service. The chapter dealing with frequencies contains the new Table of Frequency Allocations from 9 kHz to 150 MHz including all footnotes. Most of these new RRs will come into force on 1 January 1982. The list is compiled from official ITU documents and includes also the agenda and the final

acts of the Conference. This offset printed and hardbound book is airmailed to you for \$16.00 (check or cash) from Joerg Klingenfuss, Panoramstrasse 81, D-7400 Tuebingen 7, West Germany.

KITS AND PARTS FOR THE RITY AMATEUR, featuring the famous MEG-1 Demodulator, ID-1 CW IDer, and IPT-1 Interface, Power Supply, and Timer. These units available as kits, or fully assembled, plus a wide selection of quality new components, make the Midnight Engineering Group well worth checking out. And don't forget our carbide drill bits, now more sizes available. Send 15¢ stamp for catalog Midnight Engineering Group, POB 349, Galesburg, IL 61401.

NEW SUPER-LOG II machine language program for TRS-80 Model I & Model III Computers. Whether you're a ragchewer, contester, DXer or Award Hunter, SUPER-LOG II will overwhelm you with "Lightning Search & Sort" capability—the ultimate in computerized logkeeping! Instant recall of typical logbook information at your fingertips! Cassette based Regularly \$19.95, INTRODUCTORY OFFER \$16.95 plus FREE Contest Program, Super Duper II. Complete Disk Version Add \$8.00 MICRO-80 INCORPORATED. R-2665 Busby Road, Oak Harbor, WA 98277.

NEWS-NEWS-NEWS-Amateur Radio's Newspaper "WORLDRADIO".Trial subscription Two issues for One Dollar. "WORLDRA-DIO" 2509-F Donner Way, Sacramento, CA 95818.

WORLD PRESS RADIOTELETYPE STATION lists. Over 50 different worldwide press services contained in 3 lists. By time, by frequencies and ITU combination list. All transmitting in English. 24 hours. Hundreds of confidential and fascinating RTIY news stations in these up to date lists. Utilize your present equipment. Book with up to date lists \$5.00 PPD. Universal Electronics, 1280 Aida Dr, Reynoldsburg, OH 43068.

TELETYPE PARTS WANTED. Any quantity, any models, highest prices paid. 201-464-5310 Van W2DLT Box 217, Berkeley Heights, NJ 07922.

TOROIDS WANTED FOR EXPORT, any quantity, 88mhy. load coils. 201-464-5310 Van W2DLT, Box 217, Berkeley Hts NJ 07922.

GOVERNED MOTORS, Teletype LMU 39/LMU 41 wanted. Also teletype ESU for ASR/KSR 28 Lo-Level/RFI (Gold box located in kneewell of unit, or will buy/swap whole units) 201-464-5310 Van W2DLT, Box 217, Berkeley Hts, NJ 07922.

TELETYPE 43 KSR/EIA at cost \$848 new. Also M33 ASR good condition \$325. 201-464-5310 Van W2DLT, Box 217, Berkeley Hts, NJ 07922.

TELETYPE MACHINES, All makes & models and allied items 25% off on everything. SASE for list. Goodman 5454 S. Shore Dr, Chicago, IL 60615. 312-753-8342.

SALE*SALE*SALE*SALE*SALE: inked UPI ribbons, fits all teletype machines &6.50 dozen; Dual spool red & black ribbons \$14.50 dozen; Perforator tape 11/16" x 8" case of 40 rolls \$19.50; 1" x 8" case of 28 roll \$19.25; Black 1" x 8" box of 7 rolls \$7.50; strip printer tape 3/8" wide. ungummed, box of 25 rolls \$14; Model 28 self contained, stand-alone typing reperf with 3 speed gear shift \$120. Single speed \$95; Model 28 TD \$99; Roll paper; Canary or White, 5" diameter, case of 12 rolls \$25; Model 28 ASR complete but not rewired or checked \$255; Model 28 ASR complete & checked, rewired for local loop \$300; Model 28 typing units. sprocket feed, less type box \$99; Model 28 typing units, Sprocket feed, less type box \$149; Model 28 ASR Auxillary reperf type LARP complete with motor, base & mounting studs to fit inside model 28 ASR cabinet behind TD \$99. All prices are FOB Brooklyn, NY. ATLANTIC SURPLUS SALES, 3730 Nautilus Ave, Brooklyn, NY 11224. 212-372-0349. SATELLITE LOCATOR: Find SATCOM-1. GOES-1, others. Computer generated, typically gives direction and elevation to 157 geostationary satellite positions visible from your unique location (horizon to horizon, one degree increments). Send \$10 and your latitude, longitude in degrees, minutes to PPI, Box 74-RJ, Mobile, AL 36601.

CLASSIFIED ADS CONTINUED
TRADE-TEKTRONIX MODEL 531-A scope
with CA plug-in, good condition for
model 28 ASR. John Wood WB2VTD, 8
White Birch Ct.,Schenectady,NY 12306.
HAM RADIO MAGAZINE. The no-nonsense
state-of-the-art Technical magazine.
Dozens of exciting projects and an
emphasis on quality unmatched by any
other radio magazine. Suscribe now
and see for yourself. 1 year..\$15.00,
2 years \$26.00, 3 years \$35.00 after
June 1,1981 they will be \$16.50,28.50
and 38.50 respectively.Ham Radio
Magazine, Greenville, NH 03043.

I HAVE:FOR SALE: 2 LPR reperfs as is, no motors \$50 each, 2 keyboards \$30 each, 4 LAAC cabinets \$30 each and 1 28 ASR as is \$250. Cash or certified check, you pick up. Willie C. Bean WB4CDE, 1308 Cardinal Ave, Nashville, TN 37216. 615-227-1912.

TELETYPES M28ASR's \$250. M33ASR's with RS232 \$400. All good to excellent. PICK UP PRICES. Delivery possible within 50 miles for slight charge. Evening-weekend 415-846-3095. TELETYPE 28ASR WITH TYPING PERF-in excellent condition, including extra gear sets for 75 and 100 WPM, \$350. HAL RVD 1005 video unit \$175 with almost new Panasonic 12" monitor \$110. All equipment hooked up and working. Hank Canvel, W6IWA 805-966-9213, POB 2669. Santa Barbara, CA 93120.

is NOT allowed. SWLs apply to rules accordingly.

AWARDS- Certificates for the highest scorers in each class and each country, continental leaders will receive the WAEDC plaque.

DEADLINE- December 15th, 1981.

MANAGER- Klaus K. Zielski, DF7FB, P.O Box 1147, D-6455, Erlensee, West Germany.



ALEXANDER VOLTA CONTEST

EXCHANGE POINTS TABLE

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Single Operator

Call	Score	QSO ·	QTC	Multi
1.I5FZI	126700	223	501	175
2.3B8RS	98770	229	352	170
3.SM6ASD	87150	191	390	150
4.OZICRL	67080	167	349	130
5. IlTXD	57342	195	308	114
6.UV3FD	37145	156	235	95
7.KØBJ	35306	85	193	127
8.4Z4KB	31096	133	205	92
9. <u>¥39XO</u>	21014	95	171	79
10.YU2OH	20504	145	88	88
11. ¥33TA	17898	96	218	57
12.DF5CI	12921	60	117	73
13.0E2SNL	11696	67	105	68
14.OK2BJT	10918	78	128	53
15.DL8QP	10560	54	138	55
16. EA3AZX	9945	66	129	51
17. EA3BLQ	9504	50	126	54
18.DF6AI	8268	58	101	52
19.DF6ZY	7473	59	82	53
20.VK3KF	7360	52	40	80
21.DLlVR	6370	48	82	49
22.DJ9IR	6118	44	89	46
23.W3KV	5916	50	52	58
24.DJ9MH	4944	37	66	48
25.DJlXT	4160	35	69	40
26.DJ2YE	3465	55	0	63
27.G3HJC	3280	36	44	41
28.DKlRV	3161	45	64	29
29.YO3AC	3030	25	76	30
30.WA6WGL	2920	36	37	40
31.YU7NWJ	2325	49	26	31
32.G4HYD	2080	26	39	32
33.DL1OY	1242	16	38	23
34.I5YNQ	1225	35	0	35
35.DF7FB	1118	23	20	26
36.SL3ZR	720	24	06	24
37.SM6CAL	682	31	0	22
38.0Z9GA	675	25	0	27
39.DK4IS	506	22	0	23
40.Y59ZF	300	10	20	10
41.JA7ML	192	12	0	16
42.DJlQQ	152	13	06	08
43.Y33U0	56	8 0	0	07
44.DLlAM	48	08	0	06
45.DL2ZA	28	03	11	02 V71CT
Checklog: Do				
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Contestmanager: DF7FB Auswertung: Kurt Wüstner

RESULTS OF THE 13TH EUROPEAN DX-CONTEST

WAEDC 1980 RTTY

TROPHY WINNERS	
Single Operator	
I5FZI 3B8RS KØBJ 4Z4KB VK3KF	Europe Africa N. America Asia Oceania
Multi Operator	
LZ1KDP JA3ZRT	Europe Asia
S W L	
Friedhelm Reichel	Europe!

Multi Ope	erator
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Call	Score	QSO	QTC	Multi
1.LZ1KDP	138573	247	554	173
2.YU2CDS	125580	281	409	182
3.Y31ZB	71808	199	362	128
4.UK3DBG	64022	197	341	119
5.G3UUP	63196	233	194	148
6. <u>DKØOW</u>	53966	160	286	121
7.UK2BAB	52728	183	324	104
8.UK3ACR	24396	91	123	114
9.JA3ZRT	22275	102	173	81
10.OHlar	04	02	0	02

SWL

	Nar	me	Score	QSO
2.	F.	Dedic Ballenberger Reichel Kahr	70744 44530 30130 27528	211 163 118 222
5.	V.	Cesak	22161	95
6.	T.	Double	16950	150
7.	A.	Schneider	4750	38
8.	J.	Bozek	3320	166
9.	Κ.	Wüstner	2320	46
10.	C.	Weise	288	18
11.	D.	de Puyt	136	07
12.	E.	Rauch	54	09

DEUTSCHER AMATEUR-RADIO-CLUB E.V.

Mitglied der IARU

REFERAT BILD- UND SCHRIFTÜBERTRAGUNG



RESULTS 3RD DARC +CORONA+ 10 M RTTY CONTEST DATED SEPT. 27TH 1980

-	CALL	SCORE	QSO	COUNTRIES	PREFIX	
	CLASS A:					
12 12 13 14 15 16 17 18 19 20 21	1. IØWBX 3. OK3KII 4. OK1WEQ 5. DL4GJ 6. G4HYD 7. EA3BLQ 7. EA3BLQ 8. DF8FD 8. W5TZB 9. W5TZB 9. LA2IJ 9. LA7QM 9. Y32ZF	2348 1739 1548 1209 1120 945 851 828 608 580 3364 3364 3364 3364 3363 321 863 863 863 863 863 863 863 863 863 863	4576186733390654341975531	15633122115544 119012200335231 12000335231	37 38 38 38 38 38 38 38 38 38 38 38 38 38	
	CLASS B:					
1. 2. 3. 4.	H. BALLENBER WERNER LUDWI OK1-20677 Y2-7111/A		27 20 12 09	13 10 09 07	23 19 12 Ø9	

WE THANK YOU ALL FOR THE BIG PARTICIPATION AND ACTIVITY ON THE BAND. TEN METER WAS GREAT AGAIN. WE LOOK FORWARD TO SEE YOU AGAIN AT THIS YEARS FINAL TEST WHICH TAKES PLACE ON NOVEMBER 15TH, JUST ONE WEEK AFTER THE WAEDC-RTTY TEST, IN WHICH WE HOPE YOU WILL JOIN IN ALSO. THE PLAQUES WILL BE MAILED SEPARATELY AS USUAL.

73, GOOD LUCK AGAIN, WILL MEET YOU ON THE BANDS, KLAUS DETEB, MANAGER

hlain

PAGE 13

DF7FB

THE CLHADIAN AMATEUR RADIO TELETYPE GROUP (VESRTT)

October 18-20th, 1980.

200	res for Singl	o Operatore		enuge Agreem	73.14Y
	*!/3FV	3,796,198	7/	PATOM " 1".	187,300
1.			34.	K4VDM	
2.	*15FZI	2,712,360	35.	VE7DOC	171,428
3.	* K?.BV	2,652,680	36.	VE7DLX	132,344
4.	*I7FKO	2,218,100	37.	KØBJ	117,570
5.	*W4CQI	1,837,140	38.	VK3KF	105,300
6.	*J::6GIJ	1,546,968	39.	VE6GI	35 , 950
7.	VK2SG	1,264,900	4.0.	VK2EG	65,040
S.	*SM6ASD	1,252,702	41.	JR2TZL	60,252
9.	*G3HJC	1,281,624	42.	VK5VZ	56,472
10.	*DL1VR/EA4XL		43.	WØLHS	37,283
11.	"VE2JR	1,129,576	44.	OTTEP	31,680 -
12.	*DL5GAS	1,082,920	45.	VE4UA	29,986
13.	*#B9 LP	1,014,040	46.	LA2IJ	22,408
14.	*U3KV	998,404	4.7.	VE 5RG	17,480
15.	*V6JOX	866,134	48.	G3RDG	16,680
16.	*VE7YB	845,520	49.	W2KHQ	10,048
17.	ON SUG	660,140	50.	VE4WZ	9,720
13.	VE2.XO	621,888	51.	VE3BPM	7,630
19.	VA 6VGL	574,400	. 52.	SM5AAY.	2,700
20.	VE4BF	522,265	53.	Watco	200
21.	ISJRA .	501,000	1779		7.74
22.	1/12000	455,304	Mult	i-Operator	
23.	V.K.1GM	390,920	1.	*LZ1KDP	1,677,264
24.	GU3EHN	388,035	2.	HA6KVD	326,540
25.	*OR4PL	314,024	3.	OR7OZ	29,046
26.	OR74Z	283,352	S.W.	L. Printer	
27.	- UZHI	267,616	- andar	OK1-11857	1,429,120
28.	*VEZDTA	263,488	2.	Horst Ballen	berger
29.	VO1EE	241,360		· 科里斯 (1) 10 10 10 10 10 10 10 10 10 10 10 10 10	1,333,990
30.	그의 사는 사람들이 가게 하다.	220,892	3.	G8CDW ₁₁₁₀ 4	379,395
31.	544	220,728		DE-G10/16696	경하일 교육사회 경기 교육 경기가 가입하다.
	9M2CR	215,870		Kurt Wistner	그런 사람이 되었다면 하는 것이 되었다면 그렇게 살아왔다니까?
33.		188,150	.6.	DK4IS	1,809
		ISØESS, SM6AEN, C	OZIDAF, UA	9PP. PAGE	14

DOVETRON



MPC-1000C

Multipath Correction In-Band Diversity & AFSK Tone Keyer

Amateur Net:

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.

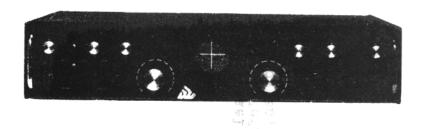


MPC-1000CR

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:



MPC-1000R/-TSR-500

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

Amateur Net:

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):

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



627 FREMONT AVENUE (P. O. BOX 267) SOUTH PASADENA, CA. 91030

MPC-1000R BY DOVETRON

MULTIPATH CORRECTION, IN-BAND DIVERSITY, SIGNAL REGENERATION, UP-DOWN SPEED CONVERSION, 200 CHARACTER FIFO MEMORY, KEYBOARD-CONTROLLED WORD CORRECTION & DIGITAL AUTOSTART



THE MPC-1000R REGENERATIVE RTTY TERMINAL UNIT

The DOVETRON MPC-1000R is a complete Transmit-Receive modem designed for optimum radio teleprinter communications on land, sea and in the air.

Standard features include a high level loop supply and keyer (neutral or polar), EIA and MIL FSK outputs, a phase-continuous AFSK Tone Keyer with three selectable Mark - Space - Shift tone pairs, Mark, FSK & <u>Digital Autostart</u>, Automatic Markhold, an internal RY Generator for terminal unit Self-Test and circuit adjustment, and a Signal Loss Alarm circuit.

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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